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 and fxcry, No. III. Experiments with a Vupaia an
 Z; _ Co- "m9 @oio?
 \iicry, ■ '• Experiments with various Birds.
 Sum-
 \y a 'elusions.....
 tes on various specie* of 4th especial refer-
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 ;—On some noteworthy Indian Bhds
 :—Materials fof a Flora of the Malayan Peninsula
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 oviwon Babbler (Crateropus canoria).....
 r, 1);—Novioise Indicie X V. Some <
 — ;—Novici: cm XVI. More
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)N, E. Y".;—A i some. But: njan, (
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LIST OF PLATES,

- I.— I Indo and -j
II.— Austr
III.—
IV.— } Malayan Butterflies

Vates of Issue. Part II, 1897.

- I.—Containing pp. 1-346, was issued on 8th Jane, 1897,
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JOURNAL

1 FIE

ASIATIC SOCIETY OF BENGAL.

Vol. LXVI. Part II.—NATURAL
SCIENCE.

No. I.—1897.

On the Flora of the Malayan Peninsula.—By GEORGE
L. LL.D., P.R.S., C.I.E., Superintendent of the Royal Botanic
Garden, Calcutta.

'No. 9.

With the last part of these *Materials* the account of the
Disciflorae
of the Malayan Peninsula was finished; and in the present part that
of the *Crotalariae* is given. My progress has (owing to the press
of
official and other work) been even slower than I anticipated when I
began the publication of these *Materials* now more than seven
years
ago. I have availed myself of the aid of my excellent friend and colleague
Dr. D. C. B. in his response to my appeal, who has undertaken
the important Family of *Leguminosae*.
The present paper. It is hoped that one more
con-

will be published in the present volume in order to complete the
series and so to bring the whole series to a
completion.

Order XXXVII. CONNARACEAE.

Upright or climbing shrubs or trees. *Leaves* alternate, exstipulate,
1-3-foliolate or pinnately-pinnate; leaflets quite entire.
Flowers in
racemes panicles or cymes, regular or subregular, usually

bisexual. *lalyz* 5-lobed or -partite, usually persistent, imbricate or valvate. *PetaU* **3. u. 1**

r. King—M ¹*for a Flora of the Malayan I

usually narrow, free or slightly cohering, very rarely valvate. Stamens perigynous or hypogynous, sometimes declinatc, 5 or 10, the petals often shorter ai t; filament

DiscO or small, annular or incomplete. Pistils 5, vtf 6-7, ovoid, hirsute. 1-celled ; styles snbulate or filiform, stignrffe late, simple or 2-lobod ; ovnles % collateral, ascending, Fruit usually of 1, rai 3, aessJlo or stalked. I- vui needed follicles. Seed erect, u anally aril I ate, testa thick, usually moro or less covered by an aritlus which is often very thin ; cotyledon? fleshy in th& exalbnmmous, leafy in the albuminons seeds; radicle su ielj ventral.— DISTRIB. 14 genera, all tropi

Seeds eiolbnminous, arillata,

Pietila solitry.

Leaves pinnate, leaflets 3 to 11 ; trees or scand< shrmbB

Leaflet solitary, small trees or shrubft. never scandent ELLIPASTOUS.

stils 5 bnt nsnally only I perfect: leaves pinnate, (leaflet solitary in one species of Ronrea).

Plnwpi is ebracteolate : follicle carved ; lobes of calyx persistent, slightly accrescent, imbricate and 3. HOUBKA.

forming a imp at the baso Flower-pedtwls with persistent bracteolea at their * bases, follicle not cnxved ; cfdyr-lobes persistent, bat neither accrescent nor imbricate ,,, 4,

PistilB 2 to 5, perfect.

Calyx imbricate; follicles rnpfose, laminate or tabercled 5. A.

Calyx valvato; follicles neither rugose laminate ttor tubercled Seeds albnminonc, piatile-6 to 7, folUoteti 1 to a, T-KNIOGHL,1 nllu- thin 7- CNESTI*.

I. CONNAUUS, Linn.

Trees or (nsnally scaudenU shrubs. Leaves unequally pinnate ; leaflets 5, rarely 3 or more, quite entire. Panicles axillary and termi: >ranced. F> sraall. Sepals 5, deciduous o; -tent and the pedicel of thr 'e hnt not aoorescent, i linear or slightly dilated upwards. Stamens 10, 5 sh. without anthers. Ovary 1, densely pubescent, stvle slendi capitellate. Oapsnle oblique, stipitate, influted, bvonrler upwards ; va! glabrous or pubescent within. Seeds aril late, testa shining, albumen 0

cotyledons amygdaloid.— DISTRMI. Species about 80, all tropical.

Petals minute, mach shorter than the sepals ... !• O. Mr

Petals longer than the sepals.

Under surfaces of the leaflets and the follicles estornally densely raet;y-pubescent, upper surfaces of leaflets sparsely

pubeaoent
O.fen

...

...

*_

2_

Both surfaces of leaflets pubescent, upper surfaces and
 ad alt futiles externally glabrous roue.
 -lanceolate, acuminate
 Both surfaces of leaflets ovate-lanceolate or elliptical
 in length.

Follicles compressed, sparsely scabrous-hairy inside ..
 not ■& C. oligo
 com, minutely Bericeous inside ... 5. 0. /

Follicles compressed, sparsely scabrous-hairy inside ..
 flattened broadly ovate with indented bases; petals
 pubescent inside elliptical, 6. Q. nicobarica
 3 to 12 in.

L.B.
 Leaves 6 or 7, pairs; follicles 125 to 300.
 long, sericeous inside .. Main nerves of leaves 9 or 10 C.
 pair of foliolar nerves 1.5 in. long, Bericeous inside
 nerve of leaves 5 pairs; follicles 3 in. long, 8, C. gran-'
 pubescent inside d ... 9. C. elliptica

, Hook. fil. Fl. Br. Ind. II, 53. A small tree
 young branches minutely rusty-tomentose. Leaves 6 to 8 in. long,
 their
 densely and minutely tomentose; leaflets 7 to 9, coriaceous,
 long and shortly acuminate, the base rounded or
 lobes distinctly reticulate when dry, the upper
 the lower paler and sparsely adpressed-pubescent, the midrib
 main nerve 7 to 11 pairs, spreading, faint; length 2.5 to
 1 to 1.5 in., petioles 1 to 1.5 in. Panicles
 axillary
 rusty- bii the leaves, densely and minutely
 branched, spicate, with the flowers clustered in
 terminal panicles, the same in diameter, on pedicels
 themselves. oblong, laterally indented at the apex,
 glabrous inside, 1.5 in. Petal white,
 the sepals in front. the stamens broadly
 in front. stamens almost sessile,
 broadly Pi*til solitary, the the like the di

. 3L06,
 is readily described • its vary
 rtisi c_ o* Jiscinffuislied from
 gh~ W. Misc. 2, VIT,
 inentose ahvnb or powerful much bfc i ,ig
 Yalfif branches, petioles, rachises, under-surface of leaves and ii

densely rm . *Leav&8ka* iig; leaflets ■
c«oua, oblong-lanceolate or oblong-obluuc col ate, shoi

nate, narrowed in the lower fourth to the rou;
 tipper surface rugose even when
 thin hairs; when oi u'ous, the midrib and 7\erves
 and tomentose; under-surface
 paivs, oblique, ril , prompt no
 1'25 to 2 In., petioluloa J to '15 in. *Paniclr.s I* or Ion¹.
 than the leaves; tlio branches ratheT
 '3 in, lng, oii Is much shorter tliar "^\ oblo
 ovate, tomentose ontsi<i is insid
 i 10, all
 oblong¹, tomentose, style short. *Fo*
 late. <ng to the baso, red 'when
 1-75 to 2*25 in. long and '8 to 1 broud
 sericeous inside owly < i in. long and G
 black, shii rith a baeal incomplete arillas '5 Q
 v. lit. Ft. Br. Tr
fern Mus. *Hot. Lagd. Bat. I. J37. Oonnaracea,*
 W
 Cat. 851

In all the provinces except tha Andaman and Nicobar Islands.—
 DiSTPJB. Sumat?

I see no c ar to se\ i;lmne'a genns *Tricholobus* from Co< ,md
 therefore follow Sir Joaup Hookar in adhering to Jack's nam-

.ARUS SEMIDK' 5, Jack in Mai.
 eai i '-n scandenfc sbrab branche;-'
 pi.i berulcm long, v
 of the leaflets with I aloua ;
 to 7, thinly conaceoiis, obluug to ell
 acuminate, the base cuueate' or rounded ; npper surface
 tha lower reticulato, the *ipr* oe often decidnous
 nerves 6 or 7 pairs, r
 ving npw: ; length 25 t
 ■"> iu., pi
 the> rntich branched. uaty-u>i
 lad, "2 in. long, on p
 long, obtuse, co , sliort
 glabrous Hneaf-oblong p< 10, in two rows,
 with its filaments dilated at their bnse and a
 the petal single, shorter
 the style short, stont,
 obovoid* compress* ii a si: t apical point, s
 stalk at the base, iv pasty-pubesci
 75 to
 striate, about ards gl

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i Flora of the Malayan

•is internally. Seed with a shorfc bi til. m,
z For. Flora Burma,

II.

•ill. 54>3 (in pa 11, B.
In all the pi jobars ami An da mans.— D

Suv
rj,^; a easi]v hed when in fruit by the small cfze oJ
follr

that, in the latter, tlio folliclws &re largor
^ ^ (irons on both surfaces.

4. CONNART Wall, ex ich. in Liu
427. L> glabrns t=xcppt the infloi Leav- S
in.

5, 0 : ibloiiig,
iiortly and bluntly acuminate,-the basoctmenti
irface shining; the lower¹ paler, dull; niniu nerve 5 paii-9T
ially the lower 2 pairs), c\ nfc OQ

lugh 2

i., petlolulea nd longer than uho
leaves or lateral ai amidal, much branched, minaiely
rasfcy-pabea -flowered. Flower? '35 in- aile or on
■ <aU ovate-lanceolate, acuf- h ahoi'ter than
the

ohlong obtuse p'al'f i y 1, ilask-shaped, pubera-
Ions. conxpi cylind'i< i to
each end, glabrous and * (when dry))
car; minus oas ii Lly, 1*5 to 2 in. long
and

• liain. at t! die. Seed Shining, black. Hook. til. PI.
Br.

Inr! ii, . Wall. Ca and 853iJ D.
(in

Porter. Peralc ; Wray, No. 1942. s Collector, Nos.
•re;

Ri ea; Ms , Noa. 506
?OMNAitU8 HEBBFHYLLU3, n. Bpec. K. \ jiuWferf
mclc \y rusty-pubescent; th .\y
their

i or

; main ne slightly
in., dall, the '
in.,

ale and faintljr

p

-f apwa

a., rugulose,

.ous, pale. *Panicles* terminal and axilhuay, shorter than the leaves, rarely as long as or longer than them in fruit; the branches short, lanceolate

and densely tomentose. *Flower-buds* obovate

longer than densely rusty-tomentose outside. *Petals* glabrous.

Stamens 5

Stamens and 5 minute. *Follicles* when young rusty-tomentose, when

I. King — -

3-rhomboial, compressed, with a short stout apex, glabrous,
long, find about 1 in. broad, 1 in. long. Seed nearly 1 in.

Ion", oblong, blunt at both ends, black, with an acute apex.
ing r half. Hook. fii. FL Br. Ind. II liurz For.
Flora

, man Islands.— DISTEIE. Burma.

This may be distinguished from O. aemidgeandi and
larger Beeds much more extensive
pericarp in this is glabrous ;
ii

in Mai. Mis«. 2, VIT, 40. Scandent

a dent,

lute giftbi

it: to- 3 to 5, very coriaceous,
elliptic-

all parts exserted long,
their rachis

FIT if

io j >liqnf*, faint; length 4 to 1L

4

terminal 75 in. ftevi lie lateral leaflets about 5 in., of the
or ns long as the leaves, ternate

axillary, spreading, with
rnsy-tomentose. tbes,

Flowers sessile, 25 in. long & outside, linear-oblong,
ise. Petals twice as long, linear, dilated upwards,
glabrescent.

FUa s obliquely ovoid, sub-rhomboid, (
prea lightly and obliquely rugulose when dry, tapering
to a short pseudo-stalk, 1.5 to 1.75 in. long, and about 1 in. broad:
pericarp woody, Berberis inside. Planchon in Linnsea, XX III, 4
Hook. 111. FL Br. Ind. II, 53. C. Wallichii, Pin. Kurz
For. Flora Burma, I, 828. Connaraceae, Wall. Cat., 8538 A. B. (in part).

In all the provinces except the Nicobara and Andamans.

9. CONNAIURICUS, King n, spec. Scandent; young branches

pubescent, the bark dark and polished. # Leaves 8 to

long, everywhere glabrous; leaflets coriaceous, 3 to 5,
elliptic-

elliptic, acute or shortly acuminate. ; base rounded or sub-

cun* rery shining when ; base rounded or sub-

into ai!

r

prominent

7 in., breadth - in.; perianths 2 to 3 in.
pale. *Pai* axillary and whorled, or terminal and
longer
In the leaves, minutely rusty-pubescent, the branches
obliquely
rigid, the ultimate branchlets short. *Flowers* 25 in. long,
on
pedicels slightly shorter than themselves. Segments of the *calyx*
ovate-
lanceolate, acute, rusty-tomentose outside, glabrescent inside - outside as
long as the pistil and half as long as the linear acute glabrous petals.
tamen * 5 perfect nearly as long as the petals, *ftad* 5 abortive (without

Zing—Materials for. a Flora of the Malayan

anthers) shorter than the pistil; filaments glabrous; those of the perfect stamens ailed at the base. ., pubesco. tlyfe glabrous, stigma discoid-ca; ; obliquieh

b' rnboid, fripered to the base, the en din* .
ooicalpoint, the ventm ^{curved} ..

"pe' " P wood- ^fBed.
ment on its inner surface. &«* obloT half
cnrf arillu , Zoll. in

Kjdsch. Necl. Tnd. XTV, K
^O.J380. Perak; Kin-35. WYay; No, 161

There isa specimen in the Cak erbaritim co
whafc exaotly n {
»U. ; and it ia on ^{Tha.t B),} of tMfl idp,
liavf- bis «ynonymi he
to *Anacaniacem*) di 11"

IO briefly ai . fectly, tliab it is quite impoaabile, fron
criptions alone, to identify any of 6h<

2^ i, Hook. f.

Trees or erect shrubs. **flet**, quite entire, ^icewe*
or *cymes* axillary, short. *Flowers* hermaphrodite or polyga *Sepals*
ot enlarged in fi b-erect, valvate. *Pel* in the
-epa ^-lanceolate, densely pubescen* 10, 5 eborter
nhtout anth< laments short, snbni *Ovary*
1, pubescent; style short. *FolUcL* **digne**, valves
^labrou

)ISTBIB. 12spfccies; Malayan Per v fcd Islands.

■VOF, «inite glabrns.
:ig, tapering to each end;
; follicle 1 in. long

3.

a- oblong-olliptic to elliptic, 4 to 6 in long, raeraes,
follicle with u peado-B in. lqng
Flowers in dense capitnloid cymes ; follicle gibboas at th« *E. Qrijjtthii*.
base on one Bide, its pseudo-stalk about 1 in. long ..

1. EI,LIPANTHU8 SCORTECHINI, King n. spec. A small *E. gibbotut*.
tree; young branches with pale cinereous bark, pubescent. *Leaflet* thinly
coriaceous, narrowly elliptic-obkn%> tapering from the middle to
either end, the

ex caudate-acuminate ; both aurf;i tbrous, the upper sbinii them
 lower dull, minutely reticulate ; main nerves 4 pairs, curved, 'ngf selve
 prominent on the li urface ; length 45 to 7 in., breadth I: s.
 . petiole "I to 15 in. Cymes ; f, very short, Seg
 tawny-tomentose. ment
Calyx thick; the lobes* H?cp, ohtnse, cinereous-tomentose. Pe s of
 htly longer tlmii the f;ilyx, membranou einerea *eu- the
 tose, obliquely elliptic, sub-compressed, grooved along tl iosfc caly
 straight, the apex rather Blunt with nn abrupt small apiculns, tlie baso x
 <slightly and suddenly contracted into a short stout pseudo-stalk covered
 by the persistent calyx; length '5 in., breadth 3 in. ; pericarp
 thick, ovat
 >rons inside. <blong with a large hilum and tliiu arillus. e-lan
 Perak; Scortechini No. 607. ceol
 Gathered **only** by the iato Father & ini whose specimens are in frit ate,
 3m whose field notes the* foregoing description of the flywer haa been takon. thick
 ,
 2. **ELLIPANTHOS CALOPHYLLU8**, Kurz **Andam.** Report, Append. **B. 6.** tome
 small tree; young branches slender, glabrous. *Leaflet c* 'ius». ntos
 elliptic to elliptic-ovate, sometimes oblong-lanceotate, shortly cauda e on
 acuminate, the base rounded or r'iglitly and abruptly oaneate; both the
 surfaces glabrous; tlie upper shining when dry ; the lower dull, mini outer
 ly retinulate; main nerves 4 or 5 pairs, spreads pwards, in; **J**
 arching; freely; length 4"5 to 65 in., breadtli 2 to 2'25 in.; petiole *75 to
 1 in., the joint near the apex. *Cymes* axillary, shorter than the petioles, .
 minutely tawny-tomentf se. *Flowers* "3 in. long, on pBdicels shorter **u**
 than themselves. *Qalyn lobes* broadly ovate, sub-acute, tawny-tonientose .
 outside, less than half as long as the linear-oblong densely velvety
 obtuse petals. *Stamens* tho 5 perfect shorter tfian the petals aud with **2**
 very pubescent filaments ; tbortivo much shorter and more slen>
 ammotherous. *Ovary* narrowly ovoid, sericeous. *Style* rather short,
 stigma snb-capitate. *Follicles* obovoid or ellipsoid, slightly compressed,
 blunt, rnsl entoBe, 1 in. long; pericarp thick, w< riabrous with-
 in: Kurz Journ. As. Soc. Beng. 1872, Pt. II, 305; Fur. Flora Burma
 I, 39 j Hook. 61. Pl. Br. Ind. 11,55.

Andaman Islands; Kurz, King's Collectors.

3. **ELLIPANTHUS CUHTISH**, King n. spec. A tree; young brandies
 rusty-puberulous, the bark dark. *Leaflet* thinly coriaceous,
 oblong-lan-
 ceolate, tapering to each end, the apex caudate-acuminate; upper surface
 glabrous, shining; the lower reticulate, Bparsely pubescent, the midrib
 tomentose, main nerves 7 or 8 pairs, curving obliquely upwards, promi
 nent beneath ; length 2'5 to 35 in., breadth -8 to 15 in., petiole *3 in.,
 tomentose. *Panicles* axillary, branching from the base, '5 to "7 in. long,
 sericeous. *Flwobn* '2 in: long, on pedicels shorter than



resistent on the inner surface, less than half as long-as the petals
pistil. *Petals* narrowly oblong, sub-acute, pubescent

on the inner surface. The 5 fertile *stamens* glabrous, the
anthers broadly ovate, the filaments *nuculi*

Q, the 5 alternate *nuculi* } smaller and without anthers. *Ovary* long,
sericeous-tomentose, longer than the stout pubescent *style* / *margin*
capitate-discoid, Fruit unknown. Peunng; Curtis Nos. 1014, 1097.

The *style* ally of this appears to be the imperfectly known *E. Helferl*, Hook.
fil. from Tenasae *Eelfer'a*
are much *raorepubescent* on the lower and more *sinning* on the *a\ <-a*
of this are moreover *lin-ger*.

i, KLLIPANTHUS GBITOEBII, Hook. fit. Fl. Br. Ind. II, C>6. A
small

Young br. slender, rusty-pubescent. *I* thinly coria-
ceous, ovate-elliptic, caudate-acuminate, the base abruptly sub-*oune*;
upper surface glabrous, shining, the lower sparsely rusty-pul. the
midrib and nerves almost tomentose *j* main nerves !

spreading; interarching, prominent *benc* *<ngth* 4 to *o*
adtb 15 to 2 in., petiole -2 to -25 in. *Racemes* *25 in. long,
few-

ply divided into 5 ovate-*lanueolafe* teeth, *adpn*
nt. Follicles compressed, much curved, the apex beaked
awed at the base to *ft* pseudo-stalk 2 in. long which is *iced*
by the persistent calyx, rufous tomentose outside, '75 in, *loug*;
the *ericarp* coriaceous, glabrous inside.

illacca ; Griffith No. 2253.—DISTRIB. Borneo^

5. "ELLIPANTHUS OIBBOSUS, King n. spec. A small tree;
yoang branches slender, rusty-tomentose. *Leaflet* elliptic or
oblong-ellij

etimes slightly *obovafce*, shortly and rather abruptly
candate-acumi-nato, the *basd* cuneate; upper surface quite glabrous ; the
lower sparsely *adp]* -pubescent, *tbfi* midrib densely so; main
nerves 7 or *t^*

ading but *carved* *ipwards*, prominent on the *lov* face when
dry; length 45 to *G*, *inM* breadth 1*75 to 2*75 in, *v6* *iu*.
long, tomento. *joint* near the apex. *Flowers* *1

dense many-flowered capituloid axillary cymes, sub- sessile. (
lanceolate, *tawuy-toTntititnse* externally, glabrous *intern*;
broader the sepals and sometimes also longer, *imb*; *ose*
outside, glabrous inside. *ns* 5 or 6 fertile with broadly ovate
anthers, and 5 alternate smaller and abortive; the filaments of *:\|\|*
jd by their expanded bases. *Ovary* villous, style about as long as the
stamens, stigma discoid. *Follicle* narrowly oblong, compressed, the

apex
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jug, ev B0 ; length of follicle and beak equal
to that of **the** psenclo-stalkt4 pericarp leather oroua **inside**.
Seed

the ba ta bla>
Parak; very common, Scortecliim, **Wray**, Curtis, King's Collector;

3. AUPL.

or sarmemtose shrubs. *Leaves* ueequally pinnate,
some
times **with** only let; leaflets **subopposite** or alternate.
axillary. 11; pedicels usually
slondui

•*ah* 5, orbicular, imbricate, **enlai** I clasping the base of
Petals o, usually **linear-oblong**. *Stamens* 10; B
at the base. *Ova* ily imperfect; sty'
le, curved. *Se^d* erect, ;u exalbuminous.-
■ species about 62.

iot **more** than 7, petiolulate, glabrous.

b usimily **aBingle leaflet** ...

1. ft. *anomul*

Leaves with 3 to 9, r;irely 11, leaflets ; in florescence ebiae-
teolate, of the br:i (if **any**) as.

Leaflets glaucous on the lower surface LeaHeis nor glaucous on *ac*
the lower surface.

elliptic-lanceolate

irr-ea 2 to 5 pairs, curving

abruptly **upwards** j flowers '35 in. **indiam,,in** racemes **or**
panicles, flower buda ovoid

3. *S. commutata.*

Leaves ig ; leaflets ovate-ltmceolate, their
main nerves 4 or 5 paj , spreading; flowers "25
in. in **diam.** ; flower buds **ovo**

4. *B.jnilch*

*) in. long; leafleta 3 r urbicnlar with
broad rounded bases; *a* nerves **about**
4 pairs, spreading, faint;

II. h inn His.

very numeroi: 40), small, sosaile, obl^

ally **acuminate**, pubtsceu' k... 6.

t, tlits ; ,nute!y dotted and spars

It

... 1 apices.

of leaflets rust;

8. *R. i*

Lev. 'ace of leaflets minutely dotted, reticulate,

glabrous ■ »« 0. *H. c*

1. K .A, King n. spec. A powerful woody perfi

glab-

rous creeper. *Leaves* either simple **or in** .at
elliptic to broadly ovate, shortly and bluntly mudate-acumiiuiir, the

1.1

; tied and usually **I; both** surfaces si lining and
minutej

reticulate when dry; main nerves about 6 pairs, curving

faint; length of the simple leaves and of the terminal leaflet of the ternate leaves 825 to 4*5 in., breadth 16 to 2*2 in.; petiolules about *2 in., those of the lateral leaflets shorter. *Racemes* slender, shorter than the leaves, in fascicles in the leaf-axils, laxly-flowered. *Flowers* *35 in. long, on slender pedicels of about the same length. *Segments of calyx* ovate-orbicular, sub-oblique, puberulous outside, their edges ciliate, only about onerthird of the length of the linear-oblong glabrous petals. *Stamens* much shorter than the petals and than the glabrous pistils *Follicles* obliquely ovoid, sub-compressed, blunt, yellowish with a re tinge when ripe, 1 in. long. *Seed* with a soft red arillus.

Penang ; Curtis No. 504. Perak; King's Collector Nos. 804 3066, 3866, 4527, 4622, 6755, 8312, 10542, 10863. Wray, No. 37 Scortechini.

This resembles *R. simplicifolia* Bl. in having both simple and compound leaves; but that is a smaller plant with puberulous inflorescence, and different follicles.

2. BOUREA ACUMINATA, Hook. fil. Fl, Br, Ind. II, 48, A powerful woody perfectly glabrous creeper often over 100 feet long ; young branches glabrous, often minutely lenticellate. *Leaves* 3 to 9 in. long, the rachis slender; leaflets 5 to 11, thinly coriaceous, oblong, lanceolate or elliptic-oblong, sometimes somewhat obovate, abruptly shortly and bluntly caudate-acuminate, slightly narrowed to the rounded base or with broad minutely cordate base; upper surface shining, the lower dull and glaucous, both minutely reticulate when dry; main nerves about 5 pairs, very faint, spreading; length 1\5 to 225 in., breadth *65 to *9 in. ; petiolules under *1 in., the terminal one slightly larger. *Racemes* very slender, lax, several from an axil. *Flowers* *3 in. long, on slender pedicels of about the same length. *Sepals* ovate-rotupd, about half as long as the narrowly oblong glabrous sepals, glabrous, the edges minutely ciliate, *Stamens* shorter than the petals and glabrous pistils, *Follicle* narrowly ovate, euryetl, pointed, <75 in. long, when ripe red tipped with yellow. *Onestii acuminata* Wall. Cat. 8533.

Singapore; Wallioh, Perak } King's Collector Nos. 866, 4271, 6987, 7781, 10599, 30871.

3, RQUREA CQMMUTATA, Planch, in Linnaea, XXIII, 420, Shrubby, scandent; young branches puberulous becoming glabrous, sometimes minutely lenticellate. *Leaves* 8 to 12 in. long, glabrous ; leaflets 3 to 7, thinly coriaceous, sub-opposite, elliptic-lanceolate to elliptic, sub-obtusely caudate-acuminate, the base rounded, both surfaces shining; main nerves 2 to 5 pairs, curved, rather abruptly ascending; length 25 to 6 in., breadth 1\35 to 2*25 in.; petiolules -15 to *2 in., the terminal one larger, *Flowers* '35 in- in diam., in glabrous racemes or racemoid panicles much shorter than the leaves and clustered in their axils, pedicels

ing— M s for a flora of

r than the flowers. *Sepals* broadly ovate, blunt, pubescent, oblong, broadly ovate. *Stamens* 10, alternately shorter than filaments, expanded **towards** the base and united by their edges; ovaries fully hairy on the inner side, glabrous. *Follicles* obliquely

-oblong, pointed, coriaceous, glabrous, 75 to 1 in. long. *Seed* ovals covered by an orange-colored arillus. Hook. **fil.** Fl. Br. Ind. II, 47; Ruiz For. Flora Burma I, **324**. *Cnestis monadelphica*, Roxb. Fl. Ind. II, *Connaracea*, Wall. Cat., 8547, 8548.

Audaraan and Nicobar Islands.— D., iKiii. Burma, Chittagong, Yehot and Assam.

The present species (published in 1850), *R. pulchella*, Blume (1850), and *L. humilant* >)i differ from each other so little that I am not sure that they should be reduced to one, in which case the species might be named *Rotirea monadelphica* the earliest published name of any of them being *tis monadelpha*, Roxb. (1832).

4. ROUREILPDI/ .. Planch, in. Linnaea XXIIT, 419, Scandent,

woody, quite glabrous. *Leaves* 3 to 7 in. long; leaflets 3 to 7, thinly coriaceous, ovate-lanceolate, obtusely caudate-acuminate, the upper surface very shining, the lower less so, both reticulate; main nerves 4 or 5 pairs, spreading, faint; length 1*5 to 3 in., breadth '75 to 1*6 in.; petiole '15 in., slender. *Racemes* crowded in the axils, **shorter than** the leaves. *Flowers** '25 in. in diam., the pedicels of the same length, slender.

Sepals broadly ovate, acute, **ciliolate**, half as long as the petals, linear-oblong. *Pistils* 5, ovaries pilose, styles slender. *Follicle* stout, curved,

pointed, glabrous, '6 in. long, rod when ripe. Hook, fil, Fl. Br. Ind. II. 48.

Malacca; Griffith, No. 1265. Maingay, No. 501 (Kew I.); Ridley, No. 1419. Singapore, Ridley, Nos. **2028**, 3981. Pcrak; Wray, Nos. 1167, 3774.

ROUREA HUSIIMS, Blume Mas, Bot. Lugd. Bat. I, 262. Scandent woody, glabrous. *Leaves* 35 to 6 in. long, the rachises slender; leaf

usually obovate, coriaceous, broadly ovate or ovate-orbicular, abruptly and obovate caudate-acuminate, the base rounded, rarely sub-cuneate,

Ipper surface very shining, the lower less so and more distinctly reticulate; main nerves about 4 pairs, spreading, faint; length 1*5 to 3 in., breadth 1 to 2-25 in, petiolules about '2 in., the terminal **leaflet**'the

erect. *Racemes* axillary, clustered, slender, few-flowered; the buds

sub-globose, on pedicels of about their own length, *Calyx-lohes*
sub-
orbicular, glabrous. *Stamens* shorter than the oaiyx, much shorter
thaa
the styles. *Follicles* cylindnc, pointed, coriaceous, glabrous, *75 in. long.
Nicobar Islands; Jelinek, No. **Ejarz.** Penang; Curtis, No, 2285.
Pahang, Ridley, Nos. 2645, **5121**; Singapore. Perak; King's
Col
lector, No. 4077, Scortechini,—DISTRU ifcra, Borneo.
Distinguished chiefly iroadly orato coriaceous leaves, very sliiuuig *on* the
urtuce and with broad bases.

6. ROUKEA

Flora

, Planch. in *Linnaea* XXIU
4

and
bluntly

rarely

^ J
Singapore Wallich. Malacca;
Griffith
Porter, Cur Perak · King's Collector w.
UKSK PARALLEL, Planch, in *Lianaea* XXIII 4<>l
_M woody tin, ten 150 feet long; young
branches

c 10 to 22 pairs, opposite or B
the apex broad, shortly bi he base minate Jy cordate, slightly obli
upper surface glabn
pubescent e8J Jly on the mi [n nerves . jj ^ ^
faint; length -5 to -75 in., breadth « to * in.
rters, shorter thaa the lea
diam, and *2 in. long, the
as
:b"£!al Hpe

Con«arw m»m I. p AVall. Cat 8526

1« Scortechini. Singapore, Aude,SOD, ,

Fl" w in. in **diam. in lax** panicles-
leaflets nearly 1 in.
Perak ; King's Collector, No. 5516.

Re , Planch, in Linnaea, XXIII, 423. A
 woody
 young branches minutely and deciduously rusty-torn*
 . : long, the rachis tomentous *l* pinnis, thin-
 i, oblong, slightly oblique, entire, obtuse* ; rounded
 sub-cordate, usually oblique; upper surface glabrous, reticulate
 minutely rugose. When dry, the lower rather densely
 rusty silky pubescence; length 4 to 6.5 in., breadth 1.5 to
 2.5 in.

, solitary, shorter than the leaves, pubescent, }
 short. *Follicles* , much curved. Hook.
 Br. In- II. Cat. 855
 Singapore; Walpole; Ridley, Nos. Malacca • Maingay
 No.

ROUKI OLOE, Blume Mus. Bot. J. L. Mg. Bat. I, 264. A. woody
 tree; young branches rusty tomentous. *Leaves* 1 to 4 in. long, the
 . [99 tome] : leaflets 4 to 16 pairs, thin, sub-sessile,
 with very obtuse or truncate apex and broad oblique
 minutely cordate base: both surfaces glabrous, *i* . » per shining,
 the
 lower minutely dotted and boldly . late; main nerves about 3 pairs,
 spreading; length 3.5 to 5 in., breadth to 3 in. *Uracem.* about
 as
 as the leaves, axillary, slender, rusty-tomentose; pedicels slender,
 . 2.5 in. long, as long as the flowers. *Sepals* alar, only half as long
 the oblong petals, stamens as long as . *Follicle* * 5 to 7.5
 . » . Hoo PI. B. Ind. II, 49. *B. parvifolia*, Planch.
 in Linnaea, Vol. XXIII, 420. *Connarus nugoides*, Wall, (not Vahl.)
 Cat. 8526 "B. *Gnestis miv* 9, Jack in Mai. Misc. Vol. II, VII, 44.
 pore; Prince, Ridley, Hullett. Malacca; Griffi
 No. 12' v Diatribj Perak; King's Collector, No. 4373.— Drs TRiB.
 Sumatra; Forbes, No. 3169. Borm

4 RODREO ih.

> scandent shrubs. *Leaves* unequally-pinnate, leaflets
 . » in axillary racemes; pedicels slender, bracteolate at the
Sepals oblong, slightly imbricate somewhat enlarged spread-
) base of the capsule. 7 linear-oblong.
Ovaries 5, styles slender. *osule*
Seed ovoid ; testa thin, black, arilliferous at the
 lygdaloid. —DISTRIB. Species 3, all in Malayan.

This genus differs from *Rowrea* in having straight
 base of which the persistent sepals are fresh, and also in having bracteoles at the base
 of the pedicels.

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1. ROUKEOPSIS PUBINERVIS. Planch. In Linnaea, XXIII, 424, woody climber, mes as long as 50 feet; young branches with striate puberulous bark. Leaves 25 to 5 in. long, the rachises pulscnt; leaflets membr; 5 to 9, (the terminal one larger than th« others), narrowly ovate-elliptic, tapering to oach end, the apex abrupt and notched, the base cuueate; upper surface glabrous; the lowt paler, puberalous on the midrib and sometimes on the nerves; *mi* ve & 4 or 5, inter-arching, not much more prominent than the irit mediate nerves j length of lateral leaflets 7 to 17 in., breadth "5 "75 in. Racemes slender, shorter than the leaves, solitary or in fascicle of 2 or 3 in the leaf axils, laxly few-flowered. I , in, lo their pedicels of about the same length, each with ,i minute pubescenr sistent bracteole at its base. Sepals broadly oblong, obtuse, pilose nes the apex, about half as long as the linear-oblong sub-aoute glabrous petals. Stamens shorter than the sepals and pistils; ovaries pubosc Follicles ovate, "5 or *6 in* long, not curved; the persistent ealyx-lobea free, erect, about one-third as Ioug as the fruit. Hook, fil, Fl. Br. Ind.,

50. Indeterminate, Wall. Cftt. 9050.

Pcnangj Porter: Curtis, 2332 and 2749. Malacca; Griffith, Maiugay No. 500. Perak; very common, Scortechini, King's Collector.—DISTRIT Java.

2. RouREOPSIS SconTEcmNii, King n. sp. A slender sarmentoso ■woody shrub, all parts except the inflorescence glabrous, young branches minutely lenticellate Leaves 6 to 10 in. long, the rachis rather slender; leaflets 7 to 9, Biib-opposite, very thinly coriaceous, ovate-lan ceolate, tapering from below the middle to the long rather blunt acumi nate point, the base cimeate; upper surface shining, th*e lower rather dnll, paler and conspicuously reticulate; main nerves about 4 pairs, faint, the lower very oblique; length 225 to 3 in., breadth 1 to 125 in., petiolules about "1 in., stout; the lowest leaflets the smallest. Racemes slender, axillary, 1 to 2 in. long, laxly-flowered, minutely an *ely rusty-pubescent. Flmcers about -25 in. long, on slender pedicels about *2 in. long, each pedicel with a minute rusty- torn en tose braoteole at its base. Calyx-lobes ovate, obtuse, ciliolate, hairy inBide, glabrous outs. Petals longer than the calvx, lanceolate, plicate in bud, yellow Filaments slightly coherent at the base, glabrous. Pistils 5, only 1 or

fertile
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Fruit
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s (elevation 5,000 feet), No. 1998.

Scortecliini's specimens h^{ave} flowers in bud only, and none of them is in fruit, foregoing description, as reported in the SOWOT, is copied from his Bold note. The fruit is described from what I take to be the same plant collected by Curtis in Arak at an elevation of 5,000 feet and described by him as a small tree.

5. AGELJ:A, Soland.

Erect or scandent shrubs. *Leaves* 3-rarely 5-foliolate. *Panicles* or *racemes* axillary. *Calyx* 5-partite, not accrescent nor embracing the fruit, imbricate or subvalvate. *Petals* lanceolate or ligulate, obtuse, free or connate at the middle. *Stamens* 5 or 10. *Disc* ^-annular or 0. *Pistils* 2-5. *Follicles* 1-3, sessile or shortly stalked, coriaceous, rugose or lamellate. *Seed* erect, exalbuminous; testa arilliform below the middle.

—DISTRIB. 12 species, African and Asiatic.

Main nerves of leaflets 2 or 3 pairs, sab-erect, curving.

All parts more or less pubescent, stamens 5 1. *A. vestita*.

All parts, except the inflorescence, glabrous; atamens 10 2. *A.*

Wallichii. Main nerves of leaflets 7 to 10 pairs, spreading.

Leaflets 3 to 5, all parts more or less pubescent; ctaiuena 5.. 3. *A. pinnata*.

Leaflets never more than 3, adult leaves qrv.to glabrous; stamens 10 4. *A.*

Hullettii.

1. AGELJIA VESTITA, Hook. fil. FL Br. Tnd. II, 46. A rather slender woody creeper 20 to 80 feet long; young branches at first rusty-tomen-tose but soon becoming sub-glabrous or glabrous. *Leaflets* membranous, unequal, more or less ovate or elliptic, with rounded base and caudate-affirainate apex; the terminal one the larger, sometimes ovate-rotund to sub-rhomboidal; its petiolule '5 or more in length, swollen at the apex ; the lateral leaflets inequilateral, the petiolule only '1 dr "2 in, long; upper surface of all sparsely adressed-pubescent, the midrib and nerves tomentose; lower surface pubescent; main nerves about 3 pairs (one pair sub-marginal), much curved, prominent as are tjj^ intermediate nerves and reticulations; length of the lateral leaflets 2#5 to 3 in., breadth 1*25 to 1*75 in., the terminal one larger. *Panicles* extra-arillary, less than 1 in. long, tomentose, with many short branches. *Flowers* under 2 in. long, on slender pedicels. *Calyx* cleft to the very base ; the segments unequal, linear, tomentose, shorter than the glabrous yellowish oblanceolate or linear petals. *Stamens* 5, unequal. *Styles* 2 to 5, slender, with a few white hairs. *Follicles* solitary, bright red, rarely in pairs, ovoid, boldly tuberculate or lamellate externally and tomentose, about 6 to '8 in. long, usually with a short curved stout apical beak. *Seed* narrowly sub-obovoid, black, *4 in. long, pale and arilliform near the base. *Cnestis vestita* Wall, in Herb. Linn. Soc. *Connaracea*, Wall. Cat. 8535. *Hemiandrina borneensis*, Hook. f. in. Trans. Linn. Soc. xsxiii. 171, t. 28. *TroostwycJcia singularis*, Miq. Fl. Ind. Bat. Suppl. 531.

Singapore; Jack, Ridley. Penang; Porter, Curtis. Malacca; Griffith, Mningay. Perak; King's Collector, Scortechini, Johore, Ridley.—DISTRIB. Sumatra, Borneo.

A very common species iu Perak. The arillas of the seed is very inconspicuous

J. ii. 3

in dried specimens. The number of the pistils varies from 2 to 5. There are
the Kew Herbarium fruiting specimens of *plum. coli* are iromataroj are non-tube!
resembles this except that its fruits (which are covered with a dense
are covered with a dense *long si*] Icy tamiy hairs. The 8;
collected by the Calcutta
I believe the dense hairiness
tion caused by the deposit of

2. AGELEA WALLICHII

woody creeper 20 to
g&W *Leaflets*
oori rounded or caeate
bases I of the
toward the
of the
■lix.iog,

the fruit of both gntheri; due fco the
gga of some insect in the yonng fruit.
Hook. fil. EL Br. Ind. II, 47. A
feet long¹, trta except the inflow
sliigiitly uiji orate-elliptic, i
Jon[^], thickened near tlie apex;
s about -2"; in. long; both *tmii*.
o 4*5 in.; breadth)
nding, much carved, one p.-*
long, e>. EUary, pubesceni

5 ovate-lanceolate imbricate segrei
internally, their et Lmsely
than the segments of the *em* 10,
sub-equa), longer than the petals.
Pistils 5, very short, stout.
glabrous,
sab-acate.
»noh shorter
tha_a shortly

J. 1275,

3. AGE[^]A PTNKATA, King n< spec. A woody climber 30 fc
r; young branches rusty-puberuloos, striate. L[^]fa 3 t
cumoeous, unequal, (the middle the W_{u8t}) £
Portly caudate-acuminato, the base «2ffir 2l[^],
surface glabrou. miaute] fe
minutely sub-adpreaaed pnboaoei ^ +
midrib tomeatoi; nain ^7 ^ i n ^ fte

upper; ength of the terminal leaflet 6 to 8*
its pet₁₀lule jointed to the xuchis and not longer thin *thl*
slightly waiter leaflets. Paaiacle8 about , Cl[^]ltZl
the axils of the leaves, man .red miL 1 * * "
■Sin[^]theirpedicelJhaU tSL[^]T[^]J[^]

1897.] G. Kim?—*Materials for a Flora of the Malayan Peninsula.*

to 5 Hi mmiui lexed segments, half as long as the pe
meutose ex Ly. *Petals* linear, niach auui lute
and purple oui *mens* 5, shorter than the pistils,
the
anthers sub-globular. *Pistils* 5, the ovaries softly tomentose ; the
styles f, recurved : the stigna bifid. *Fruit* an known.
Collector, No. 51-25.

Tbie notably from Ixjtli the other species of this genns in its leafle
often 5 i ■? 3 leaflets. In the structure of its flowerg, however,
ifc
roes perfectly with fclic tliuyaoais of the genns. It ia more nearly allied to
A,
tia than tu A. *Wall* h in the larger number of >.
s in its rer **larger** than these of A. *vesttia*, and

L

AGEL; A HuLLETTh King n. spec. A. woody creeper 15 to
20 young branches minutely tomentose. *Leaflets* 3,
coriaceon

slightly the largest, narrowly elliptic-oblong ; the lateral iy
oblique, ail with aoute apices and cuneate bases ; the pctio-lule of the
terminal one from *5 to '75 in. long, joiutud; those of the lateral pair
25 in. long ; upper surface glabrous and minutely pitted, *irev*
finely reticulate, when youni^ stib-lepidobe and puberulous, •a adult
glabrous ; main nerves 7 or 8 pairs, spreading and curving
a lower and obsolete ou the upper BO
the intermediate nearly a ,th of the lal
leaflet 6 to 9 iu., breadth 2 • >i., the lateral pair rather smaller.
Ides less than 1 In. long, minutely tomento.se, crowded *in the
or from the axils of fallen leaves, many-flowered. *Flowers*
.. long and about the same across ; their pedicels about '25 in. long.
c divided for two-thirds of its length into 5 lanceolate seg
tomentose o: int. insido. *Petals* longer than the
sepals,
preading, linear-obl jlabrous, with a mesial rib, rectirvud
from

middl *tmens* 10, the alternate ones shorter, none
of
i so long as the pistils. *Ovaries* narrowly oblong, tomentose.

Styles

iiily diverging. *Follicles* 1 to gilt red when ripe,
eaked, ireledand minutely rusty.

■H-

in. *Seed* Bub-cylindric,

oom-

rcseed, tlic uppt^ ha¹ ∴ the lower pale and avilliform, *5 in. loi
ngapore ; Hullett, Xo. 841; Ridley, No. 4589. Perak;

King's Collector, No. 5729.

Tlii ;d *ivoir*
tamons bring only S w]

<*iata* by the leaflets being invariably 3 **and** the
I, there arc oftei Sets :ind always 10
i soino roapeota, but it **differs** from that
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of the young leafle

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bcniloua **and** leptdoto.

NOTE.

Connarus Diepenhorstii, Miq, PI. In<3. Bat. SuppJ. 529, (of -which a typo specimen is In the Calcutta Herbarium) is unmistakably a species of *Agelxa* and should be named *Ageh-a Dicpenhorstii*. It is allied to *A. Wallichii*, Hook, til., but has larger leaflets and much longer racemes. To this belong Teysmann's Sumatra specimens from Prianam (Herb. Horfc. Bogor., No. 2197), J*n4 Forbes's from the Lampongs in Sumatra, Nog. 1313 and 1386.

6. TJBNI0CHXJENA, Hook, f,

A rambling shrub. *Leaves* unequally pinnate, glabrous; leaflets quite entire. *Panicles* axillary, short. *Flowers* hermaphn -tube short, hemispheric; segments 5, enlarged and revolute in front, valvate. *Petals* 5, much exceeding the calyx. *Stamens* 10, alternately shorter, nearly free at the base. *Ovaries* 5, sessile; styles short, stigmas

1 dis-coid- *Follicles* 1-3, ovoid, pubescent; valves glabrous within, oblong, arillate; albumen 0, cotyledons plano-convex, TJSNIOCHI^NA. GTSIFFITHIT, Hook. fil. in Benth. and Hook. Gen. Pi 434; fl. Br. Ind. II, 55. Young branches pubescent, and with pale brown lenticels all over, parts except the inflorescence quite glabrous. *Leaflets* coriaceous, the terminal largest, elliptic to ovate-elliptic, with sub-acute slightly bifid apices, slightly narrowed to the rounded base, the edges slightly sub-revolute when dry; both surfaces shining, the lower reticulate; main nerves 4 or 5 pairs, the lower pair sub * marginal, all curved upwards, prominent on the lower and depressed on the upper surface; the petioles of all jointed, '15 in. long; length of the terminal leaflets 5 to 65 in., the laterals smaller. *Panicles* (fide Sip D^ Hooker) (<2 to 3 in. long, fascicled, densely pubescent ...Jer.

Flowers rotate, '33 in. in diameter. *Segments of the calyx* oblong, pubescent, recurved in flower. *Petals* twice as long, linear, dilated upwards, glabrous; filaments abort, subulate. *Follicles* 2 or 3, '5 to 1 in, long, obtuse, densely pubescent, valves coriaceous. *Seed* short, slightly compressed, testa black, arillus small."

Malacca,; Griffith, Maingay, Ifa. 497,

7. CNESTIS, JUSS,

Scandent shrubs or trees. *Leaves* unequally pinnate } leaflets mostly quite entire. *Flowers* in racemes, -o, rarely panicle, poly-mous or dioecious, rotate. *Sepals* 5, vulvate or imbricate the 1 spreading in fruit. *Petals* 5, shorter or longer than the calyx*. *Stamens* 10, free. *Ovaries* 5-7, sessile; styles short, stigmas capitate.

Capsules 1-3, kidney-shaped, cylindrical, curved or wavy, pubescent, often villous or clothed with rigid hairs within, *Seed* with a thin arillus, albumen

fleshy, cotyledons thin.— DrsTEiu. Tropical Asia and Africa spe about 17.

CNESTIS RAMrPLORA, Griff. HTofcul. IV, 432. A small tree or & climber, young branches, rachises of leaves, under surfaces of leaflets and inflorescence more or less softly ruaty-tomentose. *Leaves* S to 15 iu. long ; leaflets 10 to 31, sub-segsile, narrowly oblong¹, rarely slightly obovate, obtuse or Bub-acute; the base broad, rounded or minutely cordate; upper surface sparsely adressed-pubescent or glabrescent, the nerves pubescon: u nerves 4s or 5 pairs, spreading, faint; length in., br to 1*5 in. *Racemes* much shorter than the

leaves, in axillary fascicles. *Female flowers* aboafe P3o in. in diam., the jnales smaller. *Sepals* narrowly oblong, obtuse, pubescent on both

Petals similar in shape to the sepals but sometimes lou. glabrous. *Stamens* much shorter than the sepals, the filaments glabrous, re and *Ovaries* 5, tomentose, styles short. *Follicles* 1 to 3 from one flower, eessilo, compressed, falcate, -widest about the middle, incurved, rugose, rusty-pubescent; the pericarp very thick, woody, lined ide with a dense layer of sericeous tormentum, 1 "5 to 1*75 in. long i *8 in. broad. *Seed* broad, compressed, the testa and arillus thin.

PKurz Journ. As. Soc. Beng. Vol. XLV, pt, 2, p. 216; For. Flora Burma, ■29; Hook. fil. El. Br. Iud. IT, 54. *C.flaminea*, Griff. Notul. VI, 433. *alatantha*, Griff. 1. c. 434; Kurz 1. c, *Gi&siis folioaus* aud *0. igneus*, Planch. MSS. in Herb. Kew. *Oonnarus foliosus*, Jack in Wall. Cat. 8529. *C. igheus*, Wall. Cat. 8528. *Mourea dasyphylla*, Miq. PL Ind. Bat. Suppl. 528,

IIn all the provinces, a oommon plant.— DISTRIB. Burma, Sumatra, Philippine Islam' A widely distributed plaofc and therefore presenting various forms, aomo of which (as tho syuouymy ahowa) have been regarded as species. The form which is most distinct is that which assumes the habit of a small tree; but ita Sowers and "saves are in no way different from those of the soandent forms. Thta waa, how-rate by Kurz under the specific name *G. rumijtera* Griff, j while, for forma, he kopt the name *O. platantha*, Griff,

BEB XXXVIII. LEGTTMINOS^.

(BY D. PRAIN.)

Herbs, shrubs or fci *Leaves* stipulate and usually alternat innate or digitate or simple, often stipellate, somotimes with the rachis hjnding in a bristle or tendril. *Inflorescence* axillary or leaf-opposed or [terminal; usually simply racemose or panioled ; bracts and bracteoles [usually lioth present. *Flowers* usually irregular,

hermaphrodite, rarely regular or polygamous. *Sepals* 5, combined or free, often unequal, sometimes arranged in two lips. *Petals* 5, rarely fewer by arrest, very

rarely 0, usually free and *Stamen**
 or almost hypogynous, rarely fewer by ar
 free or variously combined; anthers 2-celled, dehiscence almost » I w
 longitudinal- (*Jcanj* free, style simple, cylindric, usually
 declina

■ in a capitate, terminal or oblique ; ovules 1—oo on the ventral B
Frv Jly dry, a pod splitting op on along both suture.?, som*
 opening only along the ventral suture, so in i nous a
 . sometimes separating into oue-seeded **gments.**

Seeds usually exalbuminous; cotyledons foliaceoug **or** amygdaloid, w
 a straight or a xed accumbont radic

A very large order with Urn aural E
 altogether about S,000 species. **Of these**
cosmopolitan in distributio and tl
 confined to the tropics and rm temperate regions.

Petals imbricate :—

Calyx segments united above the level of the disc;
 the upper petal (standard) exterior (PAVILIONACE^):—
 Stamens mon- or diadelphous : — Pods dehiscent along
 both sutures:—

Leaves even-pinnate the rachia continued as a
 tendril or bristle I

Leaves simple, digitate or odd-pinnate :—
 Leaves simple *sessile*, or digitately 3-7-foi
 ■; stamens monadelphthi >limor-
 plODS ... II.

Loavt ely 3-foliolato, rarely (*Clitoria*)
 5-7-folio]ate or (>Uo-
 : digitately Ji-foliolate and then γ
 2-iidelphous stamen-a ; **when** stamens **1-adel-**
phoos, the uppsr filament a i to tho
 oth< Be III. V

ate, or if 1-3-foliolato ii partially
 monadelphona sta-innform **anthers**, or (*Intl*
 with 2-adt]i»hoaa stamens, apiculate anthers
 and basifixed hairs ; when stamens mouadel-
 i]>l>er stamen freo at its base IV.

Pot;
 suture ; —
 Pods nob sogtnented, always quite indei
 scent; 'innate V. DAL;

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simple Air
A." rsaule :—

VIII. CASSIS*.

Petals 5 .—
ilyl gamosepiimim or valvately par;

IX. BAUH:

Petals fewer than 5 (3 or 1 or
te

XII.

. teeth imbri

CASALPIK XIII.

—
rtdnlar XIV. .

Anthers not glandnar ...

StamDnB co :—

Filamonta frse ...

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Filaments united ...

... XYiL INGEJE,

A. *SVBOJZTJER I. PATTLJONACB^:- i nents united I Hie*
ils iml \ the vpp> rnai. Bad flexed accumbent
or^ rarely, very short and straight.

TRIBE I. Vi Dwarf herbs or climbers isinally even-
pnnate, the petiole **prodn** ire ex-
iles often foliaCHOus. *Flowers* solitary or
racemose.

liadelphons (9 + 1). *Pot at.*

1. Abrus.

TRIBE II. G B. Shmbs, som-times tree-like, or
non-climbing

herb;s. *Leaves simple ov di y 3-oo-foliolate, rarely 1-foliolate ;*
ti]nlos small, free. / ; in. r mon-
anthers almoet **always 2-tQorphous.** *Pod* dehiscent.

Orofcalaria.

TRIBE III, PUASEOLTS*. Climbing or creeping herbs, rarely erect
and shrubby, very rarely trees. *Leaves]i y 3-foliolate, rarely*

r—7-fol leaflet or !<• **ilmost always. stipellate.**
^ °PP cad aeons. *Stamens monadel-*

upper filament j'ree at the

1) by more or I detachment of the upper j
anthers uniform very rarely (*Muonna*) 2-morphous. *Pod* dehiscent.

; beneath per-

•lotted buneath:— sist

ed and bracts very small or Ri

teardleaa, or if boardc- j with bracts in i

>rescfikce not BTTOII

A. *Cajanese.*

B. *Euphc*

Rachis of inflorescence nodose :—

Upper stamen subconnate with th3 others and petals
 snbequal J),
Dioclex.

Upper stamen free or if subconnate. then petals very
 nnequal:—

Petals very unequal *E. Erythrinese.*

Petals of same length *F. Oalactiese.*

Sub-tribe A. Cajanese. Inflorescence racemose, rachis not swollen, or flowers subumbellate or solitary, bracts usually membranous caducous, bracteoles 0; petals of subequal length; upper stamen free; style bearded, stigma terminal; leaves gland-dotted at least beneath: stipels small, sometimes 0.

3. **Flemingia.** *Ovules 2; pod turgid, leaves subdigitate or 1-foliol*

4. **Eriosema.** *Ovules 2 ; pod compressed, leaves pinnately 3-foliolate funicle terminal on hilum.*

5. **Dunbaria.** *Ovules 4-oo ; pod compressed, not deep-l'teate between the seeds,*

6. **Atylosia.** *Ovules 4-oo ; pod compressed, deep-lineate between the strophiole seeds.*

7. **Cajanus.** *Ovules 4-QO ; pod compressed, deep-lineate between the seeds ; strophiole 0.*

Sub-tribe B. Euphaseolsse, Inflorescence racemose, rachis nodose bracts small or caducous ; petals equal in length or the keel long-beaked, or spirally twisted; upper stamen free ; style longitudinally bearded along the inner face or less often simply pilose round the stigma.

8. **Phaseolus.** *Keel spiral.*

9. **Vigna.** *Keel not spiral; stigma oblique, style not flattened upwards ; pods not lineate between seeds.*

10. **Pachyrhizus.** *Keel not spiral; stigma oblique globose on inner*

face of style flattened upwards ; pod lineate. 1.1. Dolichos, Keel not spiral; stigma terminal; pod not winged.

12. **Psophocarpus.** *Keel not spiral; stigma terminal; pod square } winged at the 4 corners.*

Sub-tribe 0. Glycinem. Inflorescence of axillary fascicles or racemes of solitary or geminate flowers on an unswollen rachis; standard not appendiculate or (in small flowered genera) minutely appendiculate at the base; upper stamen free or united at the base with the rest; style naked (bearded in *Clitoria*).

13. **Clitoria.** *Bracts persistent; standard large not spurred; calyx-tube long; style bearded; stamens 10 fertile.*

14. **Centrosema.** *Bracts persistent; standard large spurred on the back; calyx-tube short; style naked; stamens 10 fertile.*
15. **Teramnus.** *Bracts small deciduous; standard small; stamens alternate, 5 fertile, 5 sterile.*

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r. King — *Materials for a Flora of the Malayan Peninsula.*

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- Pods much longer than the calyx:—
 Pods glabrous, flowers yellow:—
 Stems diffuse, racemes lateral 4. *C. ferruginea*.
 Stems erect, racemes terminal:—
 Branches stem: striated, glabrous or nearly so; leaves stipulate:—
 Leaves obtuse or retuse, bracts and stipules small subulate 5. *C. retusa*.
 Leaves acute, bracts and stipules large acute and leafy 6. *C. sericea*.
 Branches slender terete, densely silky; leaves exstipulate 7. *C. albida*.
 Pods hirsute, flowers usually blue, racemes lateral as well as terminal 8. *C. verrucosa*.
 Leaves compound:—
 Leaves 3-foliolate:—
 Pods small, oblongly subglobose, very few-seeded (hirsute) 9. *C. uxicinella*.
 Pods large, cylindrical many-seeded:—
 Pods hirsute (narrowly cylindrical almost sessile) ... 10. *C. incana*.
 Pods glabrous:—
 Pods narrowly cylindrical, almost sessile ... 11. *C. Sultiana*.
 Pods oblong, supported on a long gynophore ... 12. *C. laburnifolia*.
 Leaves usually 5-foliolate (at times 3-, 4-, or even 6-7-foliolate) 13. *C. quinquefolia*.

1. **PROTALARIA ALATA** Ham. in Roxb. Hort. Beng. 38. Erect scandent shrub 1-2 feet high; stem and leaves below clothed with short silky pubescence. Leaves 1-3 in. long, simple, oblong-ovate or ovate, subacute or obtuse, membranous, the stipules with lanceolate-dentate points forming decurrent wings on the stem for nearly the whole length of the nodes. Racemes 2-3-fl., on elongated often leafy lateral peduncles; bracts small, persistent, ovate, acuminate. Calyx densely silky, 25 in. long, tube campanulate, bracteolate. Corolla pale-yellow hardly exserted. Pod distinctly stalked 1.25-1.75 in. long, linear-oblong, glabrous, 2-4-seeded. Don, Prodr. 241; Roxb. Flor. Ind. III, 274; DC. Prodr. II 124; Wall. Cat. 5356. Benth. in Hook. Lond. Journ. II, 478; Miq. Flor. Ind. Bat. I, 329; Bak. in Flor. Brit. Ind. II, 69. *C. sagitticaulis* Wall. Cat. 5357. *C. bialata* Roxb. Flor. Ind. III, 274.

SINGAPORE; Changi. Hullett! Ridley! DISTRICT. Himalaya; Indo-China; Malay Islands.

2. **CEOTALARIA** **HEMIFLORA** Linn. Sp. Pl. ed. 2, 1004. A rigid erect annual 1-2 feet high, simple or sparingly fastigiately branched, stem and leaves below shortly silky. Leaves 2-6 in. long, simple linear or lanceolate narrowed to both ends thickly herbaceous, quite glabrous above, the stipules setaceous very small. Racemes 1-8 in. long, 5-20-

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laxly silky with rusty hairs, 5 in. long, tube very short, upper teeth

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 feet high robust smooth or Blight! litlely silky
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 mem bran>)^{ve} very sparingly silky belo. ainal 1*5-
 2-j) i obtuse cuneat ;les
 m_in iin^1 and occasionally also
 lateral,
 Llly 1-1-25¹ laxly 2- - mi mite. Galyx
 ;binly silkj olate a.s long as t >Ua
 atr ;th jjiurple stripes or pure yellow, glabrns.
 ibrecurved puberulous when
 5 ir». lonif. I O . «¹ - II,

131, Miq. Blor. 1 Bat. I. 346 tJak. in Flor. Brit.
Ind. II,

(e\ Brownei Bertero and Ek lalif
oxb.)

Pcrak, I ' Fenan^,
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 lea for both u it has, at times, beer, nistakon.

■ OENIFOMA Linn. E
 feet b;. feh long sL round: btanabee. L<
 -and, 3-foliolato, pefiol iu. long, leaflets Tmembranoas,

broas on bothsa: terminal 1-2 in. long, hardly larger than i
 subacufce , cunoate at the bs ipules 0. Baceincs
 and lateral 6-12 in. Ion*,', few-and v t-fid.; bracts tn.ii
 mns_1 "5 in- 3—1 in. long, glabrous

late as long us tube. Corolla 1 in.

long

ro yellow, glabrou i much incurve.

rm gynophore 75-1 in. ' , cylindric l'5-2 iu. Ion

i. DC. Prodr. IT, 130; Roxb. Fl. Ind. Ill,

27 24, mostly; W. & A. Prodr. I, 193; Miq. Flor.

Tnd. . in Flor. Brit. Ind. II, 84. 0. j
G. *pedunciilosa* Desv. Journ. Bot. 1IT, 76; DC
Clavni | *dunculosum* Desv. Ann. So, ; *fa.*
cott le, Horfc. Malabar. iX, t. 27.

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India; Malay Arohip*

13. CROTALA

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7-foliolate, petioles 1-3 i

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Corolla 1 in. I

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Roxb. Floi-. Ind. III, 279 ; Wall!

29; W. &A

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Buk. in Flor. Brit. Ind. II, 84.

0. heterophylla

Linn. f. SappL 323; DC. Proilr. 11,131.

MALAY FENISSULA; Kedah, *Knnstler!* Singapore, *Hiillstt!* I

iiia; Malay Archipelago; Philippines.

Roxb.

Sbrubs, rarely herbs, with leaves digitately 3-follolate or simple,

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rma capitate. *Pod* oblyng, turgid, small, usually two-seeded: seeds

not strophiolate, the fanicle central. Species about 23; 3 Tropical

African, the remainder Asiatic,

res 1-foliolftte; flowers in small cymes hidden by large

t<nt bracts and arranged inrae<

1. F.

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solitary or

axillary racemes *that*

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Desv, Shrubs.

Lea'

cymes, each hidden by a large folded persisi

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g of the leaves and above them.

1. FLOII 'KORILIFKKA 11. Br. in Ait. Hort. Ke^

An erect shrub 5-10 feet high with towards their

tips. *Leaven* 4 iu. loug, petioles '5 ic.

IB* G. KTM &—*Ma terii* a Ftor a of *the Ma lay an re*;

rab> ;; leaflets 1, eubcc >v< fcbii
i the nerves boneath, ovate >e widely rou- r truncate
£. 2 in. wide, latt rves I
stipules Bcarious lanceolate ** in. long. *Iijlor*>
>r , . 3_6 in. long, the slender rachia i >ubesfle
tracts *erev* ^ deeply co! in.
ride, membrano' << sboi >ry upper-
in. finely pit i lanceola; ceeding th<
>.ish or gi in. long. J'ofZ oblong t-urj
eded. D< it Ic. fc.
267 , Miq

■55. *Ucdymr* . . Sp.
HI, 350. Z 9.
• provinces, common .ughout S.-E. A

§2 Erect shrubs. *Zmaoes* di(
in dense subspicate axillary racemes; bracts nue

Racous.
i A. CONGEST A Boxb. II 6. An en
.ody
shrub 4-6 feet high with slender triangular sulcafce brantihoa silk;
Leaves 0-9 in. long, peti 5-3^p5 in. lo
pnlierulous *n* [but hardly winged;) 3, subcori
berminal cuneate lateral sly round at base,
>uberalons abovethinly rusty ei 1 ky *■ - th, 3-5
3 in, -wide, lateral ne 3t pair lo
||' || *m* of midrib ,...nd petiolule, stipels ob
carious ally velvety, early
cadu-
cous 1 in. loi in dense axillary racemes sometimes soli-
tary in the high ually fascicn] lower axil
B3WI bracts lai a "25 in. long or I
t the stipules and like them ous.
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anthers uniform. Ovary sessile, 2-ovuIerI: filiform, ;_
Pod oblong, turgid, eds obllq

LJCUIUS attached to the extremity of a linear hi Jam. S ab(
50, mostly Trop. African and American.

:MACHI \ . ■ :. PL Moyen. 31. An erect
undeivslmil

1-1*5 f. h, stf iider branching ly usually near
■scent one or from a small tuberous woody rootstock
. 'n. long, roes. Leaves long, i. aero
n very short petioled, linear-oblong to llneaf 'ibcoriacoons,
oish with a few adpreseted hairs aboi tsely p cnentoaa
9 rust; vn tou ales linear
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ved persistent *2 in. long, stipels mint E upper
leaves, solitary or gemijiate subsessile or on a eel, some-
Q. long join tod below flower, bracteolea obsolete. Cahjx cam-
fco densely pilosi Dg. Corolla yellow, dryingiilaok, *4 in,
long, stand a id orbicular haii'y externally. Pod oblong *4 in. long,
pubescent with long spreading rufous hairs. Bsik. in Flor. Brit. ind.
II, 219. osa H' . Prodr. 241.

Ehynchosia

virgafa Grab, in Wall. Cat. • rahami Wall. Cat.
rotricka tuberosa. \ V. Prodr. 2
■:AK ; Wray n. 38 MALAOI Uk. DISTRW. S.-E. AE
T. Australia.

DUNDAFUA W. & A.

baceor /
doUec) Use rarely present. Fhiwrs racemose or axillary.
' ■■ i arrow fche lowest distinctly exceeding the'others.

Gorolla

marcescent or caducous; keel usually not beaked. StaW'
- uniform. 0 ile or stalked, i
vm beardless, stigma <■ . 'lear, Si
ark«MiT(sod lines between iate seedt*. Sp
Asiatic, Japanese and North Australian ; only ono

ai-ea.

§ Ku\

Corolla caducous.

NIT Prain. A slender creeper 10-20 feet long

with rigid subsinate grey canescent stem and branches *Leaves* 4-6
in. [Obovate] pinnately compound; leaflets subtrapezoid, cuspidate acuminate at apex
narrowed from below the middle to a rounded base, the lateral pair

liquely; blueish-green faintly puberulous above, densely grey-? meso] anej 2"5 in. long, 1 75-2 in. wide; petiole 1 "5-4 in. If n- lous; petiolulea '15 in. long, pubenilous; stipels very minnte cadu cous, 8'.<ules lanceolate "1 in. long caducous. *Rac^n??* 2-3 in. long peduncles 4-6 in. long, overtopping the leaves; pedicels geminate 2 in. lon». *Gah/x* out with reddish streaks, '3 in. 1 tube wide campannlite, *I* tooth lanceolate as long as tGbe ami twice &B long as lateral doltoid and connate upper pair. *Corolla* *5 in. long, externally dark brown, within palo yellow; keel beaked, sti '6 in. wide, orbit entire. *Pod* 25 in. long, '25 in. wide, linear,

line] abruptly recurved, closely grey-i nt; 6-8 seeded.

K : in open grassy or bamboo jungles, at Pijong- Scorer, 908 ! Ulu Bubung, *KumtlerJIOSM I*

A with somewhat the appearance of *Ehynchoxia bracteata* but wit

much more Blender steins. It aUo resembles, bnt to a less degree, *Atylosia* «. ver, have no depressions between the scods and this renders ifc i< sary to refer the plant to *Dwnbaria*.

G. ATYXORTA W. & A.

Herbs or Bhrubs, erect or twining. *Leaves* 3-foliolate, sometimes

■ often exsti] , gland-dotted beneath. *Flowers* axillary

or racemed. *Calyx* teeth fVistinct, longer or shorter than the tube the

lowest th*3 Ion 'a more or less *ei* I, marcescent or ca cous; keel not beaked. *lens* diadclphous antbers uniform. *Oi* sessile; ovules 3 or more; style filiform IT: urved glabrous, stigm capitate. *Pod* linear or oblong, turgid, marked with horizontal or obi transverse lines between the seeds which have a conspicuous divide strophiole. Species about 25; from India to Australia and Mauritii

Petal? iraroeacent, leaflets largo pinaatdy trifoKolafc© ... 1. A. *crmsa*.

Petal a (!■ 'Juoa, leaflets small aabdigitate ... 2. A. *sea*

A. Petals marcescent, remaining till tho pod nevclopes.

!• A ;Ass.v Prain. A twining species with firm alen age stems and branches. *L*

nately : . leaflet , -oid cu-
row from I the middle to a rounded base, the I
o dari and rather densely puberulous especially on
ti>

- aish-brown pubescent and reticulately vein
■ V 2-3 in. I 75-225 in. wide; petiole 1.5-2.5 in. long
nles 1.5 in. stipels subulate *1 in. long, pubescent, sub-
ipnlea minute caducous. *Racemes* 2—3 in. long, lax short
ed, pedicels geminate 3—5 in. long; bracteol' reddish
reddish 6 in. long, forming a conspicuous tuft before the raei.
d. *Calyx* *4 in. hue grey-downy lowest tooth lanceolate as Ion,
ong

narrowly campftnnlate *tnb*

1-1'

idly puher

both ends c)
l'iely trunsv<-

:a the smallish

parallel to the direction of

Ait. *D.*

■tifj. in

titi I, 17

Benth. in
B;tk. iu Flor. En*.

Jml. II, 213 (uxcl uiui

STRIB. India, Tndo-Cli

ⁱm. bat

from A not *h*[^] wint; to
-wl on tue /'■

ely Himalayan and qnibo di.

iith. (Co h.)

§ CANTII

f:illiug b'

2. A

b. PI. Jungh. 2

biennial herbaceous twiner with densely

Leaves L'S

'ily 3-foHolai'

lets ol

*!j'long

subcorii

- Rexible l-I

•"■ in. w

:ite

thinly gi-ey-caneseent above, densely pnbo[^]cont, :■

iwer two-

tlii: I faintly it

in. long, browi

t pubescent; stipels 0, stipules minute caduci

id., on

densely pabeacent axillary peduncles 3—'4 in. long;

pubescent. *Ca*

in., densely browni

ilky, teeth line

iwest i

<mg as tube. *Corolla* '4 in,

wrnptly

ved at tip. *Pod* >■

-5 in. wid

ith

e spreading brown ail¹

with slightly oblique fcran

1 lines '

. Flor. Fnd. Bat. I, 1 i

It, Ind. IT. 21.5. *Dnh'rhos* scar<

PI. 7;

■*Janu*

Thonars ex Grah. in Wall, C

-7. *R*

■*i*- W. &

India,

Indo-C] ascarem

7. CJUANUS DO.

AT

rub. *leaves*

imp

i mm!:

'

1 in

iadelphc

Ovary

•w-ovuledj stylo long, filiioin., ^ucli a]

I, sligr.

m; li::

i the noo-8* ■

¹ 248 An

with si itioie "5-1*n in.
finely flute

oriaceoi

> in. !

in,

Le lateral similar
4 Iky above di
I

I indistinctly glanti- I

6-9 pairs

;nmeni

n

peduncles 2 in. long and ii

■ • ■ ■ • long, hracteol

;>annlate '25 in

ianguli

tab'

in., standard yellow, or jeilow with red veins, or rarely

Pod 2-3 in, long, '25—*45 in. wide

y downy, with oblique cross

depressions b<

the 2-6 aeed: : armed at tip with thickened base

er half, o

esta firm from pale

k brown.

W. &

A.

I, 174; Bak. in Flor, Brit. Ind. II. 217;

navtts DC. Prodr. II, 406.

O. tricolor DC. Prodr. II, 400 ; Wall.

Ca

7. *Oyfoiu Gajai*

PL 739; Eoxb. Flor. Ind. III, 325.

O. pse ijan Jacq. Hort.

119.

ANDAMAN

AK; P

; MALACCA. DiapiB. Cultivated

every-

where iu the ti-c

Jy a native ol S.-B. JSia.

8.

P

Linn,

T-winei

ually

herbaceous,

with ^-foliolate Btipelln

wers in eoj

t;oles tisna

impanulate, the lowest tooth usnallj

wo uppermost- anbeonm

Corolla

the keel prolo

c hich fi

Stamens

belOW tilt:

(pressed, more

seeds.

about.60, mostly tropicaj, many ■

especial])-

ca.

Stipules sin

I:—

Petals yellow pubernions externally, pods broad **sabefl**

pres .. **1.** P.
totals red glabrous, pods nar . **ubfcorulofle** ^tweon seedti 2. *P.adi.*

Stfpnlea produced below point of insertion (petals yellow,

h

Pods subcylindrical **glabrous** :— Stems 8Wlcr diffuse, **racemes Bnboapitato**, leaflets loss P.
half us long as per.ioleg, **seeds** rounded at ei Stems
twining, raemi'F **Robspicafci** BetB aa long as j . 4. P.
UG8snbr *calca?*

is rounded at ends) ...

§ EUPHASEOLUS. Stipules small, ba,^ Pods broad

PHASEOLB mra Linn. Sp. PI. 724. A tall twining bioiv
with stems at first finely downy but soon glabreseent. *Lea*,
long, leaflets 3, pale-green membranous entire rail,-
acute, base wide cuneate—of lateral leaflets obliquely,
minutely sparsely puberulus be 5 in_ '!'
petiole 4r-6 in. long, tiolules *2 in. long puberulou
in. long ovate-acute; stipules hardly lare
Mary lax 2-6 in. long peduncles shoi lower nod tant
flowers in fascicles of 2-1, peri 15 in. long, bracts minute.
Caly!

Dg minutely 2-bracteolato at the base, pul m\\,
sth wide triangular very short. *Corolla* greemsh-ycello
rulous externally. *Pod* decidedly compressed 2-3 in. long in.
wide, '25 in. tl ., upper suture recurved, lower widely **reran**
Prodr. II, 39^ Roxb. Flor. Ind. 111,287; W. & A. Pmdr. 244.
Uq. Flor. Ind, Bat. I, 194; Bak. in Flor. Brit. Ind. II, 200 P , Wall
Cat. 5595 not of **Linn**;

In all the provinces, cultivated. An American species
now widely spread in the old world.

§ LEFTOSPBOK Btn. & Hk. f. Stipules medium, basifixed.
Pods aarrow snbeompressed,

2. PHASBOLUS ADHNANTHCS G. W. P. Mey. Prim. Flor. Essoq. 239
^spreading glabrescent perennial, with slender **rigid** stems.
Leaves * in. long; leaflets 3 medium to pale green, chartaceous, i se
cuneate-of lateral leaflets obli.juely, nerves on
mrseely pubtrulous, otlierwise glabrous, 25-4 in. loi ide ;
petiole 2-5 in. long channelled above very **sparse!*** ms'
Detiolules : ,x ia ovat(
3ftea r> 2 in. **long.** *Racemes* axi I
Deduncles rather close
icele under 1 in. in- j01
ilate, teeth deltoid to lane, i ong as (
bracteoles ' in. Long-at its base Go> uk to r

uaa. *Pod* decidedly coi t-6 in. Inng, ■% in. **wide**, -1 in. 4
 thick upper suta J
 or red ' in. **wide**, wi C
 Bri . 200. P. a Beng. E III, C
 inn. *P. amarua* Roxb. ex W. & A. Prodr. 211 P, U
rostratua J
 . Ear. I, 50, t. 10 ; W. -4 A. Prodr. 241; Wight, -
 I. B, K. IS n. & Sp. YI, 4-51 j DC. Prodr.
 uilL & PL Senog. 217. t
 ndaman, **Sink's Collector!** h
 onclers of the **higher** beach, *Vra* e
 . Cosmopolitan in tli
 Malay I < proper -
 however, bo e
 ■ the sen ooaste, this beiDg the d
 s.:Ltitl by it i: ;ian group. .
 STROPS Es Bth. & B Stipules produced below tl . rus
 int of i u. lloxb.
 Ait. Elort. Kew., cl. I, **III**, 30. A sle Eort.
 spreading IOUS or Bightly pubescent annual or Be?
 perent i ore
 •;ras re Eeet. *Lea* bin. long; leaflets 3i
 membranous, 3-lobed or, especially thj L at times en^r u
 borbicalar Tii-L in. iu diam. rarely b
 ong 1*5 iu. long by J in. wide; petiole long 2-^n. e
 ■2 in. usually glabrous, s
 Btipcls or ate uuder '1 uW stipuh c
Jo; II axillary subcapita e
 tish j.i uncles **6-12** in. long, bracts ovate-acute -15-*2 n
 iu. long t
 apanulate 07-'1 in yel!
 greeu, minut id, bracteolea at basts lau iian r
 calyx. long glabrous. *Pod* cylindric L-2 a
 in. r
 ■^, "15 tu. in dinm. g] :hL or slightly recurved, 6-12 - r
 rt. Beng. :>58S, chief] e
ight, I <j. Flo : l
 160, y
 DC I ! mk, Encyc. M
 MAire; . i ii:trodi 3. Dn .Yortliern Africa, S.-JB. g
ia, Ala lay Archipelago. l
 ;iijniiRl crop ai 'Qfld throughout its na a
 re leaflets an illy mot with in varying prop<_: b
 m the Malay Peninsula pr r

ous stems 6-10 feet long-J. a. 7

rarely subereet **al-2fe** h. *Lea* fly 4-5 nrr;
membranous sparsely

ovate to In
Tare) tal lea; <*ak<

or snTwnric to o:
mbescent with sj
;ioluies *15 in. long, ji

; IIUK¹

■ng, at end of stou;
\st dec

in. loi' i. Ian.

ior delfcn >1 es narrow\y laneoel yellow
-75 in. loi in. ID

ibrons; seeds 10-12 sabtrnnccate afc end long as seed.

V&v.. *typica*; stems pubescent. Rosb. **In3. III, 2**
A. Pi- **Bak. h** ft. Ind
H. Cai

>xb. 7

PBBAK ; Bat a Knran, common, iA_
MANS; uomnioi ^ -4 an escape. I ia and

VAB.y> 9 slender, glabro,
PERAK I '// 1756! Q
991- ' PA HANG; at Pekan, *Ridley* 11:
Mimatra (1

is stems tie to separate
ioh is 01 -a an tl

.s Iiapii

: would :

seen sp :io wriii

in op

ral

qae, *:

lin<'

pubescent, stipe!s **slander snbnlaie**

(Tuucles 4 in. long-, br;

Calyx

Ian- y publi

■.: puberuloua extern;

fcriangalai

t the lowest lanceo'

as long

as tlap others and

half tis long as calyx-tnbe ;

in-acts bin

>wer. *Corolla* bj

t. **wide, coin**

flat, **oval,**

i L'omme]

54 ; Flor. Ind. II

Linn.

) YAK. •

■: Dock, C>

-11'

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IVR been named

wliioh hits ppreadin :

;<us.

greeu leaves.

The *MVMJ* in the epecies uau^

9. VIGNA Savi.

Twining herbs or sh;

th pi nutely **3-foIiolate stipellate lee**

xi 11 aiy race ti i

a a j > icuous. *Calyx*

c&m-

ofteti connate.

Corolla n

lei;

lilii

-to, sti I

ae widely

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pO'flf

F,jni¹.

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•eniii

Lth. glabrous st-en

leal'

Jloas

tu obovate thiuly

Malayan Pen

apex obtuse or sometimes retuse bas^ cuueate or rounded

; petiole 1"5 in., gin

hai pels-06 in ved lanceola? Inn

laf< Sxed. Ha densely 12-20-fld. ou \

long, nodes 1-2-fld., the lowest 0 art; podicels slender pubemlona

'2 in. long, bracts '15 in. long membrauooa orate-lanceolate v trly

deciduous. Calyx campanulate faintly pnberulous 12 in. long

short deltoid. Corolla yellow, Pod l'5-2'5 in. Ion

i. thick, glabrous subtorulost 5 4-9.

F. h

r. Brit. Ind, II Ind.

Occ L05; DC. Prod.: I i

ANDA MAN 3 and Nicoiuns ; cotnr all the coasts from the C
group and Narcondam south to Katschall and >fca.]

L 1! M. 'A cosmopolitan !

spec

2, V CATJAJTG Wai p. in Linn
annual with glabrous stems. Leaves 4-8 i Se
nous pale-green ovate-rhomboid entire or

acii —of lat iflets ol . v, g-labrou. on

ii sarfacea 2-5 in. long by 1*75 in. wido or rather larger (VAR.

to 4 in. long by rather less .(VAR. *. >; petiole 15-4

lon^ lules *15 in. long plabroue, ^ puberu

ovafce obtuse stipules *3—"4 in. Ion , attached above the b

"bran oua lanceo! s ubcapitately fe w- fld.

' in, long (VAR. typlca) sometimes 8-12 iu.

long

■/■sis) ; Dedicels short (under '1 in.), bracts mem! -, fixed

iduous. Calyx glabrous "-i in., teeth, deltoid-cuspidate

one-f.b be. Corolla \ pinkish" *75 in. lo

■n the sec

seeds 12-o0 (in tnuc between the seeds

tly wid« f^llor. Brit. Ind. If. 2

■ty leaves si shorter. V. Gat

Dolia

T. Ind.

Flor. I I
G. Prudr. II,
;i99; Wall. I

¹ >f the provinoes.

fcwinu rer "

k. PI. Ja e*

wis Unn. Cent. PL 1J

teba «; Bot. Mag. t. 2232 ; W. & A. Prodr D. [REDACTED]
.. Hoit. Vidbb. Ill, t. 70 ; DC. Prodr.]

Cultivated in most of the pr

telyoolti rn Hemisphere j pro of [REDACTED]
vild atate_

VIQ-KA i P¹o_r- Brit. '!. 207 lender

trexmial !*:■ 5-8 in leafiV

..my to so! rid on. both BUI ovate- 1-6 in.

i, base trail cat-e—oE lateral leaflets unequally ; petiole

ilosely downy, petiolules "05 in. only, stipeis subulate m'

pulos *1 in. lanceolate ny-ttd Ion

uncles *o-2 in. Ion 1-2-ftd. a-H OIOFO together

ower, at

th 15 in. ;vpart. 1 iu. downy, bracts minute.

<

■■> oblique thinij silky, 6 in. long¹, lower tooth lanceolal

fcube one half ■ ceding the others. *Corolla* puvplo "75 in. long.

4-5 iu. Ion icylindric '25 in. in diam., di hirsute w

■■■: septate within between the 8-12 subreniform

shilling

:k seeds with trueated ends, '25 in. long *15 in. wide. I

mts Iioxb. Hort. B< \x\d. Ill, 312; DC. Prodr. II,

W. & A. Pro I. Ph. II. Cat. 5599.

ANDAMAN^ ; common, *King's Collectors!* DXSISIB. and Indr
na.

10. ffIZDS Ri(

Wide Kerbs. I* i\ foliolaf I nodes and
>bed leaflets. 2? lon<<, w>

fascicled P
le;

wacts and bracteoles setaceous, caducous. C aa

Lontr as the tube, flie upper lip emarj^inate, the lower deeply 3-to
exscri e petals

Ie, many-OTu ■. ~\y|o

the a; led down the inner side below the very
Pod large, tint -gid, deeply depressed
between

the seeds. Spec: ■ 8; the o Augolai

""i- '(lest name for this ganaa ia C< whict

Tionars (Diet. *Sc. Nat* twenty

sued.

ANOTJLATUS Rich, ex .DC. Prodr. II. 402.

fit,ro a tuberous root; stems stout. fmUrati
stems and b deciduously downy. *Leaves* 8-9; Jon
lealiota large, membranous gl aa long base entire del
of cii ee . uterior half deeply or sballowly
4 in as much . *2 in.
lobed,

lor in.
'2 in. ' 1

eilky. Ualy.c campani] ■ -
*25 in. loi x.
Coroli

i, long

I along the valves between tho 7-12
flatten.

dr. 251 : Miq.

iof. Brit.

W

InJ.

207. 1

. ! Lor. i tjcliinoh. **II, 5** .

J.

Cultivated inmost of *i* icee. DIST
tx*opics, ;inally

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of a trnrnip, ia

is tliick an a man's thigh. It js oai-

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if tho rolea *as to*

uam,

rjgidty a i

muat bo know

"ffro *erosa* Kuutze.

11. IJOLIOHOS *Luii*.

tiba with BtipeUate 3-foliolate lei

pciv oracts brn and

ttue cat" teetii Loi

als usually equal in length; ket^ ^o or i

tors uniform.

iy seas

ovuled; style

down.the inn*

ng, recurv

Le-spread in the tropics

lit:)

i Knra

type of a di

- LABI

A tall

annual

t—12 in.

or deltoid,

^reen, glabrous

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L. JO

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b; bra ngj p,

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Is with long axis a!

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PL 725 Z>.

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Prodr. !l.

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ith long axis
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rhn-ni t>. Linn. S

W. &

L90. L. mkromrpm DC. Prou . II, 402;

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cultivated. Cultivated i Asia.

In to the great authority of ilr. Bak two re I pJants

ire n, hey are huwever so differeus las

T"

U shorn

ro upper* connate. Co,*

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p

'>■ . Prodiv []

■viner with tub

I ovate, acute or

itireor: {brous,

slightly glauc beneath, 3-6 in. long,:

-

r. King—3fa/ of the nsula. [No.
 g!*i petiolales '1*< in. ly hairy alont/ ;
 late, glabr
 r- • : insei'
 jiedui:ctt's a-^6 in. long ; pedicels ge:
 in long. 6'
 i rouuded e margin ate, la; peeling
 : bran: I ovate, striaf-o, prli;!; abo^l
 ig twice as large Oc
 'i. long. Pod 6-12 in. long, 1*35 in.
 along the a unoa *5 ir w gins o
 Is 8-1G. wjuni A; A. Prodr. L !
 ■ a. only. I ,ifc. 1)]yi ^_{VAK}
 Ly). *Dolichos*
 ;. IM. " (in part). J9. *ovatus* Grah. in Wall. (>h
 .
 . *llullett* n. . Cntivateu throughoufc
 Southern Indo-C):ma and 1

13, OLITOBIA In'nn.

S(wrect audershrubs, with showy flowers, 3--7-foKolate
 Ien- Lpellatt 'ete and persistent membranous small stipules
 In teolea. C'ai//« membranous, tubular; teeth
 deltoi
 or lanceolate. *Corolla* Touch uxserted; standard
 spaon-sl
 larpe ; wings arid incurved keel much . *Ctn*
 or diadelphous; authers nnif * TTI. *Ovary* 3fcalked, Jed:
 sd, bea led . fhc inner aide. *Pod* linear, flat;
 urgid. Speciefl 27, in fcropi old and new world, mostly the
 latter.

Pod ffattiuh on the face (SCBGBW.
 .. 1. *C. Ternatea*.

ong faoo of valve* (SUBGEN.

j; Btem" suberr •; 2. *O. caj<*

1. RIA T) **Linn. Sp. Pl. 753. A climber with a lend®**
terete downy stems. I i in. long, psi in., rach»a glohvoxm
le&. m ii-3 op; pairs ovate or oblo ; obtuse
 t.ub-
 corl , 1-2 in. long -7r»—1 in wide,
 anceol >\a, minute *Flowers* axil ^p
 i tje roundisli obtuse '25-"5
 in.; tc ceolate nearly as long
 Btav; ■
 monly cultiva. • • ■ nil- 1

•35 in. wii

Mag t,

Ind '

y hiifiute; 0-iO-seed^d. '

>ik. in ; ..r. Brit. lud. i \

PAX

throughout the tropics in

CITRUS CA

ath. *n JV

fruit

terminal branches, weaves 2-3"5

in.

fruit in an

opposite; leaflets terminal

and

1 b pair lancet

in.

£, 75-1 in. vivif rous above, densely grey-Ctin

Lh;

>s shortly triangular, pubescent, stipels subulate. Flowers

axilla

on a pubescc; , "> in. long; bracteoles sma. ■ '

lanceolate . lontr> teeth much shorter

in. wide pale

[nl-

e. Pod turtri!.. with a rib alou ■

g,

r'lor. Brit. L Pi IBI,

Syrnb. 17, t. 9; Miq. Fhtr. hid.

1. Jav. Rar. 376. h

Lotus fell. Flor. Flam. VII, t. 152.

ACCA and Si

Ad cleavings, common. Dis'^

A

native of I now naturalised in thv localities mentioned and in Siam.

14. CEN

Twining herbfl or shrubs; st, nodu u

71 ; stipules persistent b&mixed. Flo er]

persistent bracts aud lary istent I

upper pair connate or obsolete. Corolla m

.d orbicular emarginate shortly BJ d near

get h'j fulcate obovate wings and the b htb

. iff tm ; i s ual ly diadelphous j an the rs n > >uari

• !e incurved dilated at

<

iiinal beai site linear fla

thickened and

face pai-allt. itines.

m ca C7'

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iu - mi escap

OSitMJ

B i Ann. W:

aud t.

- leaflets 3 p.

ut''

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s or pr <>ee

ula.

f

lent; stiptls 2, J in. long, :ate ; stipules
 B- blong persistent subscarions 4 in R c^mes 2-6 -dunele
 k 1-2 in, long, pedicels usi, .11;- geminate I-15 in. long,
 bract
 < ate as long- as IT-dicels. Omyz *25
 wide-campun^'ate glai .<.,, nppei tooth v gh
 bltmt, lowerJjji^ neeolate,
 comply.: ■tit coria ovaie oi "). '
 icta> % 1*5 in.
 centre, pt - in. vfh
 long, *5 " I.I. long^l, *5 in. w ^ometi::
 iioth sutures Mr■■'
 thickened, ii
 lower with narrow longitudii
 remote fton Die F f. iro; needs I ..blong or subglobose, :.
 oblong-linear. Mart. Flor. Bras. XV, T, 127. (Jv
 in Pers. Synops. IT, 303 B E)
 Veil. Flor. Flnm. VTI(312, t. L2 uminimrt giganteum
 Ser. T, IX, 1
 I;AK ; at Karapar, Curtis 31401 SINCAPORS; Htdlett 57!
 no doubt an escape from gardens, as ii 1 so is in has
 been foand growing in forests noar Latnpar (Forbes u
 ire of South Americaj cultivated in Asiatic gaulons on accouut of its
 haitdsoruo ilowers.

15. TEK, HVS S<<r.

wining herbs, of slender I Calyx-tube campamilate; teett
 : inct, subcqual or two upper not so Tong. Corolla lit Lie exeerted ; [
 tals about equal in length ; standard not spurred. 8t\ moiiadel-
 phonsj alternate anthers small, n o. Ovary sessile, niauy-ovuled
 ;
 stylo eliert, c rved, beardless, stigma capitate. Pod Iin< ^ked with
 the persistent style at the tip, flatlish, septate between the
 seedf*

belting the world in the tropics.

TERAMHUS LABIALTS r^.-eug. Syat. ITI. 235. A wide->-
 ling
 Hmbci of slender'. pressed.
 4"5 in. long,]• in. sparsely
 is ovate-oblong b:
 iun<3
 • • • . obtuse,
 iei'minj

			jhtly Bnialler, green £	ar&ely
	scd-1	lie I	ttipul a rtiinute laueeo	jidnona "lfi
lot	BtipuL		-1 in. <i>cence</i> of i	lax
axillary				
	-fid i.		in. long; pedn-els *2 in. solii.	fascicled
	rfs, brad		lanceolate I i- lonpr, bracteolc	-lose
	uuder			
	ute so		a. long, 2-labiate.	

anceoHte about as long as tl towly L. mpanulato tube.
 in. .., standard overarch nig the
 . *Tod* ^Ubriow recorvort ii 5-2 in. long, '2
 odod. Benth. in Jmirn. Linn. Soc. VIII, 265; »a
 Ind. II, 184. "•!' Ltinn. &. Suppl. 325
 I tl, 318 j W. h A. Fro • Wight, Ic. t. \I in.
 22,2 t, 242; Wall.
 U.) G ^{l(*r 11*24-} *wile?i\$* Grali.
 ,518. JENANG; TFaJ/icfc 5518! DiSTBiB. xbrougouui, the
 tropics.

ttallia Bal^r {*Terah* Bcinth). fiiiionld bo lookcil for id ihs Malay
 'iinala. tor thoti^'ii it lias noi; yot *heen reported* aotn o iLORCUI irm«
 l>y Wai He I ■ ami by Knr7..ftij,i n Java whero it nppcars
 L.I CL^Tnmoncrthan *T, lalialis* pro; er« It is dialing tli€
 o of spreading haira on tho atem and by fcliu poda boing strigosely Lir
 I civtliifcu ivlso are densely pubescent beneath and its
 ih uro shorter than the mbo.

16. Dio^s* H. B. K.

Climbing sliruba. *Leaves* pinnately 3-foUolate, P^{1!}* pel late. /'
 blue or white, ii .seated racemes with tliickened nodes; I uid
n~i' »us. Oa^»/a;-tube campanula to, teeth shorter than tube,
 two upper quite connate. *Cofulla* ex sort' nit equal in length ;
 keoi incurved bat not beaked, ^*tamem* monadclphon«; the
 voxillary
 stamen Eree otliers in the middle shorter than
 rest ai ither; anthei'a of keel stamens (in Malay
 species) alternately perfect and abortive. *Ovary* subsosstile
 hirsute,
 few-ovuleil, s> .our'/oil beardICSH, stigma c I oblong
 ided, flattened alon^ the upper sutnre. Species 17-18, one y;m, one
 oxtendiio; w Africa and America, the rest tropt> Ainoriv
 oath, larger; Qowers *75 io. long;
 calyx *cx*a,

■ i's 1 in. ton of

i -ibo

DtOCTU REPLGXi Ho Niger Flora :^(<)6. A sti
 it long with lvjunded black early gla¹
 in. long; loaflets 3, dull green
 (coriaceous when young¹ sparsely hairy on both sui
 becoming glabrous above and glabrous except for a *i* ress
 h.nvai • with snbtru ite 1,
 petiole 4 in. I ■ elled above y *nfr* i

Tkwaites Ksiura. 41

Ye
all the .pecmiiid of bbi
of ^ -h it»* J

,vml fro;;
thry ace wpn nitrating ;,

nately

■<* lip:

less th

fill. inch in cm

/

' . mostly II o-Oh

1. Pi iPHASf

in Journ. Innn EX, I

A slendei

adpref

•ody st<

ag branches

greyi^

IGOUH vrith Hi

dull^green thiul

sely vuK'oty-tor-

• wido

r oblique!

n

gin repaud or slightly 3-lobe

'''' •

in, w >le 3-4 ' . , densi ly olothen with spread)

.ties *2 i long: st

reak '1

aii lane

1 axil!

■ *nos of fascicled Bowers;, peduncle

i find roobis pa

the

bracti

'beral •2

Isn

curved at 1

in.

Lull

Bal

m\ a.

- Da/id

P.

i Wall.

Kloiv [tut

phd

Bir

at Port B

i I: ■ 12!
Pi
ni 591 ! 1

■I\ DISTI

CA:

twining innru

Eserted, a f.

'ronudi.s

the incurved obtuse keel. *Stamr* „ ufchers
irely stalked many-ovuled ; style incurved *hen*
Pod large or oblong, fiat or turgid wit
ig each margin i^{fl} the flattened upper Buture. Spe
American, not turgid, deeply <T<J bio-channelled along iLo
floreale

:<;rosB; flowers aiany

Pods ca few 2. 0.

almost Hut along phu dorsal snturc; eadacarp

»• 3. (7

PC. 1

A larL

' o

perenja

>as stems and branche.-

ives'3-i

10-12 in

n paler beneath, m

, youn

•is, veiy soon quite glabrou

■ ute, 1

1 pair slightly obliquely; 5-G in. long, z

tcbiole

in. long glabrous, petiolulea

*2J euons .

x

id. racemes :

>des '3-'5

in.

apart, pediceld '1—'16 in., brae;

LCOUS.

iiulate, sparsely puberaloas re.

'6 in. long, upper

cmargn¹ -third tl length of tube.

Corolla liluc or

white

of standard orbicular cmarginntc. *F*

near-oblong, slightly curved, dorsal eutu,

,■ 2-gr-ooved between tbo keels, 5-20-

iches, ii' doph fioiu L'5—2 iu., dis-

ire "5 in. *Sends* white, grey oi

. . . ide. IJak. in Flor. Brit. Ind

>ro 404 ; Wall. I

ileng. Ill, 3-

ally i
through

is (*Canava I in en siformis*)

taDO.Jv

Q DC. Pi-or fc. A glabrous perennial

soa-coasts. *Leaves* 3-foliolate 8-9 in. Jong;

leaflets thickly membranous ovate or orbicalj or

etuse, and ;

tole 3-5 in. 1-»ng somewhat fleshy, glabrous

! ly deciduous; b.'^alefi

•j in. licence in long-peil unclcd 4 S-i

s 10-16 ii a Bolitary

swollen nodes "3 a-t, pedicels '1-'1S ties

vats caducous. *Calyx* <•

* in. long, U}."per Lip

the he. *Corolfo.* violet 1 in. ! orbicular

;/s few, short, liuear-oblong, straight, dorsal

suture

mgly 3 id deeply 2-grooved between the keels, 4-

6-aoedticI,

■ in. long, *75 in. decs*; width between outer ridges of dorsal

suture

•3 in. S< i *5 in. long. Somoko-Dnsots XI IT,

t.

DoUclws limatus ' j. Flor. sJupon. 280. D. i br,

Ind 'mifolia Bak. in Flor. Brit. lud. II, i

leghorn. Madr. Jouj-n. (n. a.) I, t. -i.

PA HANG ; Sungei Keiang.lv, n on Rand-banks

alor coast, *Qurtu.* 17U! SINGAIUBC; *Hidltftt* 514! Divi'MB. Ooaste of India, ludo-China, Malaya, China, Japan, Polynesia, Australia.

LTALU OBTC SI^OLU DC. Prodi*. II, 404. A biennial

CIJK broua st.;ns and branches. *Leaves* 3-folioIate 10-12

in.

g; lea ibranoua, whou yoaug puberulousf very P

ultras, ovate-acute t<> rounded with a shortly acum ij-, base

to sui in. long i

aiipela lo i;

i'lu • -1 in. long, i

8-flld. : on axilla:

Ion

pedicels -1-1.V in s mint;;

pubei- ged and not very distinctly :

g, npper lip rounded hardly enarginati

longi

-id not one-sixth the length of tnb< >Ha bl
radard orbicular slightly emar_ficate.
bly currod, dorsal suture faintly
□d piano, not gr eeded, K-u[^].
HI., width of do vitii
gamboge sti-

Wall, 1

[, 21

Wt<i Lamk. En<-

Itoxb. Flor. **Ind, II**

,rt, Malab. **VIII, fc!**

2.

- . **oop** and **Narcondam,**

Id. Ai

adami

r11231 !

PES

ISTJUU. Indian,].

| ma|ay

Thero ifi

DC - that in the
-nallv i

ily distinct

pf which
t, while tl.
rarely are.

"I*

those

"moat

19.

r NA
Adans,

'eronnials and **annuals** of wide-twining hf. *T* ulc,
t e, al way s 3- f o 1 iolate. *Flo wars* large, sh o wy, usual ly dark- |
tun wk when dried. *Calyx-tube* campann¹ **two**

upper

te ; lowest longer than the middle oi *f>Ua* much
t more than half as lon^ as **the** o koeL

"1"

iga. ^anwmdiadelphous -,
authors

lious, **like** those

sessile, many-ovnl-.

. ■) incurved, beardless, stigma capitate. *Pod* very variable in
nid Bculptwe, usually covered **with** brittle needle-likg irritating brist,
Species about 30, spread everywhere in the tropics.

pods flat, seeds largo flattened, with altilum

■!■ ■■■■■■■■■■ part of their periphery (Sab-

ttei. ^T!tAl.MLIW);—

: b plaits across their faces (§ *Oitta*) \ — Rncemes

long lax simply brattB large **boat-shaped**;

over which the plaits d

ciena, Hacemea Bhorfc cori'tubose, br.icts small :

v

t extend

■r ftutural Tvings :—

-t base !

podson*-*, and o

... than buda;

cfi!

giuB of |

Pods without. plaits acroF faces (§ *Carpopogon*) j

(wule-wingod down both sntures):—

Racemes sliort corymbose, bracts large boat-sli apod

Racemes long-peu timbelli J mintil

Annuals; pod' val irith small

iiera.1 iilum (Stibgon. iBlitstJ

I, ZOOPKTHJ

eeda large raoro

or ! ucd, with a long iilum extending round tho greater part of periphery.

plaited across their faces.

ETNAIMBRICATA DC

!06. A large woody

rlirnber

pith slei tent hi ' 9-15 in. long: leaflets
3,

j-iabron ith a F sed

nictate, "il leaflets

obi 5-7 in, long, 3~3'5 in. ■ ibrous -i-8 in. long,

2 in 15 in.; stipules linear '35 in.

long.

iax 8-10-fid. axillary r; , pedto ag

1-3

together from bwolltn nodes towai' d to fourth of peduncle

5—15 in. long, and in ils of: large boat-shaped deciduous bi-acts

-•5 in, long 1 in. wide >us on both surfaces rounded at a]

e acute or subacute lowest, forming at first a strobilate h-

Gal > in. long sparsely covered externally with brown

deciduous

in irating bristles, tube wi tilate hardly longer than the wide

slower-buds with a braoteole similar *to* bracts but

ich smaller and more early deciduous, at base of calyx.

Corolla

in. long dull purple or wliite with purple spots; kef] abruptly

inflexed at tip standard J in. across 125 in, long; wings *5 in. wide.

Pod oblong 4*5-6 in. long 2'25 iu. ac ings along the in.

iiaits '35 in. deep hardly ci j the wings; clothed in all parts

brown deciduous bristles; seeds 2-3. Buk. in Flor. Brit,

Ind.

ITlor. CoHtinchin.. 657. *Carpopogoniirfbr*

Bozb. Hort. Bang

dUhalm:

XVNDAMANS ; in the into union x\o,y

)m Kauiao- »- and throughout Indo-Olnn

Moat rearlv relai

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re in that species BI
s ext-end **mo**
of *M. Jvngnhniafta* i
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»lotely. **Tin** s, leave:
■■«ly higid an^ | pckjg ara
also is if. fi/anoeycrma K. Schnin., from fch©

4. AT.acwr,
5. iL giya-

•3«s.



2. *Mecus A MCNOSPERMA DC. Prodr. II.* A large woody climber with deciduous leaves falling down on young branches. Leaves 6-9 in, long; leaflets 3 thinly subcoriaceous green glabrous above, when young rather closely rugose-downy beneath; ovate-oblong cuspidate base rounded—of lateral leaflets obliquely, 3-4 in. long. Inflorescence corymbose 6-12-flowered, axillary, pedicels 2-2.5 in. long, at first rusty, soon glabrescent; petiolules 2-2.5 in., stipules subulate 1-1.5 in.; stipules linear 2 in. long. *Inflorescence* corymbose 6-12-flowered, axillary, pedicels 2-2.5 in. long, at first puberulous as are the pedicels 2-2.5 in. long; bracteoles alternate of calyx lanceolate 1-1.5 in. long, exceeding the buds; bracts alternate angular 1.5 in. long very early deciduous and leaving small scars at base of pedicels. *Calyx* 4 in. long densely covered with pungent deciduous tube campanulate twice as long as unequal teeth; wings 1.5 in. long, purple; keel truncated lateral deltoid lower linear. *Standard* 1.5 in. long, purple; keel abraded: *Standard* 2 in. long, standard 6 in. long 5 in. wide. *Wings* 2.5 in. long 2.5 in. wide broad/oblong, wings along the dorsal sutures 5 in. wide along ventral 2.5 in., plaits 3 in. high crossing the wings to their margins; clothed in all parts with brown tomentose bristles; seeds solitary. *Wight in Hook. Bot. Misc. II, 346, Suppl.*

W. & A. Prodr. Flor. Ind. Bat, I, 214: Bak. in Flor. Ind. II, 185. M. angmna Wall. Pl. As. Rar. III, 19 t. 236. Carpopogon vionospermum Roxb. Hort. Beng. 54 j Flor. Ind. III, 283. M. anguineum Roxb. Hort, Beng. 54, Zoophthahmtm manospermumt Praia

ANDAMANS; everywhere very common in the interior jungle.

3. *MUCONA mfi* Teysm. & Binnend. Cat! Hort. Bog.

woody climber 30-40 feet long with slender glabrous branches.

Leaves 9-12 in. long; leaflets 3, chartaceous dull green, glabrous on both

leaflets ovate-oblong, cuspidate at apex, base rounded—of lateral leaflets obliquely,

6-8 in. long, 5 in. across, petioles glabrous 4-6 in. long. Inflorescence

subulate 1.5 in. long; stipules linear 2 in.; pulvinus swollen

uber itngular acute scaly braciw '15 in long emitting at <•■
nloa 'ranches 1-5 in. long, main rachis corymbosel;
s. fld., bracts at base of pedicels sm '-y
 :ous; petlicelw-2 in. long; bracteoles at base of <•
along ii iiorter than buds. *Calyx* preenish-H-o^nd
 Hh deiiduous pungent ijri^tles, '35 in. long, tube wide-ccnipanuhite, *i*
 trembly short. *Corolla* dark-purple 1*75 in. Ion* ''%
 xed at tip, wings 3'25 in. long, stai • wide. hardly
btipitate 3*5 in. long 175 in. wide; pla • '

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G.

edges double with reflexed margins- cov
 bristly pubescence ; marginal wing
ea Bak. in Flor. Brifc. Ind
 plant only. *M. angufaa* Scheif. Nat.
 Wall. *Zooplitha bipticqtw* M Pram 21,3S.
 MALACCA; *Maingay*, 590. »O; *Gapia* Pass, *Ouriis*
 298

PERAK t Ulu Kewanta, *Sunga Ryah*, etc. *Run*.
 ! *Wray* 3746! DISTRIP. Sumatra {*Forbes* 26

Born

There are at Cat aring and fruiting examples of Teyaraai
 aml iyk's original species cultivated in the Euitenzorg garden : thei
 ■ •very detail with tins com ala
 ijse of X to -wliich it o
 has been identified by Mr. Baker. Bnt^besides the double edge
 plaits on. the pods, wh ■ ie uaitifj, the Malayan diffpra from the
 oa in having larger leaflets, Bhorter iu)l^{ri}-a«conce8, a calyx with an altno
 a mouth and a collar of scaly bracts at tha neck of the peduncle similar
 bin, smaller than those that occur :/ iJuJuncle in *M. hmctcata* <fi t
 SUBgen.; *ibiiiT**.

§ CARI^OPOGON. *PoflA* not plaited across thleir facea.

ih. in Wall (. acler creep

fch sp;^ adressed-puberulous braimbcs.

Leaves

-10 in, long; leaflets 3, membranous dull green glabrou
 above
 sparingly puberulous especially on the nerves beneath,
 ovate-oblong
 itlier abrupt! linate, base rounded or subtrunoate—of
 lateral
 Leaflets oblique; a. long 2-3"5 in. wide, petiole glabrous, 4-6 in.
 ; potiolules . ad pressed- poberulous; s(¹
 long, stipules linear "I iu. *Inflorescence* when young in strobilate hi
 >rymbose, Rxillary, 2-3 in. long, peduncle grey-pii ii arising fro
 axillary uode, its neck with a collar of smallL tri icute '
 bracta "15 i long emitting at once 1-4 I lly
 bifurcate
 ebeK; bracts at base of pedicels deciduous i boat
 rnally tinely grey-pnbescnt, -75 in. long, *o in. wide; pedicels f
 lubescentat leir bracteoles afc base of calyx *3 in.
 Juous, lanceolate, as long as buds. *Calyx* glossy pale-brown a-
 D deciduous pungent bristles, *5 iu. long, tube wide carap
 nulate twice as long as unequal teeth; upper tooth truncatp, lateral wide
 leltoid, lower linear longer than the others. *Corolla* l'75-2 in.
 long,

irruptly itfl at tip; wings as long as keel and
twice .
>ng as the s< I '7 in. wide. Pod not quite ripe, 3 in
;ros8, broadly winged down both sutures but not plaled
copiously clothed especially along the wings with deciduon n
irritating bristles; seeds 3. *ZoopUtkalmum*
[SS.

PBSAS *h* (Cat. *D. r* Per
 JRE; Chan Chu
 Kanp-493!)

tr. II,

limber .-.oinetii 250 feet! wil
 in. Ion ^coriaceous d;;
 on both surfaces ; oblong cusj uase of fci
 rounded, 4-5 in. Ion in wide, petiole #W
 ilfl subulate -15 in., stipules lmeat 2 in
 nmbellifon rmb terminating a Blend) ib-rous
 Ion _ near its ape > lly 3 ao
 pubernloaa nock- t-5 slendc-
 pubescent pedicels ' I bi-acteoles both m,
 is.

ube rathei in. aci y shoiH
 yrii he other three in bud shortly I
 nish-yellow or white 1'25-L5
 not abruptly iuftexed at tip; wings l-> stand: i
 de. *Pod* broadly winged down both an smooth or
 with

s ridges but □ 5-6 in. lon^, 2 in.
 t deciduous yellow-brown
 GIO; 1 v. Pro- look.
 !

J5! pi. t. Uj'Mict. Plor. Ind. 3; Bak. »n]
 id. II, 186, ■saGrah. in. Wall. Cat.
 ■lid. S[]). PL III, 10-U. *Garpo*, cb Hort.]
 •'lor. 1 i, 286. *Slizohlium* \ Kuntze EeT .

JOS. *Zoop7itliahn*
 Aa Coco < i Middle Antlaman. *Kurz!* Sou
 aman, *Licbig ! Kttrz I* ater creeks or in
 Mangrove-swnTir
 .' PERAK; *Scori-* PAFTA' _:27! D A litfc
 iinese. an and Polynesian <
 Aimuai clirn. >void with
 ul hilm
 3r. i
 sions o\
 i giab]
 'y-silky and lustrous benenth, i
 truncate R 5 in. lu
 adpressed silky, petiolulea -2 . in. long subulate

stipules lance'
varying from 1 h

iu ICUL

p duncled raceme
0-fld., d raehi

from lateral pro-
rflas ; bracts *b* and bracteoles •; in. la: grey-silky
in. long with a few pw camparm-
aa long as the lower lanceolate tooth and equaling
h purple 25-1

r

*()

TM T7? V. Wfi . standard-6 in.
' - tumid

ridcred
aKandabru^hooi
bperslBtent bristles at first darfc
ey to paler-
Bat. Miso TT *sZrV

IT, I

^ * o
5/

Conn. Syst. Ed. X 1162

20- ^GTLODON Vogel

■ i, narrowed into a long beak. *Sr*
few-ovuled, styJe filiform

a"therS Uli

fee. *Pr*

Ding-mare ti [. Speci.

-'How but firm

bright

surfaces n

lateral obliquelv , ^ ^
<e, cen< ih 2-3 of arching]at_
B membranous -15 in. *I* ig membranoua.

Inflorescence in c 4-6 k loner of 30-40

1-3 fld. fascic

liill prod .-Ted nodes with obsolete bra.

•iig. *Calyz* glabrous 3 in. l01],

ite at base, braoteoles

a I in. long, standard lanceolate acute, the 6L

luae

5



attaci: lamina !y-lan<. curved keel. Pot
oblong 'i in. long, obliquely pointed octly stalk*, d, 2 seeded, \\
■', 559; A. Gray, Bot. Amer. E Rxp. 44t> t. 48 ; T
S9; Bak. in Mor. Brit. Iud. II, 191. Rlynehosia

DC.

Prodr. II, 389.

ANDAMANS ; common, i Collectors! DISTBIB. Ceylon;
Polyneai

21. ERTTHRINA Lion.

tskly branches. Flowers large, c<>
iccmes, nroduuetl usually before th development of
J-folioiir QcUyx obli oally ali
ise or uuiate Petals verj uneqi: always
much exserted and considerably exceeding the keel and wings.
Upper stamen free down nearly to the base or connate with the
othe

way up the filament; ; anthers uniform. Ovary stalked, many-o yle
incurved, beardless; stigma capitate. Pod linear, fertile turgid and
torulose throughout, or flat and seedless below. Species 25-30,
principally tropical, in both the New World and the Old, and at the
Cape.

PodB tnrgid and seed-bqarir.g throughout their length ;
ntip&ls replaced by ovate-glands as long an broad ; seeds with
a very large oval bilum :— i vx apathaceons, oblique no^l
to the base 0 Leaflets
moinbraiions Snbraniform oi ilar, green on both
BtrfiK-i rfi imvr at apex ... 1. B. ind
, x ciimpanii^l hat not splitting to
thebasrf(§ riaeous ovate-
oblong, oath ; flowers broad, standard
emar^inhte ... 2. JET, ovalifolia,
flat, secdlesa and inclcilrisuenfc in lower liaf
stipels replnced by

oblong
longer than bi -eds with a snuill l]ih>m;
tnembranoaa ovate-aoute,
green on both surfaces j ilowera narroyr, stauctard sntiro at tip)

Hassk. Calyx

hospo*

ill 2-lippi lly split to the base do

1. Eai E-HRIKA i ; I
ligh with tli :... ! ■..'
prickles. in. lot; fioles 4- 6 in. long k-brc
dent unarmed,

ty in the upper half; leaflets 3, niembranoub, uniformly brigl
Teen, densely brownish-grey puberulous when young when full-grovi
uite glabrous, terminal subreniform lateral pair slightly
obliqL

Jriangular, all subcuspidate at apex and subtmncatfi at base, 4-6 in. km<
ierminal rather broader than, lateral hardly so broad as I **tl**
in. long; stipels repi'cstsnted by ovate glands *)

irnain attaaheed to t >n the fall of the lej
anceolate *4 in. 1< tly brown-puberulous early jadu

;ence of dense racemes 4-6 in. long on stout spreading Tvoody iCl'uli.1

• ig; flowers 1-3 in axils of I triangular p

Jems bracts, pedicel i. long at first brov

leeiduous bnu . Long of

fiaped slightly falcate **puberaloue**. *Calyx 1-1-21* scent,
mouth **very** oblique splitting to the bant he baek the tip with
5 teeth of which 2 or casually 3 are iiarro

in. long much exceeding the others. *Corolla* bright-retl

f, standard 1 in. wide, wings and free keel-petals subequal

Ovary softly grey-puberulous 2 m. long d.

'od 6-12 in. long on a stalk '75-1 in. long, black glabrescent distinctly
lose 6-8-aecded, usually the lowest and]-3 of ae uppermost seed
tive, va y irregularly shred, hardly distinctly de

form '6 in. long 4 in. wide testa **warm-brown, h**

with pale margin, DC. Prodr, II, 412; I In,

Wall. Cat. 5V -,.-. & A. Prodr. 260; 1 :

1..207; Bak. in Flor. Brit. Ind 188,

Cat. 5965, tide Baker. & *Corallodend* ,in. S

06, in part. a Grah. in Wall. Cat. 5967, fide B

^{AND}A- : the coasts comnn, fzl pr fSj

common behind th g's Coll .K;8C- >>/

MALACCA; fide Baker in *Flora of British India*. Di L&of

from the Sunderbuns to the Malay Archipelago

ia.

a< a wild Bpeciea, i. purely littoral; where it occurs inland it hu
,mly been plant-

kker ref ~ih- whioo the writer h-^s not

Fall. Cat. 6965. What Wallioh's 5%3 B. & 0. {which were wTM
ion with 5905 AJ may have been, it ia diiiicalt to Bay; they were Himal-
itants and ore not at Calcutta. Bat the Calcutta e^ainp!- (A

ipathacea aa in the Lith. Cat., bat is named *E. ebricta*,* the moreover to
E. stricta and not to *E. indica*.

BIT. 2. MiCROPTjfbYi Walp. *Calyx* eampannlaie, moro or
leas **istinctly 2-lipped**, but not splitting down to the bpse, pod tu>
3ed-bet*.ring throughout.



2 i' ■ ii:NA OVAL) Roxl). *liort*, Bong. 53. A tree
fee* U-h sp 30-

ned with thick-bi -toles 4-S rey, stem V5-
in. lo< puberulous,
when full

p green above glaucous beueath terminal ovate or
ovate-oblong 4-6 in. ' ross, lat
but rather smaller or wide-cuneate ap(

dbtnse or suiy
persistent glands -1 in. in
duous I ; in,)c

in. long; flower i-A Ln a:,
y ovati "acts; pcdh.v rulou-
Ion it smaller bracter » of en

ly rulous. 0 5 in. lon^

f dark volvety-browii v

irginate, win. in., ke- rent
1 in.

Ovary softly grey-pubernlous, stalked. *Pod* C-S in. long 6-8-eee.
a stalk '5 in. long, pale-brown puberulons, note distinctly
deliis-

x, by the sutures ; seeds subre *5 in. I

D, liilum large oval ^. Flor. Ind. Ill <6l

[ghtlct 247; U

Bak. in Flor. T ad II. 18&. *B. holoem* &urz, Jottrn. A
B(pt. 2, 69 as to flowers. I *lia* Walp. in
Lumaa XXIII, 745

FJCRAK; Kinta, *Kunstler* 7235! MA y 528!

Dis-

TT, ntn Assam and Bengal to the Malay
Archipelago

uesia.

Mr. Kurd's *Erythr* [*Corallodendron*

■is manii-. flovrera of ma,

tht •>had been sent t - ■ Calcutta bj an officer« adian Fo
t uude t it came from one tree, Tl ion of
thia

Bp'. ; .it author portumty

m uy restore an oT>

had m
:a, as to the esiutotice of "w!

don hi. (J-70)'« of ft

Log of the kind at much of *i« bou

lat hiiv- 'ly
• opportunities og a^ | cies of TThosc i

lie) tis, of the Pemu .:-t De^artnn jolitary

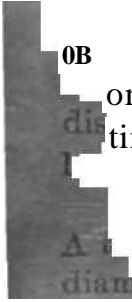
irs are precisely t hoao of
3urma ar I Ten

broaa form of which is c

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V98, the



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id induliiscenf

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: ;. Flor. Iud. E

membranous v

vey pu'jjruioB

long 3

base i

petiolules

by oh\o:

t. long 1

lortly ovate-acute flaccui

"ulons.

kemes S'~4,

spreading

lane^{1*}

i Is of minute ov:

bracts; pedicels "I in. long puberulous, minutely bracteolatu at

s, Bu berulouB ovate.

softly pi

fceutly puberulous, equally 2-1 i

iu. long, si

il. Ovary con DUS

pale-yellow, 4-8 in, long, I"25 in. ,ide in

a in deli) scent lower half to two-thirds, '(

per 1-3 seeded dehisi rtion ; seeds sul m 75 in.

in.

bilum siiKiil elliptic pal

ttit.

a Miq. Flor. Ind. Bi

-\ 70. E.

PI.

of Bro

%

Kinta, Kttn

!S. des: D only.) 3i

Cluua, Shan Plateau, to the II

, £,

rk3, ixas pointed oat that I

examples of E.

r t,ho only difference bat

'or. Inii. Bat.), ch M_r |

, **Indo-Ohi**

"ery respect **wit** h matra **a**

separata TO retained in lhi
 : that they *do* not deserve
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 '•in further states t-Uat fi. ■'
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 ri<j. inFit
 •, whic^v ""ig
 <iuiritin.s. Koorder*
 a- valuable Java Herbarium, issm
 m fi, stwn'i franc in *hnrh.*
 ; tlify htive howevor id the pi
 BI. i; tl tliese writ hoi B
 l.

respectively, thus closu ■ iled to nm.
 •9 o' either.

22, SPATHOLOBT;S Has,

l-foliol:! ate leaves. *JFk*
 ■'ding i i of
 • ■icied at tho tumid
 nodes.
 lance* r oblong-deltoid,
 exsertecl, its p teqnal, th(
 traight. *Stat* \ a.
 or stelked 2 *I*; style incurved, b<.
 like, 11 mt, seedless below
 10, the others

1
 Leaflets not iwico aa k > termii
 boid; f^l **ross manifestly**
 bei chiiient of

Lean uniformly romentose bent'E
 trs'25 11 ictly pcclicetlod 1. *iS.*
 me above, tomontose only ivea *fi*
 icath j flowers '15 In. long, veiy Bhortly a/
 at leas- as long as broad, alt aubsimi)
 0 ovate :—

lateral 0 insertion of
 across (sparsely
 ... Lesi

:lutSj leaflets medium ore than L
 in. across :—
 Pet' finely adpress-
 nlotis —
 P«' . llowsr: pink,
 branches o: io-acmtuaa" **S. ac**

Pefci 3 white, bran-
jlatfl acute 5. 8.

iolty c<>; 'la obscnre
id) floTrf • -ty-pubescent... 6. S,

is*. flowers white, calyx glabres-
oent ■ ->^aT"~

glabr
licle atri^ .. S. :

ipela maniesti ilexiuma,
of pat::

!onth. Pi. Jangb, bus
ag wi 6 in. thick; b
< yes

coriae
pub

oinalovate p

la 5-7 | 1 midi
-nerves iud iion very <

stipul iaiigular 25 in. long, vt

8-10 in Ion lax axillary |
itout densely r .v flattened ped
i. long :iiciilate tl
sub;

a bads. densely rusty-pubescent 't
•ortor I Mio rounded ali^lit-
.-blue,

I oblong deeply notpuod.
. at the se

I ! Got .KB ; Hui:

wneo.

Fro¹ i form collected twice by Mi
itmtum benearb. This boa.

its vary • . hear a i
t'ore been hi & a Vllir;

a rerr distinct "form" of S. Whik

-eadily acp-, ' arlyalwa

its always different fcomeni .i always la:
ut)y aLa re p^itiiiiteL:

■imilar; bi

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8, gt

•) ind S.

Jndgiacr fmm I

written by !

'limonsions of £

2. Si

tb. Pl. J:

r sometimea over 1. im,

slightly angular. *Leaves* 12 i

>> i fc groei i

■

Jdrib prominent benea; ttion very distinct;

petiole 4-0

Ions, pctiolulea '8 in. also rusty j stipe Is snbni I

based ovate-lanceolate '3 in, long very

lax .i villary { ia Bometinri'-

IA stoui somewbat 0

ed rnHty-pubcriilons peduncles, bianch^a 6-8

the

.^all lai

• soidnotiB; pedicel*

v>lcs at be > *Oalyx* grey si

Iky-pubescent *1 v. long.

tube Bubeqnal i

triangular slightly notched

^Ine, '15 in. long,"standaid wide

ed- *Pod* 3-5 in. long 1 in. wide belo>

ly velvety.

xcept at the seed-l>

Ind. II, 193; Miq. Flor. Ind. Ba^

gyrocarpa Wall. Cat. 5442.

■jmiQcn at \

c-lr

181

Philippim

•ears to be]»

ially aa - red

than In S.

bardly d

.1 there.

beneai

ner

fine ret

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'lick

subcoi

L-pubescent, lateral *ru*

snt ui
B-9 pairs pri

ss-nerv tincfc, terminal and lateral subequal subsimih
: ; petiole . <1 press
al leaflet

iolules

enboli

duous, in- ely rua
branches som<
toward panicles 1*5-2 ft. Lin. long
with smaller som aves at their bn
^e of
buds, decide

•mall, colour not noted, standard
orbicular-oblong use. *Pod* uot seen.
* <.mse jungle on Gnnong Batn P

1897.
my other
nent. m Penang, not'
8-9
ru

a Ft

es
mi-
ain
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toral
havi

.eh with *S. gyracarpus* m
n. 5442 arc gennn: . **The**

pr

v and in any CP-SB it is certainly nofc

it differs iu

longer brae; **pules**—the latter
and though >t the *h* *a\y* '16

are small a>d obscure ai ice between this plant

ween i

racV - so shor: >>f the late
of leaflets that the i-foliolate.

PI Jungh. 238. A

robi:

tnu, brescent. *Lea*
'-G

Tticti'

L-oen on i
ly and spar >ua
lortly puberal

■ pairs spread in

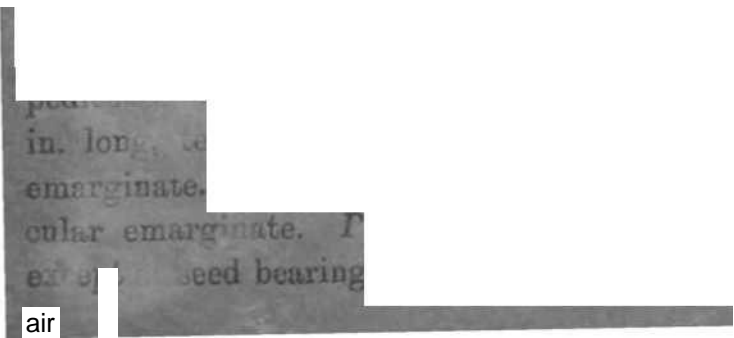
tnci
, very early deciduous. -8 in. long,
branches 1'5-2 in. long again pad

puberulous
: tube th er sligli;

e below wide

and n

:



air

k King-

ulaynn specimen at **a** tlia^ :
one ipsaeci **by** Dr. **^ValKeh**
dealt v~ **Dr. WaUich**
any Malay; 13 jfc 011
ape'-
ainoe Dr. \Y
Mi

etc **h** ronm. **tuber !**
6-8 in. I (1 the t
green, gls
serves npcen

in. till **subulate 2**
aan;

ascent, **VZ h**
o v

Beuth. PL Juugh. Apparently

i 8-10 I **oblou** pnsty-p 4*-G in.
i'5-2 in. wic ma, **dark** gr. ■ ■ 1
quite

abroua, lateral

iolulen urescer subalat
iduous.

In

tout 2 n

ubescer lew ovate-
ale? ; pedicels **very** shoi jr-pnbeeceht.
1 in. h all d
ie tube. "2 : dark-purple, limb
■ *ex* subcortlat

ictiuu

Mi; **whan** imrnatnre with a stalk
i, II, *IVI*. £• . *in*
Wall.

Pi *Wattiv* lilhet.

es ami (from Mr. Baker's description}
Dr. Wallioh's original specimoua *irnxxn*
ios of one 8] . ib litts not beGii
sent

t from i

PAT!:

3lightl\ uase rouBcled tip
ral
pronueut bent ion

not **prominent**; terminal Z in. **long L*7S** in. 'ateral

in. qu brous;

•les ovate *I* in. duoua.

• minal i 6-8

in. i

-ola

iate.

Scott 061 15

appe^r

^c Mr. Kurz had supposed it might


;\-es of the *IA* '■ ■

is miff hi

• since t^e flower
stne-3 the obacn[^]

are
ftt times
mug

appareu'



a Fir.

ly ov.

plant to 3patholobns. Tin T M iltc* cannot, however, be con
aro obtain? -i T Bpeoiea with eym.
S. c iiich, bowtjver, -ir has seen imi!

A cli

gled brandies. Leaves 6 in. lo

■ i-te tip mueronulate base ci.

a. long 1-1'25 in. wide ; j>

■ labroii-

very obscure; stipuloo lanceolate 2o ia. long

■ acemes 3 in. long 1 in

Calyx *12 in. cn,m\ B adp

jper I

iberuious, Cww: iUt,te, apex

retuse. Pod 4 aoross;

sparsely pube

it ; ii ■

species though nee»■«?»*■. to ; is Mif

23. INDIGOFERA. Linn.

or shrnb3 more ?r less Jerselv clothed \\

layan species; compound odd-;

> axillary racemes. Calyx minute L j.mpanulate ; tee¹

the lower longest. Corolla caducons, stav

ht, nol urred near base.

ra unifori.' ralar Chary sessile many-ovuled; style

short

ate penicillate. Pod lineal

!peci« in all trof

>' tion aj

Lhe c

■ IliuBU

ia hardlv -.-'is

pod

thab oi ue

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deoaiej

Uoary ; pod glabrana :—

about half at;

cau3tnes dense, po

■ obtuse i

v, pods Ion ■■

corollii

. 1S&. in^— *i Flora of fan Peninsula.*
 BA III W. An ■ mual- or
 feet big" wr
 ort spreading grey or brown pubescence. L
 ,ed ; leanY nual and in -5 opposi. L!
 lbranoi above, glau: dense!
 with adpresfr' s setaceous, ;
 ^e-fld. Calyx densely pi;
 nbo very short. Jo.
 tie exserted, purple en . - /in loi aight, densely
 preading ■ nee,6-S» Prodr. I
 lor. Ind. IT] Wall.' Rook.
 . 124; W. & A j. Flor. Ind
 wit. Ind. IJ. u Sekam. & Thonn. PL
 Guiu.

ij Curtis
 ics gener I
 v ANIL Linn. M 272. A shrub 4-6 feet
 high
 wi woody thinly si] n I « 2-3 in.
 oles 5-1 in.; leu irs, ovate
 /. membranous, grei
 dense-ild. nearly sessile. Calyx '04 m. silvery, teeth ac; 'on
 as tube. Corolla purple *35-2 in., distinctly exserted. Pod
 ig '1 in. thick glabrescent dded. Ind
 Bat. I, 307. Bak. in Floi Ind. II, 9: -ioric VAK. Au.l
 Kurz
 Fonrn. As, Soo. XL J69 excl. all syn.
 AN b Blair, not uncommon. I' America
 bn
 ;ncomn cultivation and as an introduced escape or weed ii
)kl World. This is apparently much commoner in Indo-China than i
 is in India; it is frequently mistaken for *Indigqfera cocrulea*
 Roxb.
 ■ich ho appears to bs exclusively an Indian plant.
 Linn. Sp. PL 75i. A. i~6 fee
 1 H dy thinly ■;«« 1-2 in. long.
 ■minal and in 4 'te pairs, obo^
 jlong, '5-1 in. 1< ous, gv viles subulate. Baci
 ; I, nearly Bessile. Cah/x '04 in., silvery.
 Lg as tube. Cor Idish-yellow -15-2 in., distinctly <
 °ods '7-1 in. thick, glabrescent straight, or slightly R6(i
)warda tip, 8- DC. Prodr. II, 224 (var. a. only);
 Hoxb,

Flor. Ind. H]

-5474.:

Prodr.] .

b, Icon!

Flor. In.

tor. Brit. Ind. II, 99.1. w

jam!

• ' .

tn. Fruct. II,

Curtis! MAI

r.

, *vit*

"growing near Sultan'.s tomb/" *E>*

liidi "■ lative apparently of the Old World ; often cultivate
occ "nig as an escape.

A. tall

ong ; pel lit uad in 6- fd, 8-12
ong o¹ Long by '3 in. but
someti '2 in, nt beiu
minute.

Ha: I in. t
oary, teeth very short, deltoid. *Corolla* pal '4-'5 in., Bn
cent ex t I ifi. long, cylindrio, straight,
in FL 11,
100 Koxb. FL in a. In, ill. Cat. 5472. *I.*
Finlay-
soniana Wall. Cat. 5488.

Mi
kawi, (DISTRIB. Ceylon; jndo-Cliinaj S. China;
Philip-
ig ; Malay Archipelago.

spr.- * beiu<r ^eflexeu, (>re f; y group* .ipices pointing
• a of tin It is olten planted for ornament and
is perhaps not re ivc in Malaya.

24. SESMA:

t-wooded shrubs or ; b long, very narrow abruptly * ph
a'es with very numerous deciduous linear-oblong obtu ate
-xillary raceme^[^]. *Calyx* cam;
'd or 5 id. *Cvrolla n* tseried Is all i ,MF
stanil <road keel s' and obtuse or subrostrate and re<M:
-uniform. ' dpitate, linear, many-
ovuL ed glabrous; stigma caj *Pod*
long and ; septate between the very many seec
Speck- cos topolitan in the tropics.

i), bud straight (§ *Fnssetbania*); antinat shrab«: -
Pod Lwiata tuck pith-like r flwers

Pod i< ;i&11y ascending; stems v.
sletider ; flowers ■! in long
Fiowei cately recurved (§ a tree

I. MA PALUDOSA
R<)rt. Bel

A large tree-like herb with this character I ;ade pr^f

* By nn nfortunata
to the tribes and genera,

annual $B(\dots)$

2 ia. in diam. full of whit© soft quite unarmed the le;
Leaves 4-12 in. Jong, sessile, leaflets 10-30 pairs dark-p
sparingly hirsute ;. Jtace^ jual
lightly exceeding the leaves hi whose axil? rise.

Flower,
yellow the sta. «l w*ta small purple spots 75 in
lon^ . Pods 10-12 in. flexible with strong not indented
suture

a]v :ulous and always twisted. 8. gra i Miq, [nd.
ra, 8. is Knra Journ. As. ■
L, not of DC. 8. punctata Beath. MSS. in Herb. Kew.

k. in Flor. Brit. Ind. I.I, 115 (in par
only vclndin clynomene uUginosa). Aeschynomene
IP. Ind. Ill, 33 Indosa J

a marshy ground near rice-fields, £i *r
1712 I; Burma; China; Java.

, who knew the Bengal Sesbanias well, has left of most of
fcJieni,

aam© of Aescli annistakeablo descriptions and figures which
sabaeqnt Indian botanists have for some reason treated with little consideration
A carefnl examination of living plants shows, however, that Roxburgh's treatment
o:

■"tfl ia probably accurate, and hia viewa of the limitation of£ the species are
inly preferable Li any that hav l>oeiJ proposed.

The present speeds is the familiar Kv is opposed to the trne Hula
whic

a), ao common in marshes throughout fcbe Q ■ Delia.
Though recognised as distinct by prof. Miquel, that author nnfortunately has
nsert a Bpecifico name that ia pre-ocoupi be g;o<ua. Mr, Knrz thought it
might

'nilla cochinclwiensis Lonr. but. hat species has erect torulose pods and the
ntification ia therefore impossible. Mr. Be^tham has soggested its being,
nctati he pods and the stem strnctore forbid this identification also.

AB
Seal' sa Jacq. is not this species but is Eoxburgh'8 Aeschynomene uhginosa
seems best to conserve Roxburgh's specific epithet paludosa for the very disiinc
to which lie originallj applied it.

Dr. Kuntza {Rev. Qen. Plant. I, 181J would reilnce this to Ses:
excellent instance of the unscientific nso of the imagination.

A taU lender
ai*med-\vo' iting 20 feet in height without ex.

i "" ing, sessile ; leaflets 8-20 pairs
liort (under 1 in.) but di:

duncled, 2-4 ' • ■- andard externally
closely

solitary rarely more tha:

ves not de rarely erect, 4-t» in. lottg; suf tou
Flor. Ind. Bat. II, he seeds. DC. Pro[^] v. IT, 2
A Q. 8. *iva* W. &

acuhai Ind. Bat
Brit. J .11
hjno iene innabiwi KJ «b. Ptor. Ind. 11 J, 335.

G.

an Penii

TONGKAH Collector 2861! DISTRIB. Lower Bengal, com-ly cult forma; Java.

This species has, like the Inst, l>een mnah tnisi; of Bengal, whore it 19 widely cultivated ; to a slight of its fibre heina; more ve o water other kinds is erapl< making fishing nets imd I ter extent for its lor. that are need as the wattles of which are [Is of the hoi which Piper Betle 19 grown in Bengal. Probably tbi Uiced p! Malay countries.

3. SESBAXIA GBANDIPLQRA Pers. Synops. II, 316. A tree 20-30 feet high and 8-10 in. in diam. at base, branches. Leaves 6-1*2 in. >. 'iaftets 16 glabrous, pale-green, . Racemes short (1 in peel unclad ; flowers white or pink. Calyx "8 2-lobed. Corolla 3-3*5 in. long. Pods up to 2 straight, firm, sutures thick straight, valves slightly de; the seeds. Bak. in Flor. Brit. Ind. II, 115. At/ati grand i dor a IX Joui-n. Bot. I, 120, t. 4; Miq. FL

Pi ng, Scor! 525! Six 7(19 ! DISTKIV. ' llascareue Islands I planted.

The Agati tree, which is very doubtfully nsv (l or Malaya, ic a Grown as a support for Pepper-vines in ■ ■.. In Northern It.- is chietty pliatud for the eako of its showy 0

rs.

Herbs or undorsurubs "w -pinnat ^aves; the leaflets opposite. soriaceoi leaf-opposed racemes. Calyx campanulate with distiuci au Corolla- much e^aerted, petals clawed, Btandard incurved, not beak lelphous, anther >btuj Ov' Bile, linear, many-ovule,d; style much sned or tiiiform, silky or glabrous; stigma c&/ u penicillati linear flattened, many-seeded, 2-valved, continuous or obs< betweei ts. Species about 100, in all tropical regions. plies only to the B]> the Malay

An
u

th persistent brownish Bilk} hairs

T. t

TEPIU ANDIDA odr. II, 2
I, with slender woody groo'. -uclies
clothed with brown or

low shrub. 4-6

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x

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it \ ibescence. I in long;
in 9-12 opposite pairs, ligu
abrons above, grey and thinly silk eatli; stipules
Ua copions, ten; J, 6-9 in.
fasciculate *-4 in., sili densely
silky, '2—"25 in. mug, teeth mur n tube. ■ -1 in.
je or white, standard densely silky. *Po* in. Ion#, 10-15-seeded,
!, clotlied wit!
Wall. Cat, 5627 ; W. Prodr. 210; 1
II. 311- *Hobinia Candida* Roxb. i id. Til, Z27. *Kieserese.*
Flor. Ind. Bat. I, 21)1. >*mk.*
-. 336.

Eimalaj

EPHL: SCEA Peis. A copu
suberect herbaceous peren; itli slender firm f
Leaves sh ;oled 3-0 in. lonrr ; leaflets tei-mini
pairs, narrowly oblanci en and glabrea
■U8 and obscurely silky benea' . pules
subref
pious all 1 3-^6 in. long, lax fld.; lowers flowers fascic
late; pedicles -1-*2 in., bracteole 3 minute. *Calyx* densely silky -1-'lo ii
\0i linear as long as tube. *Corolla* '2i>--3 in. long, red
thinly silky. *Pods* 1*5-2 in. long, 6-8-seeded, slightly recurve' res
I
tylo glabrescent; stigma perncillatt Prodr. 11,251 'Vail.
.5638: Prod.'. 213; Miq. Flor. Ind. Bat I, S in
or. Brit Ind, H, 112. *Qah* -*purea* Liun. Sp. PL sd. II, 1063
>xb. Flor. Tnd. Ill, 386.

ith ! \ ; *Owtis !* PAnANG ; *Ridley !* SELAN'iOR;
roadside TRIB. S.-E. A^

■ 1 in tbi > Peninsnid

noted on bis *H*

era, int: , now es; 1."

o. ' -V. & A. Prodr. 212 ; VAR. *amoena* Praiu.
cted e nial with firu; terete 'inely
)vvny branches. in. 1c jnaI
id in I rowly oblu. e, trui

b^{ri}ey P 3nei .^es linear

' in. Ion.-, lax-

•minute. *Calyx* dtnaely silky -15-*2 ii

iger tbau tub m |0(1

lky. *Pods* 2-2*5 iu. long, ■
fched with persistent brownish silk

irved,

ttned

G. —Materials]’ layan I la.

glubrescent: stigma penicillate. *Tc-phrosia a?nania* Wall, in H,;

Calcutt. v 1.

Pf: wgay ■ Berry! N\ India.

differs from V\ Wight i
it of Pera.)in having lea

in 3

Gal’ a Bakers

identification bo correct, bhs • ted for :

Dr. Hamilton's dingnoais, however, is of & j lc&te' l

racemes, two characters wl.ich exclude T. >m this apt

form of /

Tlier« ia little IK uni .-. of the jgenua the •■
and Nurt h Indian plant shon< ■ , 1)6,faRQ
V. Hook southern India; bat as an already

a published, hr V MSS. name is not avni¹
r, be known as The *Tephro*

Mr. Ba!

26. TIA W. & A.

Trees, shrubs or largo woody rarely-
Eoliolate leaves; the aud usually larg^ erally
stipcllate. *Flowers* lar iiowy in axillary Bolitary or Led
l-acemes and in terminal paniclefl, the f • ,Jug
the rachis. mped lobed or slightly toothed ; teeth 5 or I
2 upper ci' or absent. *Corolla* much d, petals long-clawed;
standard broad spreading or reflexed, auricled *IT* not at the base ; wings
uly cohering at tho tip, oblong sickle-shn ved
Stamens monadelphous or diadelphous, tie veaillary filament
united at the base or *B** far as tha middle 'lie others, or
quite free; anthers uniform, tuamencs I hiary lin
sessile or shortly stalked surro; r disc-like
sheath ; ovules rather numerous, glabrous, ^gma
capitate. *Pod* linear, lanceolate or oblong, usual) compressed aud
flat,

occasionally turgid; thickly coria or woody; late or hardly dehiseei
Species about 60 ; especially prevalent iu Indo-Cliina and Malaya.

Atillcttia is retained her :ae its species are familiar to r
-iiKler this » tint, as Baron von Mueller hus i

ia *Millettiu.* apart from *Wistaria.* T unfortuna;

it has come into common use among li '■ ona that was

lly given to the genus. The oldpst name, B >ut by Dr. O. Kontze, is

PhaseoL modilieil tbafe author proposes to empl

tivt ^' adviaa* . io names and the name *h*

'. : • I' point on.fr. is tho earliest

unobjectionable



genera **are** united, must bt; omplojcd

teriale for a Fl.ora of the

tfloreficenoea in axillary or terminal rat-3tne« or pan
leaves scattered along the branchon :—

Standardnof auricled'at the base of the lamina f
or auricles ' by call -

I'on fe silky pubescence,

(pods fear

L e a .

■ ■ > : : ■ ■ :

ire, or silky
pods

only o>!

-O8P; IBCLVC-S rigidly cor racemes
-iave3

Btaudard silky ex* 'ifc

Bracts small ovate ea

rons exteraally ; pod.

Pode flat flmooth (lenticeli™t! in *M. glauca*

leaves membraiioua fsubcoriaci *M. a*),

racomeia lur ; floTrers white, jjink

Leaflets without stipels, membr >raea
• ■ ■ tly perlunoled; pods gla lard

adard glabrana estornally :—

POM ■ elled, the sutoreg

• leaflets snbgiaaeonB quite g

Pods not leuticelltsd the

so

M»ed; leatleta pubescent on midrib

and ueneati:

Sti, "rnally; (poda icelled,

Sutures not wiagcdj loii/lets glabron^ 6.

it. d

(late, f>abcoriaceon8; racemas very

; mcl^d; t hescent. exter-

ivrrers blue)

led at 1

i (leaves

tent} :— small

many obi

*

m
pale

Leaflets glftbrvsc*t*nt beneath ; pod oval, notchanel-

9.

ainate;

flowers pnre • .iiite:—

Lean 7, rarely 3; pods >'

podspalj yellowiah-velvety

flowers *Bolita*

tern on conical processes in

axila of leaf

I

& at top of slender stems ..

SI.

gte

atfa ; po<5 .,
pubescence

SERIORA W. & A. Prodr. 263. A large - 3,

wu
climber 80-100 feet loir
Inely pubescent *Le*
in
. iate pa
in
silv«
petit-
slightly pubescent, the nodes not
Sowers. *Flowers* on pedicels "15
Calyx wide-tubular, limb truncate •]
nally. *Corolla* '5 in. diara., stf;
pink or blue internally, brown-silky externally, winj
pink with wliite stripes. *Vex*
the remaining stamen •
in.
long 1 in, across ■•
ton' uro
i ; 1 m. *h*
Bak,
i-'lor. Brit. Ind. II, 104. *Pongamia sericea* Vei [ort. Malm
Bnb. t. 28 ; DC. Prodr. 11,416. *Phaseolodes sericeum*
VAE. *tnpica*; leaflets silvery beneath ; sutures i
tinctly hickencd; seeds]-2, rarely 3.
ortechini! Kunstlerl
ues 3103A !; Java (*Kiirz!*)
it M. sericea is rep
■'. 310 u b. Kow, not-
id the B-
from ,401! •
iu »m **i&aea** loaiiets of th size or> IHR **tvrig** with the small lent!
.^ of this ■ o exactly like thoso of *M. xericea* and the Pouang
nlant
o not eveii separable as a variety.
malaccensis; leaflets brownish underneath ; sutures of pods
tiai'dly thickened ; pods longer seeds 3-4.
LACCA; *Grij/Uh 1764! Uaingaij 518! Ooodenough*
latiuot local form **but** poi"haps **hwdly** a go'
2. **MILLBTTH** 1. Jnn^ii. **250.**
climber long with only f
Leaves 8-11 in. ioi is glabrous, 1<

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 ie in. long, *ex* -nifortni
 ivnisli tin
 te standard e
 silk "■ acn
 i tly bi Miq.
 lor Brit rnd. II I
mgh ! SINGA]
 i >entli. PL Jan ph. erect fa
 ■ ' ■ ;hl
 ■iiilets t. 1 andi>
 tw-oblong, base ed or rarely
 fi-pex obtuse or shortly cuspidate. 4-6 n >ss,
 <Uy coriaceous *i* rous on both ftnrfac
 tppersiirfa.ee
 copions in
 thy ate
 ciduous, -1 in. in diara.; pedicels ".: in. Ion fatipkei
 ■eth small the two ∴
 y silk\ itally. *Gorotla* tl tai •
 tern ally. *Vexill* *mien* fi
 ovary pul *Pod* tui in. long 2 in. across, 1-2 eeded ;
 woody
 Bnbrogose quite glabrous ; slightly beaked. Miq. I, Eat.¹
 Bak. in Plor. Brit. Intl. IE, [OS. *Pougamia atropurp* (Vail. Cat.
 i. As. Rar. 78.
 193! 273! *K*
 10
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 on. E -sonm •
K-ary U, Woe. Beng. XL'L,
 be smai!
 glabrous; leallet !inal and
 in 4-5 opposite be paii
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 i*een ab mt ben^
 iage on b ile°

•st puberuloj ■• . l i soli
Imst. (h«1

win j tl. ;■- ',: i way **tninal**

sheath, i thick
glabrous; both suffu in Fioiv Brii
; Kapayo:

-6 in. long, 1 in.
w Lcnlafce<3 om-the face;-
narrow

leaves whi
in b fibrona.
bongam M pods. As
■ i M. di in these a

uoat wings • standard i.

5. Jit ! ,y j

hig] ruloaav
"-8 ■nnina.l ai

Is; lowest pair

all obtusely acumi :n. long, 1*2

anous >ns from an early st.

pubglaucous and pubescent ben■

hair quickly disappear except from the midrib

lateral nerves; petiolules 2 in - larg

Sacemes aiillar_, slendei * as are

the iBcicled pei

in. Long. *Oalyx* wide shallow-tabuh

9 obscurely toothed, -15 in di Q with a reddish

re. *Corolla* "4 in. loi ndard oruicnlar 2-ca at bast

externally, white or Eaintlj wings clawed.

g nearly hi u;il steath. *Cvary* pnh

brona. P< loi g •• in. wide, tbin

Btttores slightly fchiekened not winged. i *M&msleyana*

.10! 36

losely related to *M t* narrower leaflets and differs *

in nlso clost

ftte uei nor Ion

I :

t staml :

'rain. An *tin*

feet in ancl !ilt

slightly angled. *L* ? ; rachis glabroti rminimal

and in 4-5 opposi te tu<<

rest elliptic-' all acuminate 2-3'5 in. long 1'25-15

Kill:

je on botli
rib ber scattered

'■ for occasionally a Few
on

tales "2 i.: Rac txillary sl<

glal

ry solitary oi' fascicl

.vide shallow-tub

_-htly j

•I la "4 i

i.to with pink

e, wings iv

Uary filament col

up stanxmal

yle glabrous

.j in. Ions

in. across, glal

not tlickei ed.

Kraunhia ■

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ay 548! P, . Kwala

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of this Specie.-

resemble tlio ;G of *Poiiguinia glabr<*;

ctiote to ascertain the number of

■J tlic two.

An'

pecies e

is ia MH

shisaetM Koord. & *

a with I

Iky standard, bat v.

ro-oviled; its

It'iv.

>ds like those of *M. ov&Ufolia*.

V. Mn

iak. ia Flor. Brit. Ind. II, J07. A v

climber with glabrous

lets terminal and ia 3 p

;ite

stipellate ; obovate-oblong cuspidate i~6 in. long ; subcoriaceon8T

Reuus on both sides from an early stage; pefciolnli in,

long.

cemes . sliort-pedinclcd, close, axillary. Fl short-pedicell

icled. Calyx campanulate I in., faintly silky,

■i-olla three

the calyx,

sely

white

at on the back.

Stamens monadelphous. J~7'u<# large flat

ra

M3C, recurved, 1;

cloth

-sistent brown-velvety

pubea-

ah. in Wall. Cat. 58

Burma.

inien ai

r of the

'■-ing no
of Mr. Baker's

d best with the description are son

eaitouly y prove to h

s;" the specimens have 5-FolioLite leaves and

the leaflets resei

■ _____ equally w?

in Plor. Brifc. Iud. [I, 110. A. creeper

>vn-pubescent-

initial and in 5-8 opposite pair

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»acutc,

15-2 id.

ug 1 iu. across, coi

• fffeoi

G. King —

! IIC'ill-M

in small axilla

., long.

lea. i in. long, 1*5 ir

'ire the Ir

I

OaLy

as campannlate, externally

Ua white tinged with pit;;

'teat base oE lamina, slig]

pub<

oi, o\j

{fide Baker), rounded

both «. I in. li

surface

tudinal %v

in dens*

Jung, |

nttly d.

f Mr. Hidley, the Calcutta Herb. and frmting cxumplea of the plant; fro
been drawn tip. Mr. Kunstler's plant . 'y in flower j it ngrees
liowever in fvi^ry detail with the

•tro Rani

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iiat, according to MJ

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densely tomeutose Ix

x Prain. A % pge creep -8 in.

long, leaflets termina itiolulate stipellate;

oblong

1 - 15 in.

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>ly exceeding the ol

3 light greon

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<tioluies "2, in. 1

■all axillnty pani

tie-half as long

puberalov

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'1 in. long; pedicels'1 in.

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!, externally grey-puberui

t obscure. C

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orbicular, auriculaU

mly Kparselr

pabexulous externally.

itnent free. I

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brown-velvr

Kraiiithia

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'lies, 1—1*5 feet long, 2*5

individ

lonjj with 10-1*2 solidary short-peH as

are the pedancelei

tubo c;

Bth<

.ular teeth, the :

Ini^

pare whi

idnrd oibi

ftilat¹ at base of lamina, exfcen

vUrary filame

mg lmlf v,

heath •

Lith. Ov

as. Pod linear 7-13 in.

woody, uniformly soft brown

Ulu

Saiama, Kit

IV. li_ai

! Kota, Wra

I ! 800 i !)

i>l !"

A very fiou species upparently extremely common in Perak. Mr. Kunstler notes that it i- Ly found near riyor-c : IOIT groni

I 11. MittETTU MATA Pmin. A handsome lintr trc
in dian s consist

leafifi petiolulate

ela, obovaU

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B. long, stand

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Babruas. Si

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poberaloae. Pod linear 6

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>0'

- finelj yellow;

Qally,

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rfa I^rain MSS.

; Pangi

^ Blanja,

rut, &

Very closely related to

lie fiowe

also much

in havin

in floeraceuce is very different in ap

ce owing to its beioq smaller and m.

VZ. Mill

fUE't.ORA Pr:uii.

gregarious shrnb 6-+

.rdly -o in. in dial

lenticelled bark,

I tuft of lea

nodular flower-1

[eciiona hi tin

cars aⁱul(

stem, i/e

i is ttuv

lie petfolules and the setae

embranous glabi n both

. . . i]

in. ao

al ai

upper pairs 0 iu. long 2 in. wide.

Calyx -2 in., glabrescent.

0^

(only wi I specimens seen) apparently pink, standard

rx(

auricled. Pod so!

■wide, narrowed towards b

!y recurved, rigidly

s carl

, externally grey

silky^tomt

seeds 2.

Kraunhia ca

rain N

P 'jarut, Kwtstler 2555 !

A very distinct species with leaves ranch like those of tho iFrican 3

>k. E., hut with few

Cl nerves, ft d

EmitB (and appi

ten) in tin? nxita of old

i rd ;ilonij the stem.

The standard seems to be aaricled, but whether

thej are moudeiphona or diadelphoua cannot yet be said.

27. PONGAMIA Vent.

A tree. Leaves odd-pinni

»site, ex-st

racemed. Calyx campanalate, nearly trunc

Oorotla m-

iky; keel

at their tij

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ma capiti.

somewhat

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'uros. A singlt

ene Eshmda i-

md Wl

Polynesia.

im. t. 28. A

feet high, with sp g glab<

jn

wood pale-yellow when cut, darkening on exposure

t-l/an Penins

Leaves 8-10 in. long, pale-green, leaflets usually 5-7,
3ly ' oblong or ovai ly ovate-lanceolate-, acute, base
deltoid; 3-7 in. long, 1-3*5 in. wide, subcoriaceous,
htly pal iua on the nervea
lateral nerves ab inent beneath as
.]; i 5 in. ules '25 in. loi
axillaa ames 4-6 in. long witli
peduncles
illy simple; nc 3 tui ng2-4i d filiform
nd pedit nkms, pedici! in.
'ate towards apes. *Calyx vri*

y on th

les 2, i-arely 1. i rigid woody gls

iii: ce, marbled \.

ies radiating irregularly from the hilura,
in. wido.

a usually 5, occasionally 7, oblong or
nvate

ide, quite glabrous beneath ; racemes always solitary simple,
in, 1 -acteoles only sob-opposed and fed

middle. *Pongamia glabra* Vent.: DC. Prodr. I

& A. Prodr. 2G2 ; Wig] ; Bedd.]•

. 177; i i, -i Ind. Bat. I, 147; Bak. in Flor. Brit.

Ind.

gamia >r. Sysfc. Verzeichn. '■'> ; M

, 147. *F* ,iitis Kurz, Journ. As. Son. 1!

128. *Bobinia miiis* Linn. Sp. Pl. ed. IT, 1044. *pa*

icyc. Meth. I] oxcl. syn. *Coju galedupa Tl(im>h.)* ;

Dstfbergia arborea Will-

'..— Etfieede Hort. Malal> .

>>f every ti

anr? argina of all M mpa.—DISTR LB. ; of the

often plan ind distriel

" 7-9, very rarely 5, laDceolato 1—1:?:,

|n<

ilous on the midrib and main v sneath'

na] ly 2 riJ and sometimes spai

long with tlie br; a opposed aud situated ntoso

theca; ules sometimes iitary. / >,ia xerot

no *Malapariua* Idi q. Ww. Ind. Bat. !

[d., hardly *arttts* Rumphins.

Ridley U62 KEDAH : *Kum* 740! PEBAK ;

■> ! MAI.
Jara; Sumai

i-39! DISTBIB.
Co,

erally as *Pa* *ra* is the well-known littoral specie s

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hontlrnlia it ia
sake of the oil ob:

ito each other by all 1; ,..

(a) a form wil i afltsts and flowers (the origii
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(fi) a form wi y large L

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Lamarc^l rie ^eP'
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llay name *Mulapari*. "■ I dei
abandoned the nan>.

n from Adanacu's name *I'ngnv*; Th t«a1
SOS, and m haa become :

uch anterior to *Oale&upa*.

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Horb. Cnlcut;

But it oust be : . uphius"

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h nodes neither "amid nor prodi;

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■ D the BeeJs; coroilii over \ in. ,, 1. V.<■

nnih sRtures, noi etweeD the

7 in. long :—

Bads and ll ;at,inctly pedicelled, bractooles sliorter than buds

2. D. Walli'

Buds and flowers su'iecsBUe, bracteoles ercieoding ■ .da

tora.

■ try stamen united with the others at least in

■ ube; flowe led on tumid nodes that

"odnced into

long np —

narrow, pointed it both ends, sevoral-semi

Clti

flowers in ... D.

owf

k Trees, leaflets 25-39 small, rounded ; flow

a shorter than the lea

^ saporbicular or shortly broad!j--oblong, obtnso, ris) :—

tceediug 5 in. long, eistipel-

».

. often 6-8 in

■ 7. D. elegant

sntares [unknown in D. a(p,<

i'i] (§ Dtjj^rorferris):—

Id branches of panicle densely silky; pod alky;
%tly-vetned) ... 8.

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'lea ;— ■■T
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Leave's with 4 nervesj ovules ■^Iniverspink in fu

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1. DERRIS

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Zevian.

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tg, 2-3 in.

lull in. long. *Floweri*
axillary panicles 8-16 in
*.J-1 in. theirnodea not tui
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produced in

ilks, p<.-

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Calyx w ide- cam pan u late thinl

long, wit) ipe fruk '21

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2-adelphous, tba

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Joui'n. Linn, Soi

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 ■;- panicles **8-24** in. I

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) seeds.

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Flor. Ind. Bat. Sir

iq. Flot. *lud.* Bat, [, 51. *ffillettia thyrsijlora k*
NICOUABS; Kamorta, *Ktrrz!* KEDAH; Yau, *lit*
Curtis

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There (vre at 0a' ihentio examples, named by Dr. Miq

pefiorv .' and of *Derria pi/rrothyrsa* Miq.; tl

aefl

the pf>me species, from Java and Snmatra res;

witlB

specimens from the Malay ^euinsi

intion i-

nds on whether the species is growing in apt-

or in dencic forest.

JM

§ 2. BSACHI M. Tr

leafli ium fasciculate on tumid]

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v, pointed at bo'u

only along the uj|

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4. DERKIS SI

Linn. Soc. IV

A very Wge <

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Leaves 4-6 in. long, d\

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tt apex, c

k 75 in. wido,p

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it, dull **beneath as** *n.* long,
 oled & *J* **ery long- cop**
 tlmnid nod *inv** P nto BUOI. **in** length,
 with 2.1 m

B node **expanding Si** ■hes each I lie
 ... **the** : **var ii :els**
 5. *Calyx* finely I
olta white to calyx, tha
pale-rose **mpa-**
 IOUS.

Stamens I

alea < r D i

both ends. wly wii

L-4 seeded, ni
 agai I Flor. Bi
I, t. 192; DC, Prod ,417; Vv 585\$:
Wight, -27f>
 >sis DC. Prodi*. II, 417. *J'i .igamia coria* ■ah. in
 .. £J-('itm *scandens* Bt
 lor. **Ind. B;** **J8.** *Brachypterwub t*
 JL I. Jn Miq. id. **Bat.** T, 138.
m everyv. plentiful. PE>
Bi'dfcty 2639! **DJ** n Asia
eneral.

■ lias described the pod as fjlabrons j it never become.",'
 ripe. Though tho uame *Dcr*, 'lens in most generally used Tor tin's
 ^it has to be pointed ont that, ao soon as "*Deguelia ia* recognised to bo **ti**
te, this will have to bo known as J;
t-5) because *Degucliu sen ml ens in* the original **nfl**
 Aiuericau plant at known as JJcrrn *guianensie* Bth. Tlio g<
 shed andcr the name ZA ofore ic waa published und'
Bak. in **Flor. Brit. J A**
feet high j b **int.** I, ^h,~S

fly **emargmai**
mi on both sii
 :Ier beneath, latent! **rachis it. Flowers in**
 nerve- long very rarely **ex-awded**
 long and p J-*15 tumid nodes cel-> '1 in. long .

J ril

I ading **2-bracteolate auder i|m c**
08 iu. i ly **n. long, densely**
toothu, :eth del;

U. K

o up. ;le"vha* 5 in. lo
cord- ■ s monade
I 1 narrowed to

: ,t in. I* . . inge
la) PiiP-AK; very c<>
5805! I¹/

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Nor¹ a of specimens
orific ■.! as ■• actly LOc
8fi n;i, n-oua pod \vi |
the ! dea as ' glabrou
propose ■

:IB in I

Robust climb.

flowers rather faacicnhi
pani hont
pod thin, broadly oblong OJ. suboi'bioulai winged only

6. D

A widely s^
ncliui

Bhrubhy '

Leaves 5 ^, leafl-

casually solitary, the terminal exceeding the othei
ovate, acuminate or caudate-acumina long, 1"5-2'5
in. wide, polished
lateral m 7-8 p:
■

within margin, 1
channelled.^1 he potiolul - in.
long

(In *vers in rathei¹ sin*
liuod< ort stalks i
veral su!

a proper aa 1« base and
below the calyx. C lo^g.
shortly ciliate suotrnnca

delicate ro ig, staiUuml •
delphoas. Ovary lix) ijerulo;
obliqr mnded-obloiig 1-
palestra, vheu ripe, flat, d
■ ellowish-bj'O'wiL, mticli c itapi
i ■ ■ UB. Soc

Pier.,

P

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a Flor

Willd. Sp: Pl. III, 1183

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ttUginos d
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ijaya O¹

-a Polyne."

Flar. Ind. Ba

refer liere Dilberg.,

labTe for D.

hioh Dem'-

Iso, racemes longer than

res, which those of

ver are."

. I, 252. A 1

.,u_

leaflets 5 (very rare

■chlets.

or 7) tho

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mewhat n

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7-pubei

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::ont)i_

Pfoteen, in solitary or

emos 2-3 in. loner, al

rtate I

not produced into stalks, eadh bearing one or sev,

and pediceli tensely vill tth spread-

-escence, the pedicels filiform •; bag with

ooles a lit the calyx. Galyx IS in. long

gin sabtruncate. CoroUa pore-whii , piul'

in'IGI

orbicnlar-oblong tapering at base eel

H

vnles _

'h

7 2'5 in.) long, Ijn. wide, thin, flj

fine spa I

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fce to lanceolab

5 in'lol

Benth

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Ind IT

Pon- min'-R % 7

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Wall. C 7I

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ILACOA ; Mmrtgay
0141 .^83! 73

-'cortcc/-

idon i. ' i-nitfl
very ttfi

II.-'■ fioweve¹ '8. ruth'
'■Urthftr differ in o-le
two in tlmt H-« i
rkedly from those of D. ■-,.
!nf* pecnliar¹ ■ ' IK eleganr ' ii Tli
bui i_m - "fist in both T«neties.

§4. Di Robu- : nbors with large leaflets,
Bowej

mediin »riii
stamens mouai ii ajbaseu[^] im
,. ti both sutui
8. DKBIUS A v Prain. ' ■■■'<■■■■ with fulv.
■pubesc ancbes. *Leat*
(rarely 5) C or elliptic shortly cnspid
•led, 5-G in. ■ in. wide, glo on both surface
lerves 8-¹ preading faint not vi
.JS, secondary ing fine, r ,2 in. 1
Le pefciolules *Mower* ample
;es rather numerovi

tumid o • '■ ■'
uneqn. slnsfcered at I
and branches p
. long ex(, bracteate ai
and 2 beolata under the calyx. *Oalya* 12 in,
long, densely pilky, green, mbenfciri :
idard orbicular, ludlow-co lonadel-
phons. *Ovary* finejy pubescent; OTDICS 4, *Pod* finely tawny-silky,
thin,

Ketrap-shaped, 3-4 iu. long, 1 in. wide, winded Hi
suture JH'12 i Is 1-3. / Prain
in

»oc. Bong, LX, 2, 311 not oi
ANDAMANS ; from Coco Group southward amon -
•BARS; comm
"liis

nnuata, \ .-referred ii l^{ttt} Herbarian;
of specjm
'iUt IK- ; t)ias longer
bhat species, ar i < ilky p
0. f ii. PL Jin A climber with p

brown lenticular glabrous branchi
loaflets 5 sul naly chi

ate-acu

. iuded, 2

t5_S in branches long or h lary
[into stall Toneo
under I z eainpa ra-r
"12

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;) in havi ■sext

Tvea. i

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iroatly elliptic

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-Wong,

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petiol

alD' ing main-1 nodes ort
ilks bearing usually 3 ! filiform ped
■o pedicels -hmcteolut

Co) ,) or p'
illose. Si monadelphous.
I thin glabrous l\ in. long, 1-1 • 5 in. wide,
upper wing *25 in. wide, lower narre

us green beneath
Benth. Journ. (jinn. LV, Supj Brit. In
mgamia
L381!

i-VCS CO l,\.
ana Buk. in Flor. Brit. Ind. II, 2
MALACCA; Deny! 6402!

[t seGin3 impossible, no large soit
Malacca by IT
ies, M two lo ies for his pJatit,
§ 5. P .PJS. J rs la
on ns^ filly pt'Ou sillary pai
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wing(J pper sutui j the
..inn. Soe, IV, SnppL i
ig shrub loug with black warfced

ity-pubeece Leaves 9-15 in. lo;
■ flets 1' tst nil . ■ • ge sul"
obl< D -oblong cnspi(ag, 1-
pubt • i : ;tst put-
rasty-pubefct
tescent, later;
Lrih pions]

i one or n selarra

pedicels dense! - y-tomcutose the pedicels Blender -25 in. long,
teolate at their base ad 2-1)rat;teolate "undi.-. -alyx.

Calyx

. densely rusty-p
mcate. C' -1 pure with pink

(Wray),

"h rotrn o ■-.
Sta.

oblong to la along u in. lone;, '75 in. wide,
ill

Raxb. 1 L

Cat. 5Syy. /

Flor. Ind. Bat. 1, 148. Hi n

part (as to the AK; *Scori*

Hkf >rthwards throu^ iirough

h : Sumatra to Java.

other species |>y its standard gil r and the leaves of both are sti
let<in

y 31 r. ti out ham to r>y „ho samo as /'.

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:lcrb, Cal

Prain. A i: Bleu

long with glabrous vss 9-15 in. long, bri^Tit-g;reei

!,& (v. !, abeqlnal, subcoriaceous, elliptic, base

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in. loif, bi

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oblong

rous, 1-4-seeded, 2-3 in. long.

de, winged along the upper suture, some-

lia VAK, m Benth. Journ. Linn.

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Leaves 5-foliolate :— >!l<a thickly CO

brown

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in. long, petiole

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branch'

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t tl

-scent, 5 in. **long 1**

in. wide

of **pan**

fcy-pubt

at Tnlloh B;i

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densely velvi -ibly reiioula:

L'A **TullohSera,** :2!

illu, BO fur as I

HIOUSII'

1. Wbon **folcler** material of Lhe^o

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jvate-lanccuUtc ,1

I"!"* *^~

long, rounded ... m.
... wide, apex acute,



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midrib beneath, mji
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Pod thin flat den

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■4 in. L

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ry dark brown.

■i.i sent by Mr Kimatler >

is a leaf

leaves are 3-foliolatc.

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■ thick;

TOT are very different.

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Q/J rusty-pahesci 5 ellip

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Praiu.

A climber

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is pale-green glabrous on

dy cha

•Rfciole spa

; ibescent 2-'o in. k,ug, petiolul;

rasty-p'ubes-

cem

. long, margi

;lie^.

Flowers in rather strict tormina 1

sparsel.

-IB in. **long**, 4-5 **in.** across, **rachia** and bran
jedieels **very** short, and subulate bracts *08 in.

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in. i

I tli cm

midril
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Corolla

dark-seen.

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the tropics.

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orliicQlar, clawa of j-etnls as long as
Stamens in two I

ous:—
thin an-
fur
jraneoua -with the leaves; climbing
3 of petals Bhorter than calyx
tube ;—
owera '25 in. long in pani-
coryinbs (leaflets 1
:t-hj 2. 2). *confriiflora*,

ibose cymes:—
in. long bs mostly termi
ov:i >tia ... 3. D. ,!
Lea oug; corymb
and terminal: ovary glabrous

calyx-tube :—
Leaflets rather nunler0QS) mombrauoQS, not cus-latec—
Leaflets 13-17. 1*5-2 in. long, oblong obtuse or
rge spreading j calyx*
and densely pubescent,..
'G-'75 in. long, rhomboid retx
maa small congostodj calyx and leaves thinly
•scent 6. D. '
bite large (" - firm,
... 7. D. j
res ; a small tree, (claws of

Tier
oung (§ ,i):—
:thvaya L-aeodf w

o^ eg 9. i
Mets n~
lane silvers few in short spikes ... 10. D,
Po tnoofchj often 2-seeded ;—
Upper suture recur ina ;
acuminate, large ^*-6 in. long), prominently
when yoang densely pubescent beneath,
kly coriaceous 11. C Zwrt;
Upper suture convex lik<' lower -wlieti i-ipe, pod
glabrona; leaflets glabrous obtuse slightly emar-
r,e, smaller (2-3'5 in. long), not prominently
veined beneath, thinly coriaceous ,, ,, 12, X).
T .T I

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leaflets
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• in Plor. Brit. Ind. IT, 2

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China.

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in rchHlity em el has throe perciatont bractcoleg, ono at 'ta htm-

apex.

§ 2.

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Stamens raon:i as.

2. D

tenth. PI. Jangh 2i

climber with

at branchts. i-

iHeta firm 11-15, oblong- obtuso or retuse, greei

glai

sely pi: is beneath, 1—1*6 i

in. long, glabrous as at

Ion

■ small in ample termiual aud axillary panicles, 3

1

y or subcapitately c

nolitar

.so of pod

ovate-lanci

Ltttber nv

third as long a

olafce hall

G. King—*l*^r is for a

as tube. *Gorolh.* in. long, c¹. ihorfc. is 9
adelphous. *Pod thin* glabrous, ti. long *75-1 in. wide,]
■ H: sry short. Benth. Journ. Linn. Soc. IV,
Suppl. 41 j
ind. 11

ANDA- imon. Di- Eastern Himalaya,
Assam,
Cliittagong, 1
distinct speoesj t) a pod giver in the *Flora of Bi*
,n from another species.

DALI OHNfi Benth
ubor 15-30 feet long, with twisted and
thickened *h* spiral itooks ',
olalong or elliptic, ron.

1 glabrous ab LIOUS
buneath, '6-1"5 iolules '15 in.
long. minal and in smaller
axillar the leaves, pedmu:l
caducous: bracteoles all p< one at i pedic
late acuminate very minute, t. alyx o ituse embi
ing »wer third oi /.L-'08 in. campanulate, tee*
shor me-third as long as the *low* iialf

as
long as tube. *Corolla* white, 15 in. 1 aig, claws of ;x *mem*
9 mqnadelphois. *Ovary*
pubescent. *Pod* thi u Qgh. 254. A
-nembvani labrous, 2'5—3 in. shrubby ranches, 1
long-, 1—1*3 in. wide, 1-seeded, '■■■■ in. lol! lets
slightly cune;
tinctly stalked. mtly 4
in.

puborulous
.. i. and B
d pedii :ntj bracts minute
let, *Ch* VAR. *hjpica*;
.// Di leaflets usually

7-9, oblong, glabrous or only faintly
,*'uhni* :irn. Linn. Sue.
IV,
Lor. li Bak. in Flor. Brit. Ind.
II,

leaflets 11-15 elliptic, beneath more

lernlous especially on midrib.

.:G; Ayer Btam, *Curtis* 1
ingay 549! SIVI

. Brjong, *8cm*

Borneo.

h.ese two plant- in no way as r^ ieavwj howwe- differ
cou? nee and it may ultimai second v
of which f: -vn—should be .iiOwn
The original sp a which Mr. Bonthi
< paci>s wen ted by ,y Griflith j
writer has not aeen either. Mr. Eeniham describes the ovai

liaa i in more numerous losa amplo cynn
vors and BinaHer leafietn. In

numerous and tho pod

bis vphen to, suggested tfc

•■ati ind:
•'■ for

mber 6

Ligb, .

trunca

a. irido; rtvchis 1-2
as are the petiolnles •ji j. Flo ind,

might prove in enu
ary panicui across, as long

nclc
"5-7 Is pub

b^pr one at base oi

yx '1 in. camp
f, except the low*
i whit'

ws of
except along ant' ,ia
membrar! brous, 25 in. long, 1 in. tife-
: nctly B'

G«r/i< << 201! 1071 !

only a variety imcli smaller leafl-aa cymes of
rather larger but e ill very minute flowers.

ii

HA VELOTINA Benin. PI. Jnugh. 255. A iely
pubescent (13-1

i i n. l

ties 'I in. I

• 10

and /><■

bracte wly lai
pubctj' pair at base of call's baif as long

7.] G. King'—*Materials for a Flora of the Malayan Petti*

as calyx-tube. Calyx '15 in. long-, pubescent, campanul- Hh
 acute upper shorter ti aceolate lower. Corolla w ak, "25
 lel=

Pod thin obtuse brownish, short-stalked, 1-seeded, 2--: ng,

Ide.

YAK , - leaves lv rachis, linear-lanceol ipnles,
 peduncles and bracts rnsty-velvety, i tenth. Joura.
 3uppl- 43 ; Bak. in Flor. Brit. Ind. II, 233. *D. stipulate*

silons ; -cent beneath
 j, ovate-acu s very darkly rnsty-

612 i

raiB.

Tenas-

Malay Archipelago.

3 only pods of -cutta are still unripened; the description
 the fruit, is therefore taken from Mr. Baker's account: to Mr. Benthai

wLich, aa n note made in Herb. Kew indicates,
 treated as a "less hairy TBI lie-\writer has seen no fruit.

Not

improbably it, may md ultimately necessary to treat it as a :t species to
 be known as *D. yi*.

6. *D. ARIXDIFOLIA* Roxb. Hoi't. Ben A shrubby
 climber, 15—10 feet high v ely pubescent young
 branches.

"es 5-6 in. long¹, leaflets 2 tily pubescent on both rfi
 rather • crowded, trapezoid-oblong, 'G-75 in. lo in.
 wide, moderately firm, caducous ; rachis densely p LIOTLB 4*5—5*5
 in.

ulcs very sho ipules lanceolate densely puberulous '2 in.

■ with the leaves, in congested - sea ^nicies

branch* in. long, "5-1 i * wide, pedun < anches

beruloi aer large ovai oteoles

3 long as cah

us !• ather large ovate ol , -th

•/ ombraci:- 'JX campanulate, glabresci

groediah-yellow, 15 in. long, teeth ishori *inJla*

in. long, claws of pe^la aa long alyx-tube.

Stamen,

sonade!; ,jes 2-3. po,

g brigi

Lte; 1-3-Beeded; not vein kicker!, ;ue set

wide. Roxb Ind. III, 233 part

only; •
ht, Icones, (including fig. of fruit) ; Wall Ca: i; Beutb.
in Jour. Linn. Soc. IV, Suppl. 44; Mi t. 131; l>
iu Flor. Brit. Ind. II, 234. *IK rufa* Grah. in Wall.
Cat. 58

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ssk. PI

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-3"5 in.

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overlooking tl

slender subulal

noeperr

under the calyx. C

i; !ne description of D.

ly pubernlou^,

teeth widely 1;

. tliau it does lu D.

as indeten

in. long, petals creamy

w

ith pin!.

heir c!:

long as th>

Iphous, Ovary long-si;

[y pub

, or often 2-ovuli;d, style slender **incurved**, i

i, obtose, 3-4

Thw KHU!

ii, in Joorn.

D.

8is>-not of Koxb.

■iK; 1. .177 '

; ilukii. **Mandai** The doobt thiiL has hung over the identity
of this apacios lias at leng

cleared np through the kindness 01 V, Sringar. Both Mr. Bentham and

Baker have suggested that it may be *do* some as *i* <<0 Miq. and in reapon*:- imesfc *uv* Ur. Kin. from Calcutta, ».re undoubtedly conspecific with the Ceylon plant, might be compared *n* Miquelian types at Lei' SuHngar has not only m& necessary comparisons but has 6<mt to Cai viimples of sumo of ithcntic specimens n,nd *cetal* drawings of others. These leave no doubt whatever as to the identity

and *D. Champion* curious feature has bee; ! examination t> iringar and by the wri a Geylon fas M^r- Be ound) and in Penanp tho ovaries appear to bo always I-ovn ipore and Borneo .'-ovuled than 1-ovuled in the in Jam they are nearly always 2-ovnIod, nine ovaries having a for one ovurj with I . . ■ ■ ■ • A ■ ;.ill mort discern ■ Dr. p is that D .. is not *I*). (this no on< msidera ■ *i* is, will be surprised to learn), but that it is (what ■ was hardly to be expected) Dr. Miquel's own *D. pseud* gar, in confirmation of his disf-oveiy, has sent to Calcutta an authentic Bp' I- in Herb. Leiden (not of Roth.). This (.hem explains the "unfortunate selection" of name that Mr. Bentham ver; comments upon, Dr 8D ring Mr. Bontham's feel law of this extraordinary confn

o drop MiqtBl's name altogether; and the writer would gladly bavo adopted the e itinucd to nae Dr. Thwaitea' *a* *Oho* had the dictates *t*-. .u-sonseheen of any weight in modern nomenclature. Bat unfortunatel no doubt that the plant named *D. wwuffo* . is the same as that named *D.* Tbwaites; it c: > far as it goes, the description of *I*>. J'OO applies to tha

species *j* and it is clear i nameJ' -*sissoo* has i priority over natncD. *Oh* This being so, Miqt; oe may joat as ■ ;iven pr dence now, seeing that one or other of tho bibliographers who pose as botaniats would make the alter i soon as this note appears, in spiiio of the fact that Miquol did nob recognise bis own species whon he saw it,

IBRGIA Hi is Prain. A small tree with blackish ilous thiekish hlets, without leaves at time of in short, clustered racemes, J iiiging £<!*<■ ?scent small bracts in axils of old I in, long, rasty- lease of pedicels 1 uncles ; brae solitary

'I in. Per « pair below calyx s u,,iTMi»u very **small.** *Qalyx* carapanulate, densely **ruety-tamentpse '15 in. lo** teeth **half** as long as tube, acute. *Gorolta* -3 in. **long**, claws of petals iyx-tube. *Stamens* **9**, v&vely 10, mooadelphoug. *Ovary* with ily pu tt **stalk**; ovule solitary. *Pod* unknowvu.

■
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M
y
a
a
y
e
t
o
i
b
e

d [*Httmlmd* n. 2804J; tho only differenco between
of the two is that iu the Bornean plant, the ovary is densely woolly; in I tbe
on y is quite glabrona though its stalk is pubescent. The Bornean plant

G. King— for a *Flora of*

when trifoliate
nearly to I

which
in Bon
npl ire,

similar to those ■
car

d

al boob oblong ob;

in. wii-*FL*<

I in. 1

a small ovate

an*
third of

the <;:
le-cam]

Mir low
long-

■. *Stamens* 10 monadelphous. tbi

:ppi. 4

Ind. lia»

k. in I

mon on all the coasts of the mam

,iin / T

I! *Gurtis* 220! LAHGKAW

^oast a

irr Klit

sts of India ; Saadribuis ; Burma ; 1

Chi

purely **littoral** species. The citation

Dr. Miq*

llr

nicd tho si

a to quote this name

is>

,us above.

7/10/10

ortpn¹

two -■

wcr foi

of calyx-tubu.

QQ

.uupanulate, ext.

yan P*

•use. •

LOmons

flat, glabi a.

long, *7

: Krian

A vorv

ae of

11 •

Prain.

An extensive

ber 40-150

tern 3-0

and pubescent y

7-9, t^l.

ral ones B lib op posed, tiavk-

tjuve, dark-grey when yonnttr densely pnbe

sely pi:

y coriaceous, elliptic-ar

ith. vc!

Lnenfc midrib and 8-9 pah

ading lateral v\

th, sei

^nation al

• l"ne

pubescent attimatelj

axillary pa)

-6 in. long with sprer

brae

iles deciduous, pedicelf

eth lanceol

the upper, the lowest

e. Corolla dark-bin

in. long, ataudarr

.aonadelpliuu^.

I

!y pubi

. much

jhout, l-'2-seoded, 1 o-2-

;, 9 in. wi

in. thi

- brown to almost

tines;>!

eB.

Pl.;I;AI

7!

very fino ^

to D.

in being a

climber

era whereas that species hai

Pods. Tlio pod i

epfonrp i

^ntnres

shows a " grey

nro.

yim

■ pod ci

• bwo sc1

i rarely

wni

p does :

way, and tlicjv is then no

!A PABVIFLOII.Y Roxb. Horfc. Beng. 98. A

stronp-clim-

:>0-80f

ith glabro

as, Li

aceolate with obtuse slightly emarginr

tips, light-j

i sai-fac lyreticulti

ned bcneatl, a-3-5

■A* 75-1*5 in. wide; rachis 2-3 in. and petiolules '15 i;

. glab-

rous. Flowers very sruaJl in axillary and terminal panic:

;ed

dichotomous cymes with puberulous brauolies ; bracts roi

;te

leciduoas ; braeteoles at base of very short ipe

] pcrsistu

the

■ conn:-

8ui all as I *Cnrnli*
r *Sin* 10, monadelphous.
seed in. wide,
when rip
between the seeds. 25; Mil
BeUth. Jotim. Linn. Soc. IV, Sut
▶ i Journ. Lin;
129- D. IncL Bat.
ouvn.

M-

I

y hafl noted :—" This agrees

wi
" raons of *I* ib." This **species**, howr
s moreover much *I* ie remain fulcato
along the npper trot

t>iB i<< I hardly admits of a doubt. Mr. B
■ *a* may be the same a:

ed its in r and, ntill mo
leaflets mn! dentificatioii acoontii
uhc nis apociea n

1U(>a that B ale' the oh
tia hitherto foniid **doe**

seetiis impeTHtivo to uge Uoxbargli's name for the spec:
tsting qnoation regarding thw plant is, however,
itivity wit! iinH' L< 17. t, 13

:>>co of a p:

n n. oCfiS) on v,-hr- mn has

¹¹ Kayoe lakka" and *unOth* **Hort.B*>-
iyoe litkk

markaLle that our other

Sumatr.¹

H. ' . 321C),

ful as Mr. 11 id ley. Fr. Scortec1

Wr<i iiavo sent ILM tin ipeoimans of

Dr. KiintZL-'a refusal (/,

u proposed by Teysmann *B*

As K

pe
tion
jy B

J though i!>o gti.

speciep
oa that a)

IS wt_ys iL
irdly suffices

*en

for Ueiitifica.
The calyx t

he **figure quite** accords frith the calyx

' our plant and the .no quite agrees. But the uppermost branchlets
ore

and twisted like those of *D.* *me* low
I tta passing into spines like those "o species that,
to the same section 0 ; are r. very different from
D.

None nf our very numeri -3 or ftp
■a that accompany the specimens s reft

-.m.

ibariom of the Peiiang Forest Department,
men from La mot, in the Diulin
D Laha" i« attached along with the furt
*B." Thi men, fr< remote
■toe to tho

' p. Taysn.

■1 collectors that has ev e
re-opens the wh ts one
worthy in bis tin

■ >*i Laccu* nf: lenpt. of the
cenori i swms q * tain th

whether hi tt tr> represent it or has been made
rs of the others aa well, can only be know

ill four are completely u >*d*

31.. PTEROCABPHS Linn,

Leaves \.ith alternate coriaceous »t essfcipellate leaflets,
8 yellowish, in is paucicled racem-s; bracts andbi;
■, caducous; pedicels distinctly articulated at the *apex*. *C*<
turbinate, carved before, expansion, the teeth short. *I'*
with long claws ; standard and wiogs crisped ; \eel obtuse, the pe
I'coly or not at all coherr ^*taminal* sheath slit both aboi
or above only; the app nearly or quite free;
ra v-i' ovule*; incurv
orbicular, mrely ot

• xv it.

1. P,

pedt ; i7 raised vcine beneath,
jtrdly rai d beyo to the calyx, beak of pod
se 2. *P. dalbergit.*

1. PTKROCAKPU ITS Witld. Sp. Pi. I L L 904. A

t high with wide!

-10 ni. long, leaflets •

the ial rathei- larger than the era, the :iea mo!
had no spines, only
reg oust ha

, all ovate with rounded apex, rarely deltoid but rarely

n both surfaces, dark-gret;
 -iiety undnlat "rmly I
 mcoolate '5 in
 as : ta. *Flowers* iu copious terra: I axillary panicle
 rat-t -;els -3 in.
 2 \\- loles "1 in. onjuf as bud, n
 Oo in. Ion : be two uppernioi!
 hers. *Corolla* yellow, *0 in.
 lar, with stalk *3 in. long, 175-2'25 in. in dia , ani
 Bp- ' >uljesee Iky hairs, rather distinct]
 1 seed. tally a cousid-
 (65

Linn.
 Kq. '■ '■ ■ ; Bak. in Flor. Bri
 only). *P.*)• *P*
 of Roxb. *P. ZolUi*. FLOP. Ind. Bat, i
 mph. !:

I
 to Sam, 'i :h the nont species from \ whn.« different i
 A fine Etoxb. i g.
 i 53. A
 ladincr
 8-)1 ' the term
 ratl. vate-U rithdel round-
 Etbrona on both su
 :ns eut: <lly undul;
 rais lanceo
 in. long glabrous as is th
 It, ■ chis and | isb witr .
 .■ j thai . as Ion I in. Ion

itlydowi
 lor. Ii - x_ IW!1

Ball. Cat. 5843 (excluding *G* and, according to W. & A. *P. indicus* Benth. in Journ. Linn. Soc. IV, Sup pi. 77, in j.

Pl. Sylvat ; Bak. in Flor. Brit. Ind. II, not of

Annuals; common.

This tree is usually treated as the preceding species, but in the fashion to suit the 'botanical' character to mistake them when having to realize that, even in the herbarium, the

Annual herb. Leaves abruptly few; stipitate. Inflorescence terminal; pedicels slender. Petals on calyx linear. Tube of corolla grooved on vexillum. Filaments short. Filaments

herb

Pod long-stalked

Pod long-stalked, flattened, reticulate, indehiscent. Species 7 in Brazil, 1 in the

741- An annual diffuse herb, stems

Stems annual, angled 6-20 in, often rather branched near base and with long silky spreading hairs. Leaves opposite, ovate-oblong, 1-5 in. long, 6-10 in. wide, green and brown above, pale and sparsely dotted with white beneath; lower leaves free.

Leaves opposite, ovate-oblong, 1-5 in. long, 6-10 in. wide, green and brown above, pale and sparsely dotted with white beneath; lower leaves free.

Pod long-stalked, flattened, reticulate, indehiscent. Species 7 in Brazil, 1 in the

DO. Prodr. II, 474; Miq. Fl. Ind. n. 8.

cultivated, Anderson! PBH

The "Gromni-Nur" is found in India and Malaya, probably originating

nally introduced into the old world from Br-

33. Z ael.

Annaals, wi
in L-2 upfjas

tinafce coriaceous bracts and dotto
U> hix raceiit niinut

in g—Mu' ■ Fiord

teeth short, co west shorter than tin
muci taudfrd broad; keel in* acute
del] dimorj Lie, ma
tilifi I, stigma minute capitate. Pod of sevei
ned iinely muricatod 1-seeded indehiscent joints. Species
10,)ut two American.

ZOB i'HYLLA Pers. Synops. II, A diffuse annual with
reaching 11-15 in. in le broua 01
paberulous. Lee i. loner. : ellec
one terminal pair, oblong or lanceolate (la
talayrm specimens 1, S in. long, "12 in.
ipnleslanr ii a long s]
in. long; bracts alt*o d

ng, pi! iy exserted.
ilarly with 1

trit. I nd. II. 147 th in Rees Cyclop, n,
Wall. •

m. LinnKa X . 1.
Z.

Span* [jinn. Sp. PI.
7; Roxb. Flc

'ORE; Changi, Ji B. Cosmopolitai
fcropi

E tHIA A

Herbs or undersbrabs. Leaflets many small sensitive, oppo-ite.
h

iis ending in a bristle ; stipule- >se with large auriclt
mceraose or axillary. Calyx deeply 2-lipped,

Corolla exserl ndard orbicular; keel incurved obtuse
in two bundles of 5 each ; anthers uniform. Ovary li;

••vert, filiform, stigma minute capitate. Pod of inai
ill .I.ittened or turgid joints, folded together in*\ . rij
ughout tropics of the Eastavn Ht

SM A Ait. Hort. Kew. ed. L
II]

umuiai -slender glabrous much branched
only '12 in. thic I in. la
with long whitish bristles; leaflets 3-10 pai

ob* i the all might ^ e m
•i. Racemes simple ! << peat
!s Blend Bnt

>mall ovate-acut. ions, '
) ; acute, with a few scattered sabadpressed p-

"T³
ow

es. *Gorolla* yellow, glabro> in. long. *Pod* 4-6-jointed ; faces
 tsely p e. DC •; Hoxb. Hort. Beng, 56; Flor.
 b. Paradi*. fc. 92; Miq. Flor. Tnd. Bat. 1, 272; Bait.
 in. Sell imp. PL Abyss"

AND AMAHS ; a common weed throughout the settlement at
 Port

Blair, J[^] Kamorta, IB. Africa; S.-1'J. Asia.

Not aeon from the .ijly a recent introduofcirra from India,
 From Jam conea a plant (S. *javanica* Bliq.) which differs mainly
 in having no ' "na ^e cn\r>: lay bo no more than a form of
 and African S. : all the specimens reported are, however, very unifoi

:PDM Beanv.

SI: *Lea* md persistent muric
 ^mes. -tube &ted.
 cam- The
 lower lanceolate, *Sta-* ' >road origina
 ; l
 ked. v - i n two bandit descrip
 :orm. *Ovary* Linear, lew-nvuled; stylo filiform, tion, it
 tal. *Pod* of a few indehiscenfc targid linear should
 or obi ate, tin seedless, the , naked or inu¹ be
 eak gland-tipped prikles. S] >, spread all round the noted,
 in the tropics. waa
 made

OK:. Teysm. & Binnend. Nat. Tijd. Ned. uom e,
 Ind. acimen

56- A snail tree 12-14 feet high, with smooth angular
 epidermis desquamating. *Leaves* 6 in. long, leaflets 1 in. long,
 '4 i Bj terminal and 8-9 alto mate lateral elliptic obtuse mucronate, cultiva
 glabrous, glaucesoenfc beneath is ^ubtrigonous, glabrona, thickened ted at
 at I .ulea subalate erect. T{ Mase, on. short peduncles Baiton
 '12 in. individual flowei iu. lontr, 2-braci zorg.
 late above the middle. . caniptuiulate, unequally

i muchexscrt-
 i tate, g 'letuae. *Ovary*
 in. ¹ *Pod* 6-7-j oi nted, u 1: long-
 lone c less parallel rid toming i i-nally
 -1 in. loir.

i ■ . common in thickets near Port Blai?
 || laky Archipelago.

Thi 'n general habit of the comi. ., . >nnoide&, of which it
 perhaps only a cultivated form; its pods, however, are mnch longer and are never



36. iiBsOHTNOMENE Linn. i»

Ireci herbs Oi' undershrubs. *Leaves* .v-ith very close

j—

fan Per.

No,

ir Ioa0'

2-lipp.

n*oua

tandard orbicular; keel noi

in two bundles of

iiform,

talked, linear

y-ovuleci ; style filifor

t term.

I linear, with a stalk 1

, and oed 1-seeded

bout

everywhere in the tropics

Sterna woody, slender, much -

d ; calyx ami corolla small

oos; poda narrow, srao-

„„ j. ^

tie-bra I

-alyx and large corolla

hiapid j pods broad,

1. , Linn.

kiinual •

aii*s, liEiear, ■ 1-nerv

in. \w ipales I

nibranoas, deciduous

auricle.

Racemes axillary L-4-

fid.; peduncles L in. an

iu. t usual

I; bracteoles

,ilafce K^{EU};

tie two •

Luged \.

or 0!

Lnr ema

ali

ved, upper autui i, lowei

smooth or . papillose join ts 12--IS in. broad.

. Flor. Ind.

p. PL ed

321. .

Linn.

Sp. Pl. III, 1164; D

IUUI. 71

Ben

lor. In

. Red

Tali Roxb. Iiort. Bui.

(r.Ind. HI

As

Port Mouat, pleatif ui.

PROT. Wfi]

;y ;

Rid

A\y.

2.

! Linn. Sp. Pl. ~l?>.

A tall erect

swauip-

ehrub

! feet in height, stems 3 in. or more iu ally Enll of soft white pith

■ no. /. 3-6 ID

10-50 o]

Li

ani

!

axillary corymbos-

peduncles

1 i

uela -4 in.

spreading bristles; bracte*.

st

oidnons.

4 in., h

hairy

ully

5-toothed,

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Co
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*Pod 2-2*5 in. long, "3 m. across, ofw> indented ou*

bot-b fbe ecliinulate sutures, always along the lower, between the 4-8
ing joints which are psnally ochiimlate on the face, r: mootli.
Prodr. 11,320; Miq. Flor. Ind. But. I, 275; Bak. in Flor. E
. II, 152. ■\$■ *indic*< SG67 not of Linn. *M.*

trachyloha

Klor. Ind. Bafc, I, 2'

■' VAI; . *aspera* Hassk. Pl. JW. Rar.
Beng. 57 ; Flor. Ind. Ill, 365.

Griffith! Dis-miB. Tro(oai S and Tropical Aiti

tlc: . wall-knowu "Sola" plant, the pith of wh ' in making
men's floats ».nd othp! lightaess is desirable.

Doabt,) a^ introdaced plant in Ufa)

PHYLACU.M Bsn.iL

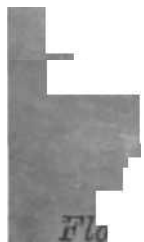
Climbing herbs. *J* J-folioIate ; stipules persis^ncf small linear
, leaflets stipollute. *Flowers* in axillary racemes shortly
, 2-bracteolato near the calyx, completely enveloped, as uli
mately is the legume, iu a large boat-shaped membranous accrescent
bra i tubular, sub-2-labiato, 4-toothed. *Standard* ovatt-
retuse base 2-auriculate ; wings oblong, long-spurred, spurs incurved
clasped by the auricles of the standard; fo aight obtuse shortly
spurred. *Siamens* diadelphous, posriior filament aclnate to
base of standard-claw. *Ovary* short-stalked, its base surrounded by
a shallow

I disc; ovule solitary; style itiflexed. *Pod* short- I
ovate-rotund,
acutt). Species 2, the present and another which is Indo-Chinese.
[YLACiUM BRAGTEOBUSI Bonn, Pl. Jav Rar. 159 fc. 33. A sic
cliaber 20-30 fee rts and leaves beneath sparingly
ate. i. ly 3-foliolate ; leaflets ovate-oblong
rounded apex obtuse, thinly herbaceous, green on both surfaces, glabrou?
above, sparingly hirsute beneath, 2-3 in. long, 1'5 in. wide;
pet i
sent 1*5 in. stipules and Btipels linear, persistent. *L'*<
. - 12—10 together, 1*6-2 in. long, shorter than the leaves,
flowers
few. *Brw-Up*:i. ii, 1-1*5 in. long, externally glabrous,
inghirsnte -15 in. lo: tally sparii
lip om ;ite, lower 3-lobed, lobes lanceolate the central rathei
larger, none *VVⁱⁿS-* *Corolla* Z in. long, white with a
pin!
. , glabrous. *Pod* "25 in. long, compressed, sparing hirsute,
be. Benth. Pl. Jtragh. I, 231 Flor. Ind. Bat. I
Pi- unong Pondo, in open jungle, 200-300 feet
elev.,

Kunslkr 8367 ! BISTEIB. Sumatra and Java to the Philippines.

38. URARIA Desv.

Suffruticose perennials. *Leaves* stipellate, with 1 to 9 leaflets very numerous, minute, racemose, calyx-tube very short; twi



,] G. Bang—*Materials for a Flora of the Malayan I*

15 in. 1' verod with long spreading bristl* aptly
tip after flowering A feet]

ilia pale-purple, 3 in. long. Pod pn 6,

. 1 in, w
,, Flor. Ind.]!

]tt,j j| mwsa DO. Prodr. 11,324. U. Ic I
ight,

4H_ ,,,,(. ■'»* Linn. Slant. I, 102;
B Flor.

lad. 169 t. 5< Beng. 57. *Boodia crinita* Roxb.
FI01 ind.

III, 369.

P hong, Thaipenrr, /
Sanga Ryfth, *Kwnstl* ■ MALAI

lo-(

URARIA L400P0IDBS DC Prodi*. TI, ■ im.

. railing pubescent mucli ms •> Eeet I

1*5—2 in.) rachia pubescent; leaflets f rminal

ir of 0 Leaflets, oblong rhomboid or rounded, ba

te or at times cordate, thickly membranous, green glabrous above

■veined, pubescent beneath, 1-2 in. long 75-1 in, w

'■al pair of leaflets when present 1 much smaller than terminnl;

.; stipules Innceolale "2 in.; stipels sn small

tort dense simple, olilong heads, 1—2*5 in. long, "8 in. v.

, sub persistent 1 bly cili in. long; »dicelj

B, "15 in. '1- in., 1- vfer teeth densely].

purple, '2 in. lotitr. I aJat"

in.)■• compressed". M Bat. J, \l

. Brit. 1

Linu. 'I. 1198. // Ind. I

Pers. Syno]

PROV. V, ;E1

ors! DiSTtiiB. Indii i

•bs, / membranous, stipellate, 1-3-foliolate. 7

■ile or pruk-i branoos, accrescent,

fehe Ln 1 eolai teeth as Ipng

or exceeding the standard broad; kept! ibtuse

adelph inthers anifonn. Ovafy i' filiform,
joint , includ *Pod* n distinct l-
bhe cal Species 4- all oi

UREA VESPBTiLiraia Desv. Journ. Bot. I. 122, i, 5 f. 18.
 erect blue herb, sparsely branched; branches
 towards their tips finely downy with hooked hairs. *Leaf*- I in.
 ■ 1 terminal, rarely 3 - My subcoriaceous*
 white, - ad, '3-5 in. long with
 linear or lanceolate spreading or wing 2-:
 each lobe broadly emarginate - I: Ial
 leaflets, when prostrate the smaller, obliquely obversely
 deltoid

Sacemes simple or slightly paniced; 3-6 in. long; pedicels }>
 shorter than calyx, the lower geminate- *Calyx* membranous cam]
 late; in fruit '20-35 in. ^ely pubescent with spreading li
 teeth as long as tube, widely ^ular with a strong central ant
 ■ i dilate- tube, v

DC. Prodr. I] I. Cat. 5671; Miq. E
 Bak. in Flor. I? ! Ind. I *lysarwn Vespertii*
 iloxb. Hort. Beng. 57; l^lor. Ind. IB, 352.

MALAY.VN PENINSULA; exact locality not

Di^ n cosmopolitan in the tropics, but often omitted,

ALVSIOAKPUS Neck.

Di I fl or biennials. *Leaves* simple, rarely 3-! I
 stipellate, subcoriaceous. *Floicers* in copious axillary racemes. I
 glumaceous; teeth deep, often imbricated, the two upper often con
Corolla not es; standard broad 1 obtuse, adhering
 to
 ■ wings. *Stamen** diadelphous; anthers uniform. *Ovary* nearly or
 sessile, many-ovuled; style incurved, stigma capitate. *Fod* teii
 turgid, composed of several indt! 1-seeded joints. Species
 about

15; weeds, everywhere in the tropics of the old world.

ALYSICAVIITS VAGiNlua DC.; Miq. Flor. Ind. Bat. I, 231. A robust
 ascending herb, stems 1-3 feet long (VAR. *typica*); or a dwarf diffuse
 herb with very slender stems and branches sj og 8-12 in. (VAI
nummularifolia); the branchlets slightly downy. *heaves*
 always

stipules '3 in. long, slender, glabrous, stipules si:
 lei-vein* ticles; le
 at base, lowest lam itb up]
 oblong obtuse L-1" S in. long and 1 in. wide (in one series of forms); or
 low> long '75 in. long subacute, the upper h in. long ovate-obtuse
 all "3 in. wide (in a second series of forms). *Uacev.* 8-12-fld.
 kx-fid.

3 in. long (VAR. *typica*) or congested under 1 in. long (VAR. *nummu-*
pedii khan calyx. ^{x-} ^{'U'}- glabrescent,
,tu liueai--fietacecus longer than tube- *Corolla* pale-yellow tinged with

usually

obtuse keel. Upper *in* entirely or partially free from the other

veins. 9. 0. [^]side or stipitate, few- or many-veined.; style

in-

curved, stigma minute capitate. *Pod* usually composed of several

seeded indehiscent joints, the faces compressed, the upper suture rarely finally splitting open, the joints usually separated by sutures about 150; cosmopolitan in tropical and subtropical countries, a few in temperate N. America and temperate S. Africa.



ivirlcfi i 'led
 joints:—
 Leaves 3-f :—
 [ing herbs with. 1-3 axillary Sowers
 (1. *Saffotia*) :—
 Pedicels hardly exesedinj
 oborate-caneate, truncate or > ... I.
 B
 Is distinctly Longer than petioles; leaflets
 oblong rounded at tijiex ... 2. *D. hetero*}
 Underahruba or elirnbi v branches:—
 Br.< fsistent ¶
 limits Kin til. Bii i:—
 Leaflets amooi beneath in¹
 glabrous -I.
 13 rngoac reticulate-veined beneath ;
 1" " ... ri.
 [>.
 Flowers in more or less elongated . ;—
 Lowest joint of pod distinct]; tc-
 to upper nature (I docar-
 rin - ... (>. *D Utr*
 t sesaile :—
 Joints of poil not
 manifest);, brond :—
 i.a of pod irnl , lentints large
 Join ilong lo
 »inall f -hol-
 n in):—
 jiei always oltimately reflezed j
 e.. ... 8. *D. coj*
 Leitflel
 fico ilveiy b
 orect i
 Joints of pod -!
 :
 ... 10. —
 !:—
 J>' i 4 times ns long as brood
 Ei
 Joints- of pod not inger ilmu broad
 —
 ... 12. *D*
 Kii 'Bcent ... 18. T' ■»«
 idly winged (G. *Pteroloma*) '■—
 Pod Bfcrigose ... rkm.

Pods i quite glabrous ... 15. D. 'turn.
 tag into segments
 anoons lino along the
 ventral
 ... 16. D, gy:
 N L ■ Wai p. Trailing herbs, with Rmall 3-foliola
 or .1-2 in '
 OI< eel.
 , DC. Prodr. T i trailing
 ler iliiV tnuq stems 6-18 in.
 long;
 5 in. long,
 : leafli
 eral
 liou3 al ute
 stipules p nt lau 'Jo in.
 lid. axillary fascicles ; pedicels '25 in., brac-
 teoies minute. *Oalyx* pubesecir -h white hairs '1—15
 in.
 long; t.i-eth setaceous longer! -wly campanalate tube
Corolla
 -- in. Ion. '—' & in. long, I wide ;
 and finely puberal < : upper suture
 Enctly indented betv e joints, Wi at.
 :li. in Kl-r. Bras. XV, 95, t. .
 Bat. I Biik. in Ftor. Brit. Indi II, 173. D. fn'jfo.
 W. & A. 9; Wight Ie. t. 2^ hyllnm
 Wall. Cat. 5701 C. . *vum trijloruvi* Linn. Sp. PI. 749; Roxb. Hort.
 Beug. 57 ; [nd. Ill, 35: h -i Barm. Flor. Ind. t. 54,
 2.f.
 H. in Linnaea XXI, 260. *Sagotia trijfora*
 XXnr,
 .:! Pram! Great Coco Island
 (spe<
 ! Pttov. W LET j A
 Litau in th<
 rare, union in Iisdo-China; very ya.
 II, 334. A trailing
 EJusely branching st.
 •) tig hairs. *Leaves* 1—1*5 in. Ion
 iqle *5 in. longi leal mbranous ■ long or obovate-oblong E
 rounded or sub aal '5-1 in. lung, -3--5 in. wide,
 la*
 ainiilu 'ir>- long -2-'2 1", glabrous above, hairy
 beneath ;

stipels minute subulate, stipules persistent 1-15 in. long.

In-

flor solitary or geminate axillary flowers and, toward Is
of

branches, of a few axillary lax few-flowered racemes; pedicels 5-8 in. long,
ly pubescent with rusty spreading hairs; bracts 2 in. long,
lanceolate, deciduous, bracteoles minute. *Calyx* 10 in. densely
hirsute,

for a *Flora of the Malayan Peninsula*: [No. 1

8, longer than campanulate tube. pale-purple, "25 in. long. Pod *5--75 in. long, *18 in. wide ; joints 4-5, r<

. glabrescent except the lower dehiscent; upper m
wer distinctly joints.. Wall,

L, letters A. B. D. ; 6 Ind. Bat. 1, 238; Bak. in Flor. Brit

3rd. II, 173. *I um* DC Pro*

• r F. in part. V. *i* A.

Prodi

Fight, *tin hetc,* Willd Sp. PL UI,

• !. *Il. reptan-* ort. Beng. 57; Flor. Ind. III, 354 *I*

n\$ Grab, in Wall. Cat. 5740.

In all the provinces, very i >n. DI Throughout fa
S.-L. Asia.

stems, **larger** and differently
pods, the joints of which usually dehisce along the lower part

lie distribution in India <x] Malaya of these two species", is reversed. In
is quite (i rare plant, being common **everywhere; in Malaya**, on
the other hand, *D. trijlorum* is very rare **while D. heterophyllum is extremely** common
ruil is (ijji' .It is the representative of the other

FIYL! Desv. ranch'

*Flower** umbella imbele in long continual

hidden by a pair of persistent bracts:

3. DESV !, CHEU.UM Benth. ex Bat. in Flor. Brit. Ind, It,
102. A small shrub 4-5 feet high with slender terete finely grey-
downy branches. *Leaves* 5-6 in. long, 3-foliolate, petiole *25-34 in., chan-
nelled above, downy; leaflets coriaceous green sabrugose above, finely
downy beneath, narrow-ovate to ovate-lanceolate subacute, terminal 3-4
in. long 1.5 wide, on petiolule 1/6 in. I pair much smaller,
1*25 in. long, 1/75 in. wide, petiole *15 in, long ; lateral nerves 10-12
* cry, oblique disc raised beneath, secondary reti-
venation visible; stipules subulate as long as petioles, etc
subscarious closely parallel-veined, subsistent. *Inil*
axillary or terminal, 3-30 in. long, in racemes or
fascicles, or small subumbellate corymbs, in the axils <jf 1 ipound
foliar bracts; *bracts* 2-foliolate, their stipules 1/2 in. and petiole 1/15
opposite subobliquely orbicular "5 in. across,
glabrous

externely downy internally, on very short stipulate r ^{los}
their foliage reduced to a bristle or

<lose-set corymbs 2-6-fid.; pedicels; hly ui towny.

"alyz 1 in. pr¹ is, teeth In *Goroll*<.

Uovs. in. long indei both sutu hly puberu-
lous"; joints 2, le -litary, very r '•' 1 in- long, 1/12 in. br<wl.

Hedysarwn pulch
III,

Uinn. Sp. Pl. 747 ; Roxb. Flor. Ind.

36.

'ohelln] . IT. 318. *Dicer ma him DC. Pro*
fc. 418. *Phyllvo m. Bot. III,*
123, t. 5, f. 24; Bointh. PJ. Jungn. 217; Miq.

Flor. I

2596! JOHOP^; *Kunsller 376*

M W. & A. *Shrubs* with woody bra i
leaves. *Flowers* ■ in dense short-ped unclcd or
sessile ;infce deciduou

. Prodr. IT, 325. A li' . -ub

wny tore!

-7

ale 1 in. long, channelled a
)us above, paler and thinly
iblong obtuse or rarely acute or subacute,
iu. long, 2-20 in. wide on a petiolule *o in. long," tUe
milar but smaller 2-2*5 in. long, 1*25-1*75 in. wide
iu. Io3 tl nerves 6-8 pairs hardly raised beneath ;
mall, subulate, half as long as petiolules; stipules large '3
in. ' ibscarions, closely parallel-v iued, caducous with the unfolding
of leaf next above which they cover in b *larescence* axillary, with
pTM in. long, in G-12-tid. corymbs simulating umbels; pedicels
short -I. less, elongating in fruit to *25 iu., unequal, very close-act.
Calyx, with a br- pious deciduous bracteole, 1 in. long *07 in. wide,
base, densely silky externally, 'J5 iu. long, teeth lanceolate, as
long be. *Corolla* *5 in. long, white. *Pod* 1*5-2 in. long, joints
4,
y rarely 5, 3 in, long, ' sparsely silky when young,
glai nd coi oat turgid. W. &
A.

Bak. in Flor. Brit. Ind. II, 161.

Dendro-VI Jungh. 218 : M.q. Flor. Ind. Bat.
f; i ILII, Sp. Pl. 747. *Il. arbor earn* Roxb, Flor.
Ind.

•Simmon on the coasts. DISTRIB. On all coasts
fro: Islands to Polynesia.

A ■ ranches, lea, vos be neat'; **ipe pods**
gohly sil '■" ^0. **It is knoira** only from spcimens cultivated
in
ilcattn (*Wall. C* D) and in Uort. Bo^or.—**the** Baitenzori: spftcimns

marked " *E horto* &

'«■■" The original habifcat rfety

is onknown.

■nn has btion said to occur in Upjw Burmo

a **mistake**

caused

by Dr. VValUch **having** issued (as **E** a **totally** different spcoies under the same

name. No one has ever sent specimens of *D. umUllatum* to Calcutta except from coasts a.ml the shores of **tidal** rivers.

DBSMODIUU i M Prain. A large gregarioi:

u. 18

rusty-puberulous angular young branches. in. loii
 foliolate, petiole 1 in. long, channelled above, rusty-puberulous ; lea'
 coriaceous rugose, puberulous on the midrib and ner . e, densely
 rusty-puberulous beneath ou the midrib later aid secondary
 veins; obovate-acnte, terminal 4 in. long de, on a petiolule
 ■5 in. long; lateral pair oblong-acute liquely roui
 Joug 1*75-2 in. wide, on petiolules '15 in. long; lateral nertes 10
 pau-s very prominent beneath as close retieulato
 tion; stipels subulate, 12 in., nearly as long as petiolules
 snbscarious caducous. *I nee axilla* .
 long, in 3-6-fid, eorym aulating mnb rachis p
 duced for 3 ic. or more ia the centre and mail, numerous dose-
 K Bet scars left by fallen pedicels; pedicels tliat persist -2 in. lo
 Kelougating slightly in frnifc. *Galyx* with a b; arious
 bracteole *1 in. long at its ba^c, pubescent externally, 2 in. long, *U*
 longer than tube. *Corolla* '5 io. long, white. *Pod* 1*5 in. long,
 joints
 4, "3 in. long "25 in. -wide densely adressed-pubescent with
 coarse
 rusty thick, coriaceous, altfloBt turgid.

Curtis 2550 ! DISTEIB. Tena,s>;ei im.

'ated to the preed' foliage
 pods y * elated a ...
 letter .

oni Upper Burma, bu
 :tres than in that specios; indeed, JD. *Wallichii* with the influx ■ of
 D. f has foliage moro resembling that of D The afci]
 [chit do not fall immediately after the unfolding of the leaf next above, as in th
 case of *D. umbeliatum* and *D. rujosum*.

Desmodi: bium) Oep?ia^es Wall, is stated by "Dr. MiqueJ
 to occur in Java. No Malayan specimens of the species, which is v<
 common throughout India and Indo-China, have yet reached Galen;
 Its presence, however, would not be surprising and the specios shouk!
 looked for by collectors in the Malay Peninstd

SUBGEN. 4. ECDESMODIUM. herfy or uvdershrubs with larg
 l-'J-foliolate leaves. *Floicers* of ten 2 or several fi-om a node in
 1 racemes simple or paniced, bracts deciduous and pods distinctly
 jour

§ PODOCARPIUM Bth. Joints of pod indehiscent, longer than broad,
 the lowest out tli y stalked, ;onstrictions reaching from lowei
 nearly to straight upper suture.

6. DESMODIUM *AXDM DC, Prodr. II, 9 A bush 2-4 feet
 hi ^ ith angular erect finely puberulous brancnes. *Leaves* 5-8 in.
 long, foliolate, petiole 1-2'5 in., channelled above, finely sparsely

puberulons

(lets membi-i.noua, green and glabrous above, paler and sparsely suted on the nerves beneath, terminal narrow ovate, 4-6 in. long 1-2 in wide, narrowed gradually to apex, cuneate at base on ;t petiolule "75

ral nerves 3 pairs the lowest much stronger than the rest an
 ique; side leaflets similar but smaller, 3-4 in. long L-1;5 in. *wia*
fitk slightly oblique bases; stipels subi; in. long; stipules linear*
 to '5 in. long, persisted ce in rather narrow ternxin
 acemes, the former sometimes panien 12-20 in, lun
 ■ \ of as mn uifc solitary ii or few-lid, fascicles, brae
 inu iar; pedicels pui s slender '2 m., ultimately spreading
 very small "OS in. long, tubular, .lightly pit
 id very short \lla pink, 25 in. long. Pod 1-3 iu.
 long,
 it on a t. long, joints few indi t 5 in. lo
 wide, lie constrictiefci cliing the upper Btttui
 quel :.o tbe base. *B. Ga* Bth. PI.
 . iuFlor. B id. II,
 ., Ann. Mus. *hagd.* Bat. III, 40 not of DC.
 PERA£; on Ulu Batang Fadang, *Wray* 16U8! DismtB,
 India

ludo-Chitta; Cliioa] Malay Archipelago.

§ DoLUNEBA Endl. Joints of pod indehiscent, ha*rily longer than
 ad, uj ttture straight or slightly indented; caly: teeth
 m

D: HE&APHTLLUM Z.-II. NaL en Geneesk. Atch. III, 5
 feefe high with slightly grooved, blackish branch
 with a sparse short to men turn. *Leaves* 7-9 in. long, 3-Xolioliite,
 petiole 2-2 5 iu., channelled above, sparsely tomentose; leaflets i
 pubcoriaceoi

in sparsely pul is above, grey thickly softly woolly beneath;
 L-homboid ovate-acuminate terminal cuneate at base, 4-fl in. long, 2*5-3*5
 wide, on petiolule 1-1*5 in. long; lateral pair similar but smaller
 3- in. long, 1*5-2*5 in. wide with obliquely rounded base;

lateral
 y obliqno; : :> in. Ion:
 ;mles
 •^carius '15 in. long, lanceolate. *Inflorescence* longer than t "f^{w>}
 llary and terminal attei t
 ;»a-nicled, 8-10 t

\. loug, of pedicels si "4 in. long, br
 long isc date, braoteoles minute subulate. *Cal*
 apaaula igular as long as tube. *Corolla*
 pale-

violet, *3 in. long. *Pod* dull-crimson, 2-225 in.,
 G-8-joint«d, joints *25

iu. Ion le, indi tly piiberulons, finely reticulate-
, alightl nted on tbe lower suture. Miq. Flor. Ind, Bat.

I

- synoi<

PEBAK; tppe »f Batang Padang Valley, at 2, JOG fec, Wra
1141! * in_

^ : HA. DC. Joittta of pod dehiscent along lower suture, uot
loi ian broad; upper satin iht, lower slightly bed.

8. DESMODIBM OAPIIATUM DC Prodr. II, 336. A prostrate
nnder-

G. King—*Materials for a*

longafced woody rounded brandies, ho
 .09 reaohin t in length. loni
 3-folio! tiolo "6 in. long slightly groo¹ ad gLi¹
 ■^sed-tomeutose boneo subcori labi
 [y white-silky pn¹ ascent beneath ; obnvate-cnn<
 rounded, terminal 1:' in. I across, lateral similar but
 75 in. long, ^5 in. p lateral nervi ■ pairs slightly v
 ; stipels subulate '1 in. long, stipules 1
florescence of dense axilhi i terminal subse if-2
 in. y reflexed. in. fruit; bracts
 -spidate tiiLiat> -1 iU-j glabrescent, ti~
 setacei ■ sh-red,
 :intly p as, 5 ' ' ' ' I ng I
 along Lowe* i» suture. Flor. 1
 Fl t. Ind. II, 170. *D.obo* .5722 B D
 W odi*. 227, in pnrt. *Hedysai* L. Fl. 1

Ha

'FAIAK ; Dtucian, S. Batang, *Kmistler* 3G1 ! Tliaipeug, *Scork*
 "alau Tawa, *Ridley* 2J
 9. I' POLYCARPUM DC. Prodr. IT, 334. An erect or
 sul
 erect undershrub or shrub 2-5 feet high
 branches shortly tomentose towards their tips. "Leaves 2-1 in. long,
 foliolaf 6-1 in. long, slightly grooved glabrous above,
 adressed-pubescent beneath ; leaflets aubcoriaceous,]
 above, thinly adressed-hirsute beneath, usually Lte-cune
 round, sometimes ovate-acute (*D. ovalif* V \ in.
 loi
 1-1*5 in. across, lateral similar bat smaller, *75-1-25 in. long
 across, lateral nerves about 6 pairs indistinct; stipels subulate *2
 lon pules linear "3 in. long. *Inflorescence* of dense
 axillary;
 terminal snb sessile racemes 1-4 in. pedicels '2 in. loi
 cending; bracts ovate-cuspidate cili & in. long, bracteoles minu
Calyx '1 in., glabreBcent, teeth sei longer than tube. *Cor*
 inh-pu long. *Tads* usually f:iiatly <~ (I
 ^ong, *15 in. wide; joints 6-8,
 ntire. W. & A. Prodr. 227; ¹ Ic. t. ■'
 Bak. in Flor. Brit. Ind, II, 171. *D. angnl*
 CII part, not of DC. urn DC. Pr<
 OC. Prodr. H, ^37. *D.* *Gen.* S;
 297. D. » ITassk. PI. ,Tav. Rai *D.- B**

} . Ann Lugd. Bat. III, 45. *D. nervomni* Vogel, P en,
D. patens Wight Ic. t. 407. *Hedysarum* \ pto» LanV I

i Burm. Pl. Tnd. 169, t. 55, fig. 2. 1/ « In
are«?tt Koxh. ITort. Beng. 57; Pl. Tnd. III
Itoxb, FL Lid. II

98 obovate-cuneate ro stly

nbernlons.

i tlii

STRIB. Ear-

China, Chin -leaia.

■ leaves ovate-acute bap I or
truncate;

Ftly silky; pods pul> ipreading
730.

LAX; G ping, B . DIST

flu.

more or loss distinct forms of *D. pc&ijcarpum* most nf wi

■mgh all are **connected** wit.h i ter **and v** **pical**
n here i ns
v*it.

■. 'flr, and BO far as material hitherto colV I

ht even be treated as **a separate** species. lint its habit and its flowers
are

it soctns bettor to consider **the** diF reucea of

■1 fruit fts D **nrietal.**

■i. Joints of pod iudelajscent much longei*
than I constricted along both sir

>i\M LAXiffLOKO^a DC, Prodr. II, 335. An erect under-

» feet high with woody slender obtnselj angled stems *irst*
densely cl ^tiovt hairs at length glabrc- *Jjeu-ves* G-20
in. long, .j-folio!ate, petioli - "> in., pubescent with adressed hairs,
membranous or Bubcoriaceoue, green

\y ad] L-hirsnte ; ainal ov;n, o
base

rounded or cuneate. 4-6 in. long 1*5—3 in. across with pctiolule 1 in. long,
prominent beneath 7—10 pi lateral

in. long, 1"-1- Le, base obliquely rounded,

olule v IL:1« subulate ^Oli'g', stfJpnL
acumic trmial

fi-K¹ in. 1 rat .solitary flow* 'v-fld.

minute linear or setaueous \ racltis puberuli
adressed hairs as are the nltimately patent pedicels #2-'25 in.

.,jg. (1 in., pubescent, tube campanulate, teeth lav og

i. *Corolla* white, "2 in. long. *Pod* 1-1-75 in. longV

penduJoi

-) in. wide, join's •:'» in. long, ind. it, hard ,t

the

is and not ribbed, closely beset with short hooked hairs.
Miq. Flor. Ind. Bat I, 251; Bak. in Flor. Brit. Ind. II, 164.

D. bhr

71D. P. Wall. Oat. 67 15. *V. leptostachyum*
[97 B. J>. *tuhatum* Wall. *D. recurvatum* Grab.
in Wall. Cat. 5717 ; W. A A. Prodr. 226 j Wight Ic. t. 374. *D.*
ditfu-

sum DC. Prodr. II, 335, non :>36. *Hedysarum* [to\$B.

Ic. t. 409.

142 G. King—Materials for a Flora of the

Beng. 57 ; FL Ind. I
Ind. ITT,
357, not of
WilUl.

la.

vrghii S

B

I\.

AN

; Kondil, Km* I Dis:

Throughout 1

ina and Mala

11. DES

DC. Prodr II, i27

under shrub 2-5

with woody slender obtusely

first densely clothed wi

hairs at length glabr

in. lung, 1-foliob

5 in. la;

channelled above;

ibooriai en an nous e

sparsely pubescent to closely si iky be

truncate, 4r-0 in. Loi i l

ral nerves 0-8 pa

beneath; stipels te, 2 iu. long;

ecarious, "3 in. long &ul bent. *Inflorescence* in term

axillary racemes 6-10 in. long¹, of 12-20 distant solitar ft.

few-fid, fascicles; bracts and bracteolea i. linear oi setaceous

rachis ulous witli rusty tomentum as are the ultimately

pedicels'25- *Qalyx* I in. pubescent, tube camp>

tet- troKa white, *2 in. long, *PodZ-4* b. long, pen

lous, '15 in. v 6 in. long, indehiacent, constricted at bi

sutures, longitudinally ribbed, closely beBet with short 1

Jliq. Flor. Ind. Bat. I, Bak.in Flor.Brit. Ind. II, It;i.

Sedymr

adhaerens Poir. in Lacnk. Eucyc. Meth. V, 15 not of Vahl. *poides*

Desv. ex DC. Prodr. 11, 327. Rumph, Herb. Ambdin. \

VAL <na; leaves softly silky beneath. If [q, Flor,

Ind. Bat. I, 21-0.

ANDAMASS; common in the interior of the Isiands.

SELANG'

Ridley Kwala Tembeling, *Ridley* 2G05 ! DISTRIB. Jn

The typical fo apieciea lias leaves very sparsaly hairy beii'

* **occars** in Jav:i Do Candolle), arid is common iu India from Ceylon and

Ihe

Pulney ilts. northwe la to Assam.

br § HETEUOLO^A Bth. Joints of pod indehiscent, hardly

ing upper su aight or slightly indented ; calyx-teeth

except

tu'

12. DI^MOVIUM GANGETICOM DC. Prodr. IX . A

undershrub 1-4 feet high with woody ol 'ns

and angled n "d-puberulous h nu

foliobte, petiole channelled ai d with a few lulpressetl hairs

above ; niemt
a litcl^
or trunoai

!jcoriaceous, green and glabrous above,
*neath; ovate-acute iad
; 1-2 in. .vide, lateral nervt-s 8-9 pairs slightly

races, cross-nervation slightly visible
 beneath;
 ubulate *2 in. long; stipules line n. long.
rescence in copious ascending terminal and axillary racemes C—11
 :>0-40 rather close >w-flid. ^ru-aides; bracts and bracteoles
 * setaceous; adpress LDSIUIOUS as arc the
 fastigiate
 pedicels 2—2 *Calyx* fine' int, *08 in., teeth lanceolate longer
 ■ late tube. I hite, '15 in. long. IV edcate,
 J in. jicros^, "-8-jointed, indented on upper suture, joints
 than broad^minatel TUIOUS with booked
 Cat. 5680; Miq. Flor.'ind. & A. Prodr.
 W fc. 271; Bak. in Flor. B i. II, 16S. D,
latifoHum
 . Ie. t. ,ofc fc. 270, i Linn. Sp.
 Pl.
 »xb. Flor. Ind. III, 349., *II. collinwn* Koxb, Flor. I]
 j Pinara Bukit, *Curtis 2771!* XICOBALU; Teresa,
 etc, *King's Collectors!*
 . DESHODIUM vii. **Zoll.** Nat. en Genecak. Arch. III,
 5
 slender undershrub 1-4 feet high with angled
 adpressed-pubescent
 d brani-iiie'-T. *Leaves* '4-6 in. long, 1-foliolate, petiole "25 in. long
 led above, densely rusty-tomentose; membranous or subcori
 , pale-green glabrous al ^d-puberulus beneath; o\
 >unded or truncate, margin slightly sinuate, 3-5 in. long 1-2
 in. wide, lateral nerves 8-9 pairs sli-: isible on both surfaces
 stipels subulal _ in. long; stipules short triangular, '15
 in. Ion
ca in copious ascending terminal and axillary racemes 3-8 in.
 long, of 20-30 close-set few-lid, fascicles; bracts and bracteoles minute
 setaceous, rachis densely rusty-tomentose; pedicels very short, '08 in.,
 glabrous D glabrescent, "OS in., teeth lanceolate longer **tha**
 ■inulato tube. *Corolla* pale-pink, *2 in. **long.** i^t/Hubfalcate,
 *5-*7 long, *1 in. across, G-b-jointRii, indented on upper suture
 a8 broad, densely clothed with ahon **airs.**
 Flora (IE 97. D. Miq. Flor.
Ind.
 T, 247. *D. gi* ,*tum* Miq. Flor. Ind. Bat.
 I,
D. latifolium Bak. in Flor. Brit. Ind. II, 168, in part,
 hardly DC.
 PEKAK; Batu Kuran, *Scortechini* 1594! DISTKTB.

(Lurma, ■

This has the Libii *I D. imnijetirwm, Imfc* in flowers n
in fruits, it more resen '» to which indeedl **Miquel and** Baker hav<
ferret! it.

StTBGEN. 5. PTEROLOMA Deav. *shrubs* -**foliolate** .leaves and
ringed petioles. *Flowers* racemose, bl

14. DESMODIUM TfUQUETnuu DC. Prodi. 11 A shrub ivith

redtrii -plabresc' -6 in. long
in. wii road h
e 4-5 long y obli

infoces, latei I nerve. . . nd secondary cro?
a on ea espeuia
ubscartrms, cl to
uppfr margin of and

term-i-■ a silfl

Lowe

• OW

In. long

..
' row 8c.<
ie, tet-i

/■ ag, joini
beutly strigose with subadpn
• Brit. Ind. 11, 163 ta

i.m exploded.]

Sp. PL *H. ulatum* Ro:-

B PL Jungh.

the synoi

theinter f the Islam
! Inflo-China.

Th y pods. Some dif:
times {■ flowerinens of this from flowermjr RJ
rsextspi' :ire ho>v- 'isfcliict.
sper M>J quite justly di(T
iy Miqnci, who has boon followed in the)

15. 1 i AURICULA Prodr. TI, S26. A littoral
li crroovea triangulsi glabrescectbranches. *L*> \-5 iii.
tiole 1 in. loug '3 b broad le;
l-] de, oblong

■wide;

l ■ - i

in. lonj

tube campan¹

thi;i

naequal

u. bug.

tt, long,

SIU'f.-

veii. in.

long

Jldn;

\at

e, quite glabr

Andaman]

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Well (n.

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- ami

.:i in M

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'i Tndia

leas

0.
; pods Ludiai

branches. /

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II, 49.

kria

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10 thC £

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Cat. Hori

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BT).

species, cl

nnate. **F**

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■ out tinJlus,

0.«

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l:i\, bracts .si •

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oblong, \-

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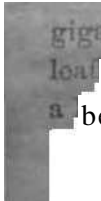
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1. T ■■ : : , A tree \<

stem 2-3 rngosn glnbrons. *Leaves*

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mate at the tip, firm, 1*3 in. long, L"35 in

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PEEAK; Q ipi 500-300 feet.

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species.

Malayan Peninmla.

Lil. 1

Flor. Brife. Ind. II, 270.

A tree 60-80 feet high with a rather slender stem 10-20 in. thick; branchlets slender with pappus glabrous. Leaves alternate, odd-pinnate, 5-6 long; leaflets 3-5, opposite or subopposite, oblong to elliptic, rather abruptly cuspidately narrowed at the obtuse entire apex, base rounded, long, 1.5-2.5 in. wide, subcoriaceous, bright-green and shiny above and dull beneath, glabrous surfaces; lateral veins fine but distinct on both surfaces as is the reticulate intermediate secondary venation; petiolules stout, glabrous, 6-8 in. long, 4-5 in. and branches very and flexuous. Glabrous pedicels glabrous, 2-2.5 in. long, ovoid-oblong. Tube obsolete, tubaloid, NuBequaert, ovate-oblong, both wo upper segment: sometimes 5-angled. Petalite elongate, pubescent, antherite basifixed. Perigynium silky, narrowly-ovate, perigynium apex not fragile, blackish grey-pulverulent. Seed solitary, nearly regularly obovate, 2 in. long, 1.5 in. across, 15 in. thick, densely shining, neither striate nor reticulate. Larut, at 1500 ft. VL*! 5577! MAL. 846 (K. D.)! Maingay 537! DISTRIB. Borneo.

"Maingay 537" forma, wifclit! 846f" the basis of this species, osnription here given of pod and seed in drawn up entirely from an example. The diacrepantia in the F. B. I. and tin. t! fruit of the species the writer is unable to explain.

UXALICM INDIUM Linn. Manilla. A woody 60-70 feet high

Ling branches; branchlets alternate, innate, 6-8 in. long; leaflets 5-9, alternate ovate-oblong to ovate-lanceolate, narrowly acuminate apex base finely notched, 3 in. long; chartaceous, dark green glossy above, dull and rather paler below glabrous on both surfaces; lateral nerves 8-10 pairs, faint above more prominent beneath with there a distinct reticulate intermediate secondary venation; petiolules glabrous 2 in. long. Panicles terminal and axillary 4 in. long, 3 in. wide; branches from ~~long, faint,~~

pubescent the pedicels 1/2 in. long, usually in of 3,
 I bracts. *Oahyx* 15 in. long, obtuse-oblong bud,
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 , segments 5 subequal oh imbricate ovate-oblong obtuse, grey
puberulous on both surfaces. *Petals* 0, *Star*, , opposite the tube
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 te, quite sessile, tapering gradual' . the glabrous
Pod and seed unknown,
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e, shortly stipitate, gradually tnperring upwards into the puberal
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fc j persistently brown-vei vety. *Seed* solitary, o/jicular,
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nnl long as anthers; pods orbicular very dis-
ssed.
Derry 122o ! *Q*

leaves oblong, rounded at "base; pods
cla
tl.
MAI Selatidan, *TTolmler*:
■ tree here *due* *tyjricu* i typical variety of *J*
IIIK piven tindor tliftt pinni,
lvritor ■ ^ry to treat a distinct
No native nam i or i>. *piatyst* 'nllewtc-
a vi mttrely ^L J:
10 (wliiob, l>y tli
n. *H0* coll noted in 1892) he name *3c*.
the same mime is u<t;d h
ained under that species; I ough ulso nsfs Hiis name, wit.h the name
umbot a3 an alternativo on?, for *D*.

i uF *D. Maiiujayi* art
liingly alike and fraifcin
njshed b :*os of pnb'
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i those of D. pi ,oir
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from tho leav **rrttnyoirit *tha***
« on tin snrface of those of 17.
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'&p3, tit

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tlay name *KTQH*

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,*m* the

Itsf&oies, DV.

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pressed pods, ig »

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• siime native name, a name too that J1113 br

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 .on Prain. A tree with B|-.
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 te orvr< bh an 0 round-
 ed, ii 6-"8 in. wide, vei
 -pubes
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 0-8 iii. long, 8 inches
 long
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 >e obsolete, seamen'
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 or cleft ii »mpan
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and spatlmceons

K King— Uate

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• flaub
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 y broadly

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flowers very

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Flowers in r; tlte io¹.-
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Ra< i<-^r **many-fld ;** :

Racemes ahorh, few-fld. i If

■\i\y bifid, densely pu

s, the tower ixsdicela *m*

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17. **B. Ki**

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apical siims wide

.descent i **pod** large pur?

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21. *B. (*

^ers small, iu

ttei petals wKite; **p**

leiives Sexible, **divided atapcx** :—

Poi short. ;d

23

J. a.

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24. *B. sfrychnoiri**a.

§ 1.

stamens 10. *Calyx*

witTi a

tehiscent. Leaflets

Ion:
distinct.

1. BiiiminA Di

nie, Embassy 4-76 c. Ic. {1800).

iiii'; - with circitifte tendrils,

ireadin<

Leaves cordate nt base ;

,iiiefi(

rounded at both euds,

is on botl '-es;

■I at both ends.

pedicels glab-■

i, i 2 in.

fin. (

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naewhai

Brit. IuH. 1.1, . ,

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Bde B<ik>-r).

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5 in.-lor
 obovni inlate, l*75 in. istlibal:
 h. *Sta, me* .yellow, the upper ivi; irph
 ■■ half. *Ovary* distine: ely tomem
 straight. Pqrf 4-5 in. lung, -5--7 in. across,
 cpmvpspt
 ;btip< 5 hi. \a\ '16, oblong,
 in, long, "2 " shining. Etoxb. Bort. b
 tnd. IT,
 lor. Iud.

Calcutta ; tlic *plant* iu the AIK
 ■M;i iQchnona
 robubly in trod nc

Sp. PI.

*Leave**

flexible, rather la 1,3-6 in. wide,
 third down int^two Iriangnlar ftubobtuoc ting
 gliincascent hairy (eometinn lengUi
 ;ole nuberulong gro -nod at bofcli
 in. long. *Flowi* #af-opposod few-fid, corymbs, pedmv
 erect the iov. V r, _ late, brnets »i««
 "15 in. long; I acuminati
 very RUOI(Tv een,
 ib- flitting B a;i.-long
 i iv
 infundibuliforra; i. long. 1 in. wide. .6

long in. broad, lirr, u\ . com] •v in.
 E the app fth del

i. long, le, DC. *Pm*<*h*-. 11,5]
 11 Gal
 hul. Bat. I, TI-; Ba 'lor. Brit. lml. h
 i9; D< ■{.-. II, 513 Uto
 I only) not of

DAMAS8 8! PKRAK; K 413
 312! M /etc. BISTRIB.
 China,
 LI oliippi go.

PHAXE'

3" 3,

lalyx-tabe usually more or less , spathaceoia. Erect
or Roandent; flowers variable in si

4. BAUB - KA Linn. Sp PI. 375. An erpot tree
higli, with moderately stoti seseent brandies a hou<
tendrils. *Leaves* roundish, b;ipc shallowly coi*dafec, aj-t-x divided OIK
third to one-half ^wn, si >li, hnb> btanse or fun

lly subcoriaei i. long <il ni

giabrons or i;untly pub<

rons; atipttli ill *moral* ' n

us. i and. axillai

pedice;

as is tl cts minute deltoi

inifornily from the b

downy, limb -9 i

npcx i liort t tbe FIi

5, obi an ceo lute actitc with \>mg; claw, v > pur)

In: in. wide fertile, anthers lirenr-i

wi long as the petals. Otwryveryl ftkwl, pobi •n<

, style stoulish *4 in. long, sti :e oblii

Pod glal ^-12 in. 1 v)\x

pointed at I

J2-JG, com}

DQ. in Ti

Etoxb. Flor.Ind. 11 <h

\ik. in Klor. Brit. Iiul. n -xb. Hort. Beng-. 31 ;

Wall, Cat, 5799: Roxb. Fl. Ind. II.

Protr. II, T>15. *Phanera* > PI, Jungh.

[nd

•.; *Unllett* 218!

tie India . Jn

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11. Car

climber, usually snifill bat sonn

branches er persistently

msly-tomentose

without tendrils. *Leaves* ronndisb, l

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larrowl ite L'-U'S in. long, (lie
nairon

siform u;

tlmn tin htly infnn

bp rusty-torn en tose liml

1-125 in.

Vei

eak, tin.* upper 2 "J"> in.

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uiform. is.

Oviry

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Wait* Pol pah i in.

■.•. Brit. I ml.]

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elm. 1; . a GtMiocsk.

B b. Pl. J 26i; Plar. Ind. Bat. I,

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! 2461 ! 5J65 ! KEI

Vortlnwards to Tenassei im j southwards to the .

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L. Kortlial

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full ficUl-iuite ii.

6. BAUHINI/

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sinus

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ban |<>

. glabrous

** oblong-obi

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: it^Jgp •' in. ;;

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\«^ pi-7.'> in. I

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sa\;r

.n.^«S:iduovLs ; bnds olub-»ha in. 1,

upi

■ nls '4.in, Jon.

R.

|U!LL. 1>1 "

lower third of the
oblong, filaments unifo
pu; byle slei n. long, Wiqoe |
Pod tbiu oblong with black glabrous
iy.iquel). ixz'Joura. c. Hen 2. 1;
(Enum. PI. N loc. ci rni, PI >t of R
lib- Miq. (■ id Bat. I, 1071).
Nj i; Great na
matra.

It is rather strncjo **that this** epcoies
sh<>
and Sumatra not have afl yet be*.-

diffors i
hat

in having pubescent
having petnla **with** *ecrr&nh*
7. BA: sEMiamTU Roxb. Hnit. J A i
climber oi t in length, with til

■ <, l>aso
iwn, si w apiculn
snbcoii 3 in. Ion
t, **light-green** o'

5_Xl ile **1-1*5** in., sparsely rusty-si Iky, Btipul
Ffilcal midal

4-10 IB. **long**, -i ir
L-1"5 **h** as ; bn

1-2 **pnrt** c tlit
Foi*m l>:ise. C i h p

refl ■
htly townrds bo- lon^ p,
obtuse, shortly clawed, *S-i in 1 . wide, dull. ■
xcept on i
ere is a faint i

white, i
tlked densely ru ik pi Ik*,
MI oblo ith

l>lei

brmiH woody val in. long, L*23 in
Seeds 1 ii.

''''*

Cat. 57

253;

Brit.

Flor.

Ind. II, 280. *Fhan**

Lor.Iiid. II,

Bl. P

1251 !

CO.

•!*j on the c»|r

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•li Mr. Link.

A stroi

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oinate

s roundish, bnse cordai
us narrow apicnl ronnd:

oae-thi n,
in.

■ niel closely »■ nl-pnbescent
mibesceir

it above,
1-11; petiole

3- diam., p
1- ii u lony;, 3 in.
t^1;j in. long,
oles 15 in. I.

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J U;af-

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part exceerlii,
as

iviti|niltcefonn base.

>late *
ire 'he linear br;
in. long, the obovoid

ve I

• into reflexed lrr

tents 4-*6

^e, m3— 4 in. long-. *Petals*

mg,

ifcbin,

-entos<.

in. I

m pink, apiitose **ique** pel rate.

Pod unkno.

- 1347 ! PEIUK ; *Wray III* \

.->fr B, G
.CCA similar,

"i« but differs in having the Bfcipalos, though

is pufcesc

-rlabioua; in **bavin**

iu:

'-!>1 coiyba **instead** of short-pedicelled denae-ti.
ilowora ted or pink.

UTFTLVN* Piain. A very sk-ong shrnbbly climber
reaching *^0 fett in lengili, ijnmthlets stout ^labi'oue, tentli*ils few eir-

ring-

..-)]! brous.

cordai

ii. sinna narrow apiculate,

ire glabrous on both surfat

m 9-J I ; petiole 1-1 '5 in. glabi

iidai i

6 in.

eels R]>

nbeacei

in. Ion

buds i

iped 1 in. long, the bros

oid up:

lee form base.

Go

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limb

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toward

ie '***' <<

bright

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■nij clawi

i. long, -4,--~> in. wi<

densej;

tomentose externally.

.v

i 3 fertile, anil

in '

den-

8 6-8; =^yle thick silk

in. lortj

glabrous *vooa

va) in. long, 3'5 iu. wide, stipe '35 in. long.

Seeds 4-6,

flattenet

ovate, 5 in. long, *3.'»

Buuhiniu

Bale, in Flor. Brit. lud, If

Phan

263 ; Miq. Flor. Ind. Bftt. I, 65.

MALACCA; Griffith 1867 ! Uaingay 542! E

7'

:id it has the samo **pnescenoe** on the oiitsido of th*-

Bat it

differ

-(iderably in iiuwei- and verj' markedly in the nutnre of its bracts and of it

m Bcemg to the writer to have bi ionb

edly justified in treutiug it nR s]>pcifical ly distinct. Ii is in reality more

all 3. *Hulleti* i has however pink flov . and

ht

the long pedicel led flowers of B. ■ ud B. al\

in which Mr. Baker inolndes it.

BADKINIA PEL EA lloxb. Hort. Beng. 00.

shrubby climber sometimes exce

glftbrescent, tendrils few circinufce ghi!

>nse

; 'd down, sin

% in. long, al

as lor

green, shining and glalir

aler and gluli ^

[doons. *Flowers in pymmi*

lg, ruKty-p

-2 it lanceolate, deciduous ; buds club-sbfl

K>tlie brOl

ovoid upper part exee

■ umpulli

puberuknih;, limb split-

tto refiexed lanceolate segmev.

in.

King

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vrds base. P

white, 5 a

btuse, bar

flawed, not s d, eflabi

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externally,

in. long, '2 in. wide.

3 fertile,

J iu. long, sfcigau-

oblique pi
J.

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• I King

12, B

arrow sinus; **firm, tfc** e, bifid to **oader than loi**
rlabt'OTis aliovo, **Ihioly** ,

ties p; site, **leaf-oppo:**
t—2 **iu.**]

Is clove-slmeped *G5 in

base. I Jabmus, limb splitting ;>
15 in. lo iie 4 in. long, puberulous :<
■y lotig-cl;

Bhor

■te down tl I in. wide.

li. PI. Jangh. 265 ; 11 iq. F1

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TBt -Chin::

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similar flowers but with narrow pc

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>ve, thinly ud-.

Iky beneatli ;

r, **pubfflralons, alighi**

F, 270. I

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J stout

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•...Hboril;

•>, 4-6 in. Ions?, *z

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long. *Ovary* gl -

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Ives glabiv
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otof Mill, UM

it.li PL Jnng. 'J

;-43J,! 3^02! 6659!

■tli refer to tltia 8i>"cie8 B. >

18, by ti 8 B.

lut:i **VIII, B**

aborulous

oug *ils for*

y shallo-wly cordutb or truncate at base, from which they taper gradu
ally to thf junction of upper and middle third theneo more abruptly
I tip ; 3'5-4 in. long, 2-2*5 in. wide, rigidly coriaceous, dark-
gveen and shining above, uniformly densely .ientose bi-
nerves 7; einn 'n. deep, very narrow; a 1*5iu. 1<
irlabro us, tli i eke n both ends, *B' owers* in lax, few-fid., ier m
racemes under 2 in. loi. licels and .-.cent, the
tent, subf broaghout, iot ex
s lanceolate BU.1
t , bud *5 in, lo
ent "15 v portion-
■ te lob- adi-io
les 2 sub] rnally deiuely rusty :loae
e tbe oylindi Ceitile, aatbers
Ovary rusty-pu c and style
ot seen.

not seeu).
hirsute.

;J"cies is ^elated to *B. hiri'ia* with whicli it

ir hus not been not^d by Fatber So ply bifi*i
at the petals, in
fjsactly like tnoao of tbe nnmerons species that aio noted as
iwerawliici ^withage, L< ke those p^tal a that
hav: Owing to tii© absfinoe of fally opoad dowors che dimeusioia
Its of stipe and stylo cannot be given,

•ILTUNIA KIHGII 1 A small clin
nrous branches, tendrila ' tbrous, often much niic
cordat bate at bas**, aai-rowed gra-
lly from thi lobes an ultimately acu-

lee
lo . wido,
tlic iiti rigidly coriaceous,
nly 5 puberalons alongf
;-piibo8cen here

beneatn ; very
much outwan

lateral axillary and term'aal corymbs,
3 in. lo ' i n . broad, sometimes fo vxu ing lai-ge loose leafless or leafy
zag p:>: L—1*5 it. k>ng; pedicels ver}

sp;u\sel Bpieading, the loweBt 1-25 in, long; bracts at 1:
•2 in. J bracteolcs near apex -I in. long subulate,
both

inmate lohea

y-mfiiiKlibu
the subglobose
closely

2 in_

ate apper
snbeqnal ovato, vei
-cross; tube nairo

Oalyx

rtly acu-
[ndibuliform,



in. long, '1 at apex. *Petals suheqnal*, bri d (*Wtn*
Unceol ate-obtuse, long- ; in. long, '25 in.
■usty-pabescent. *Stamens* ile, a: filaments
hirsute. Lrea, long-stalkei
ma large peltate. *Pod* stjntll, quite
glabrous; wo y ovate, tnp io both ends
*8 in. across ; stipe '2 in, I 1 or 2
' in. across.

Pi- . *K-tc*

Pateli

H ! Di

TΛ'

B. Ft:

any of the othe and colour of its
Lowers, the smaller size of

from Bonn

;vor tli

2 loavoa and ono

the *Bin**;

Wall.

ere

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reinai

■Idenly froiu ■:

5 in

ni-grcei

nerved ; petiole *3-*4i in. lor.

rs m i

terminal corymbs 3-4 in.

.1 cross

pubescent, ereoto-patent, the lowest 1 in. lone

bs lano

long, deciduous; buds clove-shaped, the subcyliiu

shorter

than tbo ovo ite up] rtion. *Calyx*

vusty-1 fcose,

limb spli -:ng into subcqal ovate-a

in. long, *2 in. acri

tube subnylindricj icng. *F>*

yellow, orbicaltti nctly clawed,

ty-pubescent, s 3 fertile, anther- shoi

■ubescent along sntarea audoufliel

(-15 iii)-t,-; fnia large e. *Pod* (not

ohlong, woody, 2 in. long, '6 in. wide. So Bal

Ind i I. 278. -F .t migli

»t of C

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whether

■ ,, of *B.*

Lhat **apeciea ai**

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luug. i
racemes, 2-5—i in. li
tiliseti.

in dense
>• floist

imal and axillary
that

in,

long, lilly mdose ma

of the slende:

-^^P ube 15 in.

ial lobes -15 in. long. /

pinkish, broadly oblanceolate, 1c

∴ 6 in. long¹, '2 in. acr<iss, margins slightly wavy, sparsely pubes
cent external', :i fertile, anthers shortly oblong. 0

italk«d, quite glabrous throughout, st} lo 15

in.

long, stigma small e. *Pod OIKJ*¹ oblong-obtuse, tapt

. woo'ly, stipe *2 in. lung 2-3 in. long, tuite glab-

i. *Se&h* 1-2, rarely 3, very mv upressed, broadly OYate, '5 in.

ill.

Scortechin.

'■, I*

■ ottier Pfiiiiusaliir speeirs, nnd 1. ifloresconci:

la, its small I

;otion. It U «j-

allied to *u*

)5) w iiaving deeply cordtito leaver, in baring quito g)

bavinff the petals, though sinnlnrly -r and aV-tost j;labrone.

it possible thsit the Horneo plant may be the i>si, B. *cordifolia* T xb.

B

(>Jt^ H g. 90.

je climl

100 feet long

rasty-puberulou.

uls circinate

tej ya about as long as bi

with a deltoid apical **sinus** in. dc

in the region of inflorescences usually sm. 11 1*25 iu, !

in<

not infrequently entire; the leaves oi' ng TOO

I

King—Ma*

.-tilings p on 8 in. ■ . mud
long an obi ted sinus reaching halfway doT
h divergent deH
green, glabroi hove, at times nd
espr b are sorn
11, very cned at both i
usually L'75-2'21 in inflorescei
only: petioles of yo etimes
in. Fl panicli
oaes den the lo
:\v th
corymbose i broa
fruit, 1*5 in :
braota very
clove-sliaped, 35 in, long, the c^
ova' ■ '15 in. lo
^
lotiir-clawed, *7 m. li vide, man
rust :it exteruully.
iled, **dense**
in.,' glabro "ma small
2*5 in. acres', externally pn
I, broadly o-■I
at L
base, narroiring oblique' o the hilum. Wail.
'lor. Ind 11, 331 ; B;i ham
■a Benth. Pl. Jungb. 203 ; Mi i ami S

Ridley 1360

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1897.] G. King—*Materials for a Flora of the Malayan Peninsula.* 195

Java VAR. *Horafeldii*, and not the typical, larger fruited Indian variety, that is

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and is much across, the entire margin truncate with 5 minute projec-
tions representing calyx tips. *Petals* spatulate, quite glabrous externally,

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King — *Materials for a Flora of tin Malaydn Peninsula.*

within, ovate-acute, valvate, without, ppi»os externally. *Petal*
 1, as
 as calvx-lobes, densely nnTtjj , tamMaZ-sTieath and
 filaments
 linate hairy. 7 very hi, d^ obnqre style twists
 »/ na

pitate. Po(Z not yt t known. *G ledupa velutina* Prain MSS.

MALACCA; Maingay

Of this very distinct species uie or , specimens hithert Elected are M:u
 gny's. **One** jf these hag been vci. kindly placed at Dr. King's u..*posiil, Tor pori of
 description. ¹ v the Director of the Royal Gardens, Kew. There ia n<

• its nflR*' ■ being greatest, as Mr, Haker has already indicated, >•
media, and tliough i^f 'sas yet **imp** -isible to say if the "pod is mark
 oi¹ ibsence of spines, it is very probable, from the obli<| ' the ov;r_j, tliat it
 Et transverse pod liko *S. intermedia* and *S. sumo*'

<)RA coitiACEA Prain. A glabrous **brand**
 cite with glabious i" > in. long, stipules small;

.>long, apex rounded or snbi.cute, base round or slightly
 ,, long, 1'25-1';J in. wide, the lowest pair rather the smnH-

riaeeous, shining glabrous above, dull glabrous bfMu-n n,
 terous elose horizontal slightly irregular, very faint, petiolules

brous. *Flowers* in axillary and terminal^ panicles S-IU in.

11. wide ; individual racemes 2 imloag, with straight, thinly rus
 lions, spreading rachis; flowers spirally disposed, biaets |
 bractaoles not seen, pedicels thinly rusty, '2 in., buds oblong, thinly rusty,
 n. long. Ottfyjf-tobe short, lobes 4, C. ick, '2 in. long, very faintly
 imbricated ; spineless externally. *Petal* 1. *Staminal-shea.th* and
 tila

hairy. *Vod* broadly oblong, bubequallj r nnded at base so that
 utrong slightly rceuived beak, "3 in. long, continues the diveclion of
 the sT.alk, tip Bubobliquely cuneate, tapering abruptly on the
 dorsal,

;htly rounded on tho ventral suture, 3 in. long, 2*25 in. across ; valves
 del. 1 glabrous, woody, unarmed. *Seeds* 2—3, funicle thick arillaf*

Afzelia riacea Bak. in Flor. Brir. Ind. II, 275. *Intsia*
coriacea 'S. *Galedupa coriacea* Pi*ain MSS.

Chaban, *Maingay* 5u6 ! *Ridley* 2328 ! PENANG ;
 Tulloh ■H©!

¹ by *lit* Itidleyto bo the ^M *Sapetir*" <>r Bfnlaoca;

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' in Pangkor for the nearly allied **but quite** diefcinet 8.
 . L in Penan* as "*Mirbay.i*\ the ' *Mir*'"
liftmbanica.

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case.

The leaflets of this species are exactly like those of *S. sumatrana* but the pods differ in being

The **of it pine*** **larger.** **The two**

unfit. **few pa** **Uie**

iftl. **one de** **tli**

aosent or r **lers minute, oblong** **iniilly.**

Pedicels and **lets 8, ra** **ior6;()** **■>nh^K, Lj..** **■ ■**

Kiirz, Jnuvn. As. Soc. Beng. XLin **_, 78.** **A sv.**

6-8 in. in diam. **Leaves even-pinnate, 3-0**

eafteta' **pisiceous,** **u'on** **obloug,** **hase roumlec'**

obfcusi **■vgmfite** **ii—4 i» .** **ong,]** **J in. wide, nerves**

numer- **jjetiulules** **itincfc, '15 in. long, gl;-**

is the **mm numerous** **tei-mina]** **sinnle rarely sligh'ty**

ed few-flowered glabrous **ra** **s 2'5-. ag \ p<**

stout glabrous, **i> in. Ion** **iilong, glabrous, '2**

in. **miter** **hrnots. (Jalyx**

qni **somewhat exceed-**

J obJoi **;5 in. long,**

***. w'** **iong, limb *6 in. wide, -Ir in. deep with**

round **and wide-omieate entire bf»se, wl** **pinkish, claw very**

slender'3 in. **p** **long claw and midrib externally,** **St<**



rtile, **filaments** **1*25** **in., sparswly pnbesc.** **ik. Ovary**

stalked, **labruus,** **style glabrous slender. 1*5 in.**

ig. Pod5-(Ha, long*2ID. wid **"gid,** **i? curiaceon-..**

lar, i in. in diam.,>*25 in. tnick. **Bale, in Fior. Brit. Iw** **74.**

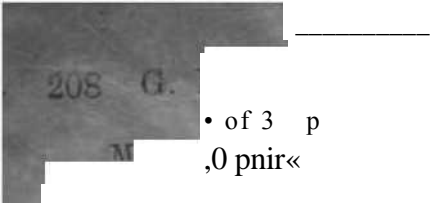
KDAMANS; Very common on all the const. **PBKIX ; 'Wray 24**

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 when ripe, J5-18 in. i r, 3*25 in. wirl ., ccn-
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 us "*Tulatis*" Mr. Goodenough n>

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.15 In Ion **ide, linear-oblong, somewhat cun**
. -3 in. , base cuneate towards upj-er suture, apex
lower suture which is pro ; a
stout

MALACCA; *Griffith, Aiv* t! *Goodenough!* **PEBAK; Scorte-'**

Id by Mr. OoodenoujOfh to bo " Gtapis Kog-

■*net' Mr. Dorry notes it us "B* ? "
the i era *arc palid* that separate tin's speoies and 8. *th*
riter's opinion, n very doubtful matter. Tlie cl.
in the case of *S. cauliflora, h* the presence of 7BI.
iy placed in Mr. Baker's species only those specimens whe
ioso however consist of but two gatherings, oue from Malacca.,
■*i Perfik; for, as it happens, nekher Maingay'e nor Griffith's specimens that*
'omi types of tlie species are represented at Calcutta. Tim pods
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were collected idenoughti in Malacca and aro placed Iiero bi Itoy
BTer from the poJa that arc known to bo! \i descriclietT as
a nnd from those that belo; ;. V_r, it you-.-
from Java are fe* supposed tu) ■ ■ ■
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species which Mr. Oi has
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of fact, of the three heru descri ifh Mr.
nit of the]<■ '-nibs OJ <■ a. hat *S. thu-*.
lo lutvo more I 8 tame us and therefore can hardly bo
it tlm characters to be derived from the
at iU vaii;<hle it may be possible to reduce

Btar
both
Mr. Bakor'- and atley's plants to *S. Ueclinata*.

i. A true 20-40 feet high, stem 3-5 in. **-10**

petiolulate lai'ge, 2-iJ-jiiigato, **diminishi**
meate. I 8-10 in. i

in. long, 2-2-25 m. **wide;** all chart
palor.beneatn, glabrous on both
surf
As, more prominent itli os is
■vioncljiry reticulation; petiolules -5 in.

lon^-.
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mg, gl ue branches 1-2 in. long, and tlie
-lube and pedicels,

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ra; unless it should bo found hardly be Looked upon an distinct species:
as yet, .

8. SABACA PALEMBAJHCA Mkj. vx Bak. in Flor b. lud. II,
A tree with spreading branches, 80-40 feet high, stem 8-10 in. in i
Leaves with rachis 8 iti. long; leaflets rigid! oriaceons 4-7

I

une*^

ronndt ,

pi

cur.

her dull; petiolule

rag, apex obtuse shortly abruptly acumimi

itly

-4*5 in. wide, secondary m

L2

Mi, dark-green abov

ath,

n. lont, ' gl us is the

I in bud heath b
in.

long. Flowers in densely fai

nodes, 2 h

nearly as iediincles and pedicel pubeaceni '■ r. Uic

lai in. long below the two ovate-oblong loading p

in. long ; bracts ovi

yel lie sk, rlindric "o5 in. long, exceeding the limb of 4 obi

B(!5 in. long. Petals 0/ Stan b ti .:

half times as long as sepals, filaments slender and inserted in tho

_j]lcs of a crenatei_y lobed fleshy ring, dei 5 are the sh

Ovary stalke-

,IU[then

as.

not seen.

Jonesia (Saraca)

baniai

■ Bat. Suppl, 291.

PENAHO ; Kulang Ulu, Curtis G47! PANGCORE ; Dindinge

ri

! MALACCA; Maingay '

lands," Bryant! PBBAK ; T-u'ut, "iu low wet ground,'

MZ!

■ liechini 13

ra.

This \ is \-v\y fear S. maeraptera Miq. but differs '
with iMit peduncles and pedicels, and

nailer flower

! coryraV

'■ribes the ov,ry as glabrous, hu> \s deraely pubescent e:

case of the abortive ovaries which oc A over, in the vnst me

flowers, 'ihon^h its leaves very much resemble those of 8. mace

closely allied to that Bpecies t ■ ipeoiea -which is muo

coi. Q the Malay Peuinaulu than.either of the o*-l ars.

9. SARACA T -. B; . in F! Ind. II, 272. A

Blend*

tree 15 \ h, stem 4-8 ir i;im. Leaves with rachis' 1

\oryr\ Le: thinly smbcoria 2-3-, very rarely 4-pairc' >æc

oug, obtuse v hout ar ...nipt aonmen* or

subacut

■ring from

•

2

ily ronndod at 1 ..u, and nan-owed towaul
in. wide, "sec , nerves aboafc 12 beyoiv.l the middle
fcc a cuneato bi

M

I to ;iy up mrving rd promineni ith;
i .shin- , dull glabrous <m I*
•lo in gflabrons as is the rucliis, stip
pules compl ' • >" ■ Joi!
in !fi (icled< xrils and on i i. long
l,»»» sand; ; the latter-75 in. loi
tlong s] icteoles '2o in Io
■ in. loi ■ ■ tg pink or
lindric, '25 in. Ion long as limb
Is. /' 3-4, two find a half to fchr: times as ion.'
! ted on a crcnated flesh
, long-»tulked, densely pub ndi-
<>l oblong, very obliquely rounded aj sulure,
r **obtuse at apex with** ||: ||: || |; |
4-6 in. long, 1-5-1'75 in. wide, much compr
'lbeci'ulous. i6 i-4-
iViih! Miller! Harvey! -tough 1463 !
1
BAK j in dry rocky pin jes, /C«

114

ill], DiN'i'iNOS; at Rajah
Hitam,
.; Sun- im; T* 3638 !)
Mr. Goo* b giv-es the native nme of this as " *Ttihinj*'* TL tea is
and differs only by il
audits **fei** n OJI the part of fi
■istrato **that** Mr. Baker'i species is only a form assnn
;roe thai itjuel as
■iild be •
»Iy not a *Saraca* at
• A small tree fv
branches. I. long, 3 pub;
■liy coriaceous, fi pairs, ovate-lanceolate, apex acuminate, b; \\i\y
Bly rounded, 4*5-6 in, long, 15 in. across, dark- [] glab-
nbove, pubescent on the midrib beneath and puberal £be
nV- etiolnles short, -15 in. long, pnbescent small sabolate
;it pubescent; stipu! 0 foliaceouseacb with a strong n
e-acute, auricula^ at base on their outer free margin,
connate le and braiic^ for one-third their length on the
inner , from *5-I;5 in. long, '25-1 in. wide, usuallj htly
unequal
ftdwered e
••1 on rugose wo *thick* old brand

in.Jong; with c-laneei sistent bracts aud two
sub-

J 11.28

the

mtl c
 it brnctei
 h acteoles pu
 ill an limb of 4 narrow-
 er /

a ri ntnry filament
 inm :menfc; filaraenis wi f subo ■
 antli as long as broai *v. 011S
 try pii ■ Pod oblong, oblique obt<
 - ■ '
 ■■prnoi ly rounded at ! 2 in. lony

1 mut, Q iO8!
 rery remarkable speoies, easily dis II those hitherto ku
 by ifs lar ripules, and its - ■ v.iiii p-aho3cen
 same locality, and on bofcti occusioua by Mr.

: CRUDIA Schre

rubs or trees. *JJeaves* odd-pinn&te or S] sly even-pinni
 't'o puunltinmte to the tei'miiml leaflet, the
 netim. beyond the ulfeii
 leaflct-s usually conspicousi ,lly su¹
 nlns interpeiioiar, stipels 0. *Flowers* in meet.
 iple or in clusters at the bases of
 new Italy shoots. C very short, with a
 ments 4 oblong, t ■> persistent, reflexod i Mower.
 ^ (0 (or 8-9) exsertcd, filani uts free filiform, oblonj
 longitudinally. ;, few-o
 distil labrons stalk and
 ainal oapiti i-igidlj
 d v:ih |, cxiiltinin
 one .each **Indiai** i ine or ten **American;** about I

The ol mea for this gonna, according

Vs the first name was bu.aed on the flowers
 of
 'iis gen ■ fruit of a Pf- ts, it ennot possibly i
 meat of the second name which vri
:■ group with few lenf! >bia — '
 and 0. **Wrayi**, among Malayan i >"g«
 ta more than 3 (§ *Grudia*):—
 L«uHots ins, very 1.
 pi-olongi. st of the
 ously nUei'uatc leaflets; (iu

u F

iflets . acute or shortly ac imirmte, racliis not
: u .:»i I i terminal, often epiuiiuufily

ovations find pubes uniformly
or pubescent ben- rtSemes rather lux ;

long:—

I ■ j iX-13, lanceolate, pubescence tawny,
pod densely rusty-pubescent

jic;i' boviito to oblongj pubescence grey, pod
iwny-pul

[Leaflets jmbenloas beneath; ape

shortly acuminate ... v.\ t;
u/ pubescent be-

... VAR, ? Wai

h\o- glabrous; mcemea rui:

petiolulea ami pedicels rather sliurfc :—

• 7-8, glaucoufi, tflnbroue on the ner

xv' ■ inly pub< Meneatb ...

Lotitlota 5 (rareJy

- 3 or by

>

■"-■ts sn:-.

icemes dense ivitl¹ ■■

keitii oblong, racemes sparge with glabrous

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... 7. G.

IA Pj'ftin. A email ti'ee with Blender at

lei

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aud densely rusty- torn en tose new shoots.

/.
s 1*5-2 in. long, petiole articulate, the i

I by their inner margins at the base only, eleewl ore fr
lanceolate, densely rusty-pubescent on their petiolar

!ieir

aspect; leaflets 5-7, p< .-, densely rai

onged beyond the lust- le

ulatct p mate, oblanceolate, biise rounded la lov

in a]>per leaflets, apex prolong.

in. long, 1 in. across, rigidly coriaceous, dr"

..i{

shining above, dull and densely m i;ent on

d ^

ending-, looped within fciie inn

ndary venation pTomtnent beneath, all nerves obso

the bases of nev

close under calyx ; buds oblong '2 in.

»rabricate, reflexed in

ely ruoiy ou^.

irous

tij)itafe; densely rosty-"!

u x . y i.

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nsely, shortlj
1. in. **Ii**
• cont. *Seed*

Tnnjong Kn;. Born

it h, ;h.'d jiuila.
CnuL> INII Praiu. A ti
[ji :• wny-pii **odd-pinnate,** i*s nip;.
an auricled node with an internet^ tule,
in. long ,s is
iinceol; gbtly unequally rounded,
a]

:| in. li ■ ■ ■ ■ . 1 in. vvii

G pairs, notmuoh than the fin-
wv i-acemes a) -nds and bi
ilar tawny-pnbeBcent rachis; pedi
puberalous, many of the lo
|

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iils1, ternntely ■ .. -I kraf
,, sti]- tawny-villons, 1- i
inoarved. *Po*l obloi*
■ th ends, den
' "5 in. \ lj fiuiioulus eli
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3. ;tt. A tall tree 80-150 fcot high
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i i g crow n and den sely g rey-pu beset' Dt branclilott tin
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:odo vi nterpetioliir 2- , . w
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oblong, ba obliquely
ly caud:

1 1-5 in. wide, m uni'iM-jidv
minGiitly looped within mar^iuj

iblong Lo Hi loug, Cuh/r-iv

imbrica

filantents • .-,• u. c ■ J 10,

brcmdly oblong, versatil
2-OVUI

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calyx-tube, si

ilato, 3 in. : at tip, rust}-;
ide, *5 in

long, 12 ii witlo " in.

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(Wall. Cat i)83)!

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ssiblo tJiut whou it is re Jiscovered

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A tret i -70 feet high,

I '<■(in ■ fiiu i. Leaves odd- :

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•y obtusely cnspidi —4

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' in. wide, '6 in. tlick; vy firm
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10 in.

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Petals 0. Stamens 10, fi! . i
long, mi Qsely pnbescent, 1-

J-oyuled; btalk
Btyle glabrous incurved. *I'o* *Tor.*

1 ; "a very I me tree v. nd si

I (A stimll tree \ lender gii
petiole articu]

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papery, pale yullowiah-gri b I i-al
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pabci long

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Secant, 1- ■ r 2

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ins Prain. A slender shrub

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-.■nail node, **with** inl

stipule

bluiig-l;ut

f rounded, apex shortly ca

ii-

mg, 2-5 in. across, firmly papery, pale **yell***

a on bo aces, lateral nerves ascending, about

i ion Sf- it distiuct beneath. *Flowers in* ^

ow

[kes afc the ends of new leafy shoots, 10-12 io. long i

raclns; sessile, mil

1 **obi** on long. *Oalyx-tnhe* very s!

e glal

lately short *ami*

long,

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i.lk glabrotu

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wet ground in dense f<

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iy related to *Toiid*

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uveg, but has Iar

o rachis

i-y short peilict'i

:■ Pfv^

r YogcJ.

Tall n n arm od tree:

>**ipinnate**.

Fi

B11o*vy,

>r white, in axillary **and** in panielcd terminal racemes.

Cni

the base, teeth subequnl, \

ill, iml):

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Ovary.

i u ihiii broad wiug on each sutu
ropice.

xceeding the calyx

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across, brau

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35 in. in diiuiL, pcdi

rnsty-pubescen

in. from base.

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iong, ,

both Bides, tl ate

with rusty hairs.

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ely villouB, style

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rat, the

i. Pod

I in.

to both ends, rigid, glabrous, closely longitudinally Bak. in

Flor. Br . Uon, '

i, 4(32 :

111. O. ark

loll. Hi

..eafc. Arch, III.

. Flor. ind.

Jjiit I, L12,

AKDAKUS ; K«r

/ KBOAH ; Langkawi,

SIHQAPOHTi : R».

.%3077! DI8TBI8. Borneo (/

■HUM i

i,[s Kurz ex Bak. in FJor. Brit. End.

7. A tall tree '

coven bh a in!

toinentnm. Leaves

petiole 1-1*5 in. i >ng, *■

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tchis, J.

in rnaty-pi

bite to -15 in. from

'25 in. loi

.;, oblong, yellow, the thickened LH
 : glabrous, *Stettin* free, film dry on be
Ovary pubesc< rough-
 5 in. [i 25-1*!
rid, 1-5-seeded, im y **puberuloaa**
 id ii , 'i 113"-
 F>71. *O. dasyrachis* Miq. Plot-, ln. 1. I ippl. 29
 ! 1394! 8172 !
 amon, Sntnati
 in Jfalacon is " i3a*rti " or "; Baifa B,
 [P. < ■with
 pwik.

Lr
 Ro) -hrubs, or T. oody pv limbers.
 'tpinnate. *Flower?* shn .
 isconfi be lob
 fcbe loi cumil late. ,•
 ., the uppei • ir than the others,
 ree, denlinate; anthers oblong, uniform, versatile.
 '£ snbsessile, few-ovuled ; style filiform, sometimes c\NBH<nl fit
 the tip, stigma terminal. *Pod o)*> t, or
 thicker and . ^bturgi ein'sceut, smooth or (in e
 t?<i wiry spines. Sp t about dO,
 widely

ad in tlifi tropics of both hen; es.
 ned ivi: ifliun wiry prickles; petals narrow
 » Btj- acts sqtmrroae *C. Bond*
 braota asconding ...

unarmed, petals broad :—
 ■iry, tliin-v.-. itrowsntnres (Bur <
 •lets few, cornice MIS, large; pods Bhort, soods soli-

Leaflores m: -us or aubcoria<3eon#, Bmal] : po
 lo •>~8:—

:s long, fur-exaerted j petals loii^'jia-^'i sal-
Stamens shovfc, **Httle** d; peU13 sKort-cla- *G. pulcit\$rrima.*

(§
 i rbicalar, fiotrs *75 rn a:—
 •pules 0, **Efuuil**, pod wingless broadly
 blunt-pointed with i **oak**

pod n

Petals r- ... pointed wil

Prtd r fleBhy, thick-vitlved with mdi
(Ci \BPUa) :-
Lewf ; racemes lax, pedicels mucb exceed

iDgca!yfx ... 9 () tortvota.
Si i EN. 1. GDILABDII dry, i
y }>ici trrow.
1. iat. Resffi

armed with many nsmall hard fnl w pric aves
it long, with i of reduced ' hoi
2-3 in. lon^, slightly lengthening npwan
a, ovate or elliptic, has
pex cuneat. icronuli
•3- 8 abov-
on petiolnies very i pound

pnnicl* ise at top, laser downwaids, 6-
(in D.) long aflexed lanceolate deciduous bracU
"3 in finely brown-downy as are the pi
i/sobla ;e,littl

low (.■-■. broader short
f>k y grey-sill
densely
: . II! '5 in,
in T 154 'Guilaud'
Wai W. &A. Prodr

irt-
ommon on. the coasts. PE^ 991 j:
•politai eg,
■ >rt. Bcng. 32. A large
a very sive, wi
wit^1 falcate brow 1 |es. I
ales ; inline 8-lr.
J.2-14, B subequaHy vo cuneatt



iple^{or} ^<rathe* lay
 I (in frjs.it Lth JOUS
 bracts - :inely brown-pubescent as are
 the
 icels and main-j '2--25 in. 1 iosely do v, :bt-
 pink. Fetah oblfuticc- little oxserted, yellow.
 Elky, declinate #/ rather d. y *i:pi*ate, oblong, 5
 in
 long wide, sparsely strongly aculeate externally. Seeds
 usually
 4, ol -Sin. across. Eoxb. Flor. Iml. II, 362; Bnk. in Flor.
 Brit.

' Bon due Linn. Sp. ^T DO. Prodr. TT
 7&H. Cat. 5806; W. & A. Prodr. 280 in part; Miq. Flor.
 lad.

N^{re}-

L062I 0

n tie tropics.

2. EcaE*.u.nNJA. iWdty, sroad. . valves thiji j pel
 § 1.. few coriaceous'shi

lawed; ■•

III F

rjs 6-12 in.

long-, leaflets ti- rigidly
 eon antj shining above, < rely
 y rounded or oneate, iu.
 iite g] on bofcii es; petiolules 15 in.
 ;. Racevi .! panicle extending inr-o the axiirs of the
 ■>-U> in. long¹, G-S in. across individual podteels
 *3 (in fruit b) in. long, with small ovate-hinee<
 J in. Ion». '20—3 in. longf, leatliory, quite glab-
 '»• Got :cular except the
 ier smaller oval ipper 1 i. Stamens deixsely
 >, deal Pod 2 iu. long; I "35 in wide, obloi ked,
 ■ !, indeniscent. 8 iiLary, black, 1 in. long.
 in . [I, 481 ; Miq. Flor. End. Bat. f, 10S ; Bak. in Flor.
 13iv »• Cm a pameulata Deaf. Cat. ed. 2 Roxb.
 \loxh. Ft. ■. Ind. II, W. &
 . To. t, 36. G. suniutrana WatJ. Cat. 5831 J)
 •"833, not of Sw. 0. sj
 nig in Roth, Nov. Sp. 289; D.G. Prodr. II, 482; Wall. Cat.
 6820. / Linn. Sp. PI. cd. IT, 5io.

fc 50. *vary* cut union on all the coasts and near muddy
crocks.

nearest ally oi' - not any pic

■ vii .13 M

AHA Bth. & Hk. f. Leaflets small, nuier
lumens very far exserfced ;
y long-cla •*&

MA Sflr.Obs.IG6. A ah nib with gin,)
weakly prickly brandies. I, ■■■
long", pini.. long, the proximal an 1 rath.
)

11 Oil 10

nuiial and axilla »pie or very
ig, at length bose, 4- wi3e,
■ ; aching 3-4 iu. iu length;
in. loug, tjuit

L, lam iti

in. . 6-8, b] glabrous, neai
1, brown, 4 in. lonu
PI. ..■ Miq. Flor. Ind. Bat. I, 311
i puloherrtma I Ann. Sp. PI. 38
Bofc. M: 11, Cat . Roxb. KJor. In(
•dr. 282. Hheed f, l; fta
■ in. II, t 20.

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iacent, with hard PI
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\nal. In Wlor. Ind.
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o. t. 13, t. 1



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Ftilo Ohangei, Rid'- . DISTitiB. India, Indo-(jhi
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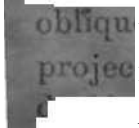
iu.

ts J6-2

■ug, apex ob

slighi I 3 in. 1 ather pal

brous abovt, glai and slightly pubescent beneath ; sti]



obliqu taped caarj tucuminate apex, with

ing aurieultLte lower angle of base, '5 in. Joug, •

Racemes termii ! axillai'y all Bimple, drooping,

6—12 in.

i-patent, •

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v, all orb

.IMK

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1, inate, g lensely woolly in I

half, I'od in dehiscent, linear-oblong, 3-o in. long, 1*2 in. aero

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Jl. Oa

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Brit. Ind. II

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DC. Prodr. II,

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iuru, Hurt. But.

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Ps iovt. Hill, 2500 feet,
sout! radnced in America.
: ill. A SI:
m 8-12 rind witli '
sparingly les. *Lea*
2-3 in ; leaflets 3f
ceous, obl< He, attache ttrally but
subam ^-x obi; use rounded, •ng,
in. wide in VAR. : (or rare!
stipularis, ibining ab ■■.-. .dull
berteat¹ rlabrous in VAII. ; !y paberalone on tb
in v. ■ ; stipules lanceolate lte,
S,a nmp1ft terminal again brand
upper ^J, 2-3 i.5 in. ac
:ti-raobis and
ar or lancenln 25 in. loiiL'r decidu-
Lis, puberulous. "3
•put. *Pc* angf m. Inn
ifle 5 in. in lengti
lanceolate, "45 in. I - in. wide, margin
entii-e
in. Ion?, hardly equalling I
FKKAK ; at 1 '9!
T5 in ;i or the
midrib
h pu]> ; foliaceous stipules broadly o -7o in.
ride, continn. portion of the more diil'aseli
bi-anciiin^ and morr densely pube inflorescence, theii*
margiug
oftc bracts *Is* equalling fche pedicels.
ii the pTati *ay* 39b 1611
the typical variety of this Bpeios 1H very ti
small flowers e
Hkfi a ; I) ftboadantly
tiuRii ier Iudo-Mulaynn species.
9 not yet known and it niav ^{9a17}
o calyx
'JUS, are exactly as *h.* .
ii as *n* aomewhr. ^{iOB} OP aaoan
i foliaoeoua *tail*

or, at ent
bv.

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ingB of v.B. ? rtipularU ifc is noted thai J
SUBGKK. 3. [DOCARPoa Bak. ;i ,hv
na Iced on the laces, with thickened

.. 3, A dimmer with ; M or s]igh% dow ^
ith sci ***** 16'2a iu

qually rounded, 35-- oblonT
ium-green a. " "
atipules,sub Of all three
ryeal

I, I m. long,
>s, 3 in. long.

white den, v wool I. in • he lower half, decline
i, ao, little exKert,
»., with moih

Fl : Beng.
Miq. ^ " kceratIs Wa.)\, c

**** , **8! To ,,,<«■
r A' So
"«««. 3S ,toot raU
Reaves iz-lfc brand
<hoHer
OR6j rirfrlll, ,,,!
■ 'isp or rounded, base 'i io.

!e, dark-green, glabrous on both snri
llar_V k, 15-18 in. long, 1-5 in,
*5 in' klt fkbroufl he atoa
caduco o" ■ iieiy, quit© e,a
y cuoullate, -3t> in. <£B
bright-jellow with red sfcr6fi bLI f] ""
in. acr , -25 ^diai t "
^
, dens-r .ooll: £*Z?

lonr: 1 ∴ across, turgid, tortiloeej seeds 2 j> Smr

G. King — *Materials for a F*

n. acrbRR. Wall. Cat. 5827 Roxb. Flo

I : Lud. Bat. I, 100- Bak, hi

V\w roj Penara Buk> n.

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3 flat, radii;!t

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sply cloft, with a wide iiort tabe and

; 'ir lobo deeply cuctalate (£•• J:—

\xgt i pods 1-Beeded 1. if. mr.iiUai\ttu,

Htiate, .nallf pods several

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pecK uiocas, jointed near basft of
leaflets cuient' X
Pedicels glabrous, jointed considerably below base

of r

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•ov© the base, «.-■
(Tubi Lerantn)

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. 1. BOMI

1. MI

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limber,

:ncd witli small dark sh»i

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&-8 in. long; '

teoua, ovate-acute, ba^

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2-4 in. iong, 125-1 .

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both surfaces, dark-gr

It, secondary

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China.

2. MEZONEURON ir

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j J—Jo ftset long, pinna: 1

ig, len:

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'5-1 in. long, "2i

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I'most leaves

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:UNSTLSRI P-r.in

A larg, climber, hvu

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>rons, -vribli a

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mte 4-

in. long, leaflets G-8, alternate, subr

:uneate a<

ist.eqxiallj ItfoaiTeno on the short

fibrous on both
 at beneath, second v, faint,
 1 "> in long. ly
 pub<
 ly pube .1. in.
 fjr^ al deeply
 the sotted as is
 . across I i s-orbicular
 equal. Ovary dycl 5-oi nu*
 i vor; yn'iUjp;; wing half n
 fl.l., *Kunstler S95!*
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 ^7 in. long,
 rig'irll; be, j retmse,
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 ■ on (1 ■ tiolulc, *5- i
 in.
 green ab ed ; petiolui ■lo c^1 ■; into te, the
 •iiiB and t!" la 'o-'7o in. long, joint*
 Go,* ous, leatlicry, ant oucullft*
 . long, the rest oi-bicular all rei i and yellow ,
 gland-dotted as is the sliivllow rtither pal(m ti
 tube. (yci fco . and
 a I nod
 hii-sute
 thin, , nor
 ANIU ide), fine¹ wMe-i i\ t.hitcd_T di *Man ! I*
 very ■ ;(r Pori B1

■>■ a *Fhra of the Mai*

Su; Miq. Flor. !■ t. T. 1081. C¹
 \y cleft, the disc bove *tin* . lower lobe sJmllow-cn
 5. ;>E^OXKL UMA.TRAKUM W. & ,A. P
 • lfcbrous, armed with a few u.
 pinnee 6-10, 8-12 in. lont 1'
 is, obor;ite-u
 y pfiGriiMy unequal, 1"6-2'5 in.
 dark-green . paler second-
 ifvrm/- .lulos "2 in.
 ■ ;uiiole of sii
 1*5- abroua
 nin racbi • ; pedicels
 ■ous, leathery, anterior sepal orbicnl
 in. lon^ Mie ofcliers? tube con ■ *nir
)lla '!'>o in. rig, of 5 subequal ji.

fflab 3-4-oi tigma f fchin,

Mitt- Flor. Ind. I m.J> and I, 1-
 Brit.] . *Css6i rana* Ruxb. Hu:
 Did. II. 3 rail. Cat. 11A only.
riffith! *M* rhaipeng,
 S>- *d* 17H0! i
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; no doul >iis Dr. Mi

B. Dr.

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 >he I rubricated, .re lion Kn
 preading, ob] equaliiDg the calyx *Sd* 10,
 . anthers obi rsatite. 0
 uledj style aliform, sfcigu • UI
 ithalargehoj Spec o Afric
 >ie AastDilian, two Chinese, l
i witi) tlnn angular gli tsj laxly 20
 8d.

It st.out terei<o pabcrnloua ra
 pedioela not Ion -<.W\... 2. *P. denr*

1. PTE:I;OLOUHJM UA -RUM Kurz, Journ. As. Soc. Bon.
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I'minal lary panic! i-ous sH der auguta
branch< 4 in. across, l race]
fid.; | tedicels glabrous slender i > in. lo

■. Corolla

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Tliis Kj ■

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BIUM I

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jides, '6 in. long, 'i,j iu wide, sul

Uotli surfaces. Ji*

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.ufc subterete puberuloi bis and

across, individual racemes 150-20U-1U

6-6 in.

- slenrier Kpix "25 '.long.

■ inly coriaceous, lowest il '3 in.]

I 2 in. long, glabrous; s<

.11. long! "5 in. widn, wing -5—*7

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P. mic

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* tita

it cannot possibly be the true *P. microphylla*
obvious from tin; ifc Miguel's plant *hna* linear leaflet* smaller than those
<• *ropieruin* of *in*'s work — nrranged in From ;
: !_1Q p,; ivhereas *P. densijio* % leaflet* larger
tjmu: raged in from only 7-8 pairs on 4-£ paire of pi time.
: ^lit. 'e ion no doubt arose from the Fact that he had not seen the
8 of Maingay'a plant. In style of inflorescence *P. -rum* most resembles
Chinese *P-*, ETemal., but that plant haa less dense aud less numeronsly
d racemes, and has vL-ry ih'fferent leaves,

BO & BETI IIT.

IVees, shrubs or v< 2-pinnate, ly
very ran
[y pinnate rs small, rari ly *eh* d, tubular, sessile
ia

► r cylind pikes, rarelj id and in
globose
umbels or slender ra ts small umrow . u.fed at

tlte
ti; y imbricate in bud usu dnrin
[anfcli regular often in 5-merous,

sonie-
iius, rarely 'Vmerous or 6-merous whorl valvate
Ar/Vve), mi-; . free, usually f-onnaf 5-toofclied to 5-lobi ;
sometimes 0-; diec-tobe 0. ZWu/ras U •, free
ipua or obscurely peri^ynoi

?/a-
twice or thrice iany, as ; or in .^u
phous, or iidnate to base of corolla tube, usually ed ;
ill. ver iiiscing longitndinally. '
free at base

calyx. *Seedfi* usu; ite or orbicular, oompressed,
with busihr
hilutn ; rarely tb or ovoid j testa hard, albumen 0, or
seal

us fljtt;; radicle -h .tig-lit, sliortly exserfced or included ;
fuucxtlus expanded in a small fleshy arillus.

ors gland-tippod ; -10) :—
imbricated (Pa fi\umf>nts xt8iin)ly
nate at b inflorescence to;
1 ...
68.

Ciiylx vhlva finments free :—
icence elongated; (species all ■—
Fibwara Besaile; great oliuihera with ite leafl.

31. NEPTUNIA.

32. XYLIA.

find Im 59. ENTADA.
 Plowerf .sliort-stalked; trees with alternate lealiets
 and ■ - ■ ted pods 60. ADEXANTHBgA.
 inlji , capitate j small :—
 ,-Mii^ll aquncic or anbacjantio herbs with small thin
 pods opening early by upper suture; seeds small ...
 Lofty trees "i;! largo thick woody pods, late iu
 dehiscing) opening by both sutures; seeds largo not
 gland-tipped ; fcayjac vulvate, rarely i
 . s free :—
 Siamena " ' 'l twice as many aa petals

obi;

PHI.

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apex of theraclns. i

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lunelo 4-9 iu. long. Galy "

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(Ai)y *Parbia* at a!J KC^U

-. ami larly iu N -m; n I hly improbable fcimt it
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' found, in *n* wild stiite, either in **Indo-Chitia** or in ii

PARKIA !

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LS or gl

' ■ .;

pin 30 pairs, opposite ;

frets small, fa

voids, linear-Ian

pairs, **finbequally truncate i**

je, apex aci

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the margins

∴ long, *1 in.

-racliis

g vrith 1 solitary gland below the

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5 .solitary glands h

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ay pairs of pinno

apex of racliis. 2

in dense trnrb-

ii;<' i, 1*5 it). lon£, 1 in. in di ;if. C g
tabular, shortly 5-cIeffc, '25 in. long, teeth pilose, rous. l
Corolla tabular, pale-yellow, segn ute. *Stamens* 10, e- a
til. i'laments connate below and sidnate to corolla-tabe ; anthers narrow. b
Pod (including stipe 3-7 iu« long) 15-20 in. long, I wide, '3 in. r
thick, black, glabrous. *Seeds* "12-20, oval. *5 iu. long. '35 i o
in. thick:, dark-brown and smooth throughout. Hak. Flor. Br u
II. 289. *P. Brummie* Grah. in Wall. Cat. 5288. I s
Tnd. Bat. I, 52 not, of R. Br. *P. bigfoboëa* Benth. in Hook. Jo urn. IV .
328; Miq. Flop. Ind. Bat. Bappl. 2,- lord. & Vnl. Bijdr. I, 276. 1 C
intermedia ! Cat. Horfc. PI. Jav. liar. 4! o
bi/jlobnsa Roxb. Flor. Biit. Ind. II. ." Jacq. r
SIN « VLACCA ; Panchor, Q o
1748! DISTRTB. Wild in Silhe Cl cultii l
sparingly iu Indo-China and Malaya. l
a
Mr. ■.Qj^fii givea the native namo an " *Ktida*ong*;" tlio •
an flits apeoies !a said by Koordcrs and Valetto
in .Tuvanese is n>
bnt the.nea*, i should be noted besides tin
ia wild in Silhot, Onohnr and Chitfcagong but is the
ii tluit- Ifassknri as a diatinci midei¹ tlio «umo P
[r. Ridley's spe from the sii
ir nml Chittagong (trae P. *Ii*< .); Mr. Goodenongl
otlmr i bsolntely identical witl from Java {true: P.
that P. *in*- 'I 1'. ivojjinrj/ui are the r
ttcie?, tlie writer would wish to study the former in the living state ; it is ,
often
thing I i another, from herbarium ■lone, species found w
by HO competent n i Hrissskarl; so far as our Calcutta Bpecitneus go, the h
evidence is alt¹ or of these two trees being quite difltiuct. i
t
e
3. PAHKU SPRCiow, 11 ass k. Flora XXV. lieilj^ 05. A
Iarg
with spreading branches, 80-100 feet high, Ft m diam., \
branches glabrescent. L .-pinnate, main -rachis pubescent, 8-1
long; piunoB 10-16 p;i; nate, secondary rachises puberul<
in, long; leaflets small almost !ii, Hoear, close-set, 20-35 pairs, sub- j
equally truncate at base, obtuse or refuse at apex, "Z'i in. long, "1 i x
with strong median and 3-4 pairs o£ distinct secondary nerves b s
margins with only a few £ e
mam-racliis
1—1*5 in. long, with idway be ba i
pair of 1 and with 2-6 solitni ds bei of a9 .
many pairs of pinns is. *Flowers* in den; ^{Wly}
clavftLo heads, 1 in. long, '75 in. in diam., pedunck
anthers
L6-20 in.
long. *Calyx* tabnli ily 5-oloft, -25 in. Long, teeth f

filaments connate below

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■ (including stalk 25 In. I

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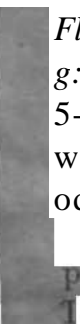
ij-ovuled j style filiform,
flat, woody, very I composed oi
J. [i, 31

ill a 'j

joiuca,

0. King—3!■

arp persistifi bicular st-
 Sp< ', the others Trop. African and Ami
 TCNTADA SCANDI:NS Benth. in Hook. IV. 332. ■
 ■ge slender ci ; branches woody U glabrous. I
 2-4 in. long¹, the racMs as long or
 I Lril;] mally 4 with stalks 1 : oi
 obovate, obtuse or acute, 1-2 in. long,
 green, y coriaceous, shining above; petiolules i
 of pednncJ , 6—10 in. long, usually panic<.
 old Irafless bra riometii ue axils of tl
 Flmvera 'L-*15 in. long, se&ul< idicellate. Calyx
 g:
 5-toothed, teeth valvati ::_4
 wide, 1*5 in. thick, slightly curv
 ody depressed .



tendency to eegmeutati 15. oblong", someivli with
 long, 2'25 in. wide, 1*25 ii n, thick toi
 ititly oily. Brand. For. Flor. 167 ; B;>> . in J Ind
 DC. Trotr. II, 425 ■
 . Flor. Ind. Bat. I, 45; Scheff. in Nat. Tijds
 XX L2 t. 1 E. monoatachya DO. Prodp. II, 4
 . 293, E. I Syst.

11,
 fc. 17, fc. ^I<" >ls iJinn. S] . PI.
 Ind. 5c 4. Bnmpu. Herb. Amboin. V. 5. t. 4; i
 (VII] t-77.
 As very cbmihcn on 'i coasts. NiC nrz! C<
 ! NAUCONDAM ; Vrain I PF.NANG ; Porter (Wall
 D>ACCA ; Hervmj! Den Pi ini
 r 10U / 1G7C! 1715! 2S(J6: Tr
 generally.

Bather variable as to number and size ni ■ i forms
Soheffei- oocnr in our area. **Thflt** \vhiuli ho tor in i is .
 tlio Malay Peninsula: **from** tbo
 Andaaiaua **B. Pwaatha** is reported.

60. ADENANTHIFBA Linn.

ct trees without spines or tendrils. *Loaves* ampl<
 ante, in narrow -like raceme phrodit
 .orous. *Oaly* qually tootled. *I'eta-* '&te
 late, cohering only at the very base. *Stamens* 10,
b
 orolla; anthers tipped with a gland. '•■
 >-o\iiled; style tilitorm, stigma minat. PoJ strap-i. ha j
 toruIosa falcate ii a ceous vll v 6erfu*ftta

small, bright-colored. Species 4, spread through tropics

189;

Coria.

>lets o iteous beneath ; ^ininu 8-12 A,
lets aou nboralooa beneath ; pinnas 6 <pavo-ni,

I. ADBNASTHEBA Linn. Sp. PI, 384. A Bmati nnr
20-~»u ugh. Leaves with a petiole 2-4 ii

pro] 6 'i- not produced beyond last pair of pinna?; pin>

l-C in. long with stalk '5-75 ii. long; leaflets al' t- oblong,
base wide-uuneate, ape* obtuse, papery, "5-10 in. k

rk-green above, pale glaucous beneath, glab^ . 3km
petiolale "15 in, / vice of narr

ii n. Ion illary or paniced at the e

I

r15 in. long, on slender pedicels also. *15

■ green, lobe small. Corolla pale-yellow, the p

1, vai . w-lauceolatu, free except at the base,
glab'

tautens 10, \ wily oxsort< tipped by a gland. Pod

ilat

in. in. wi*!'- . •? in, thid 'onti- hen ripe. Seeds 10

Q. in diam., *25 in •■"hicic, with a smooth ;liiuing, u<

' ; Roih. Flor. Iud. II, ■ .

C70

ill. C W. . Prodi-. 271 lit, 111. t. 80; Bedd. PI

lad. Ba .or. Brit. Ind. II

A y coinnion. PSBAK; Thniping, Scortei

1515! KKDAH; Langka^Yi, Ourtis! TONGKAH;

Curtis'

dor 3091! MALAC rijftthlDu V7idespreu

mth-Eastern

:iu BICOLOR Moon, Cat. PL Ceyi. -I. A small
et high. Leaves with a petioi<; l*5-2'5 in.

lonj

I iu., noJ produced beyond last pair of

pfn

*in. long with stalk -.; in. long Leaflets
all_.

, base rounded, apex acute, rigidly sub

bright-green glabron abo\

HL address 'cms beneath; petiolule '15 i,

of narrow Lunclcd racemes 3-5 in. long, axillar

ut: ■ the ei *Flowers* small, -15 iu. Ion lender
 •Is also '15 iu. long. , lobes very small. *Odrolla* ■
 whi
io petals equal, ■. ic-lanceolate, fi^ee except at the very bas ■
 Stamens 10, free, distinctly shortly exserted, autL
by a stipitate gland. *Ovary* glabrous reddish. *Pod* flat, 4-
-6 in. thick, contorted v ipē. *Seeds* 8-10,
 in. in diai thick, with a *lh* ■ : red, or
:1 testa. Thwaitos Enum. PL Zeyl. 98 i. flor. Sv
JbiorBrit. Iud. IK
-

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/ PERAK J Larut, Is
;: Wray 2

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292) j Mr. Brace

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be given a-

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Lnding petiole 1'5 in.

:i stalk '3 in.

blong,

-5 in. I

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glabrous ; Sn •

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■ . oblique, *5-

"35 in. wide

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"2 in. I

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Hook.

lor. Ind. 1

m» Roxb, **Cor.** Pl. ■ : DC
 Tnd .. ■
h; Wall. >
 Prodr. II, 4 I. ■*
 ttal, *Ct* 1:*KOV. *Wi* vworth,

XTLIA Benth.
ive \$ bipinnate. *T'h-* id ron
 1
 (7a%a tubular, 5-ibofcln 5, val-
Stamen

mial. Pod woody,
 .te between fcb >ug

Hook. trn. Bot **tl7**
 A
 naa two, tern.
 linii"? 'JAng

long with a
 ir of *I* -tfil leaflets :i-6
 pnir 1 in. Long; all obit-

oJule "1 in. long. / globose lie;
 pedoncles pubei'ulous 3 ii 'iD
 pube acblets developed with the
 lar '2 in. loi
 , jietals slightly* c ' base, va
 ;-■ I .a. long, yo:.

(1. *Ovary* sessile, many-OTU
led.
 iltimati , 4-0 in, *h*

'L^y o\u ici m] *a* the seeds. S> 1.0,
 5 in. wide, *J in.
 ■, sliini: will. Bedd. Fl, Sylvat, t. 1 Flor. Ind.
 Bafcii I. II, 2 -i(?a *xylocarpa* ROJ

d. II, 543. />5'.
 I Wall C. & A. , *lignosa* *Qri*
I. dolahiformis Grah. in \v Oat. 5279.

279. DISTRIB. India, Iado-Cltina, Philipinnes.

63. LEUCJESA Benth.

... , u o u a l 1 y p e r f e u b . C V t / s i / r c y 1 i n d r i c a l - c a m p a n u I

shortly-toothed. *Petal** valvate, free. *Stamens*
 hers not gland-crested. () -ny-ovuled irm.
 stigma minute terminal. *Pod* flat, coriaceous p-sha^ "d, dehiscent,
 a S, Liosfclly American,
 IJM/c.; LUCA Benth, in Hook, Journ. Bot. TV, 416. A <ect
 reo targe shrub, 6-20 feet high, without spines. pinnate
 > ag, pi out 2-G : t~8-jugate, 2-3 in. long,
 stalk
 S^iu. long; leaflets 10-15 pairs, linear-obl 'fitly
 iqaely cuneate, glaucous branous, caducous, finely downy, '4-v
 -15 in lemse globose -75 in.
 in diam,; pedu
 long a D L[y an
 ' cylin! | white,
 ' 15 i' <3rs
 Tvi: ced, many-

t) 6 in. 'oug, "4-"
 imi-row-ovato, >.,. :.upressed, apex obtuse, base
 liick, testa brown, Hhining.
 Bak. v. Brit. InrL IT, 290.
Acacia

Willd. Sp. PL TV
A. glauca Willd, Sp. PL IV, 1075; DC, i
 Willd. Sp. PI. IV, 1075; DC. Prodr. II, 467,
JJleucocepTiala
 Euum. II, DC. Prodr. II, 467.
 .pen jungle, *Kitnstler* 1703! Pr: ->-stone Hi
 . on hilly gn. tier i:
 r lo Tawai, *TZiJley* 264.2! I Water-fall, <
 19 RE *M.* ;/ 583! DISXRIB. Now cosmopolitan
 in
 .t probably originally American. m

Linn,
 \bs or herbs, with or without prickles. *Leaves* (in the
 Malayai
 (innate ; leaflets small, sei- ligulate, . is. I':
 ise globose , (in the Indian species) m<
 rous. shortly toothed. *Petals*
 conn;
)warda the I *Stamens* ■ ice tb
 Tnuchex&rted,nl;i free; anthers not
 / stalked, many-oval igma minute L&l.

^0*

, memo s, madoup of 1-seed sd joints thaf separate, when mai
from the sniares. >, mostly coni; o Trop. America.

Stamens 4; rachis of lo«f bristly, stem Lristly aud prickly,
Iea\ talely divided, sutmos of pod prickly ... ' -'/.;■

8-] smooth, stom prickly not l>risfcly,
 ly... ... 2. U.
 1. M nrcA I Pl. " rasely spren
 under,], i. et high, wii us and
 branch le
 kly and copiously beset with defTexed bristles. *Leaves* very sensitive,
 usually-J-digitate pin i he end of a petiole 2 in.
 oi

eset with spreading bristles; stipules lane*
 ite, subscarions, with margins besot with S] bristles
 1E0 2 5-3*5 in. long, the rachis beset with ascending bristles; leaflet
 0 glabrous above, sparsely adressed-brisf.lv beneath, snb-
 s, narrow-oblong, obliquely, acute nfc apex of upper angle,
 obliquely rounded at lower side of imb-5-ziervi e, main-nerve branch-
 35 in. long, *15 in. wide; set... ie. *Injl*
 ally iu pairs i all along the
 branches,
 uncles emlcr "75-1 in long, bi ith Bpr<
 , teeth short \la pinlc, 1
 pet >\v valvate above. *Stamens* 4, *aaeh exsertt*
 ig, filiform, free, anthers with
 t'tlk' filiform, stigma very small terminal. *Pods* flat,
 slightly

*, *aem\ 6-1 iu. long, '2 In aero, le np of 3-5 1-secd-
 y when mati.; ned sutures,
 lothed wi . , yellowish-white bristles
 ii. long. DO. Prodr. II, nl Beng. 41 ; Wall. Cat. 52:
 lor. Intl. IF, .), ,f, I, -i8 ; Bak. in FJor.
 Bnt.

[I, 291, rin ;T.
 AN.

jading liole coast-line ■ >KB;T
 raingay D); S.-E, Asia, probably
 ily introduced This

l)f>iir force has to be :] oflf to try and koup it in chock \ its laige
 comp
 "■'cation is apparently liDpelcss.

2. SBPIARIA Benfch,¹ in Hook. Journ. Bot. IV,
 oody shrub \\ iberulous branchleta soon glabresa ugly

I with strong compressed slightly recurved prickles,
innate, racing slightly downy 2 in. long (the petiolar
nae 6-8-jugate, 1*5 in. long, subsessile, upper side pubescent; leaflets*
■20-jugate, rigidly coriaceous, narrow-ligulate, caducous, 20--35 in.
I-IT) in. wide, subacute at apex, obliquely truncate at lower side
sub-5-nerved sessile base, main-nerve branching considerably
up-
ruff. §i e, the. heads '25 in. in diam., arranged

further comparison with the group to which it is an impossible!

from N

Knri

from b which this differs in having broader leaflets in

J.

doom on Hie young branches! icnlm-ly in
nd very nnar the bnsn of tli\$ p
nn inch above th
,t.jM'mwesr. group tlii xactly in: fined
ifn groups.
/-■ -:■ i WilhI ; Btik. in Floi\ Brit.
bus 11 or a -60
■-< and bra ;irmed with many sma p slightly
flossy brown or blackish prick atlypu
or gin 2-pinnate: long, or
pnbern!ous, prickly beneath or nn an
rge or small gland '4- 5 in. a 1 jr.
20- i glan<
▶5-40 pairis ile, jini under -05
wide, firm, glabrous. *Flower's* in i mnded hen
•les '5-"7 in.
itn <i—8 along a panicle extending 12-15 in. i
. bracts small linear. 1 in. long. ' glabrons, "05 in.
Ua *07 in. long j .. as. .
!i eiids, 4-6 in. 1. :i<jf, '75-1 in. wide, flat.

stalk mi in. long, the sutures slightly thiY
in. long¹, '2 in. wide, under -1 in. thick, faintly a>
4b.

arrophula B Flor. Brit Ind. Ind. II. 2(J
r glabr^{hi<}. prlokly beneath, peduncles 4-6-uate; petiolar :
-ninnula 3-3, *A. arrophula* Don. Prodr Nep

fAKS ; very connrion. fciB. In
VAR. *fata B* Brit. Ind 17, 291

•-■, ■!■ pi-ickly, pedunci petioi-
pinuular glands)0-Iii !.■*pluricapitata* Steud. Komenci. •
if

Beiith. IJook. Loud. Journ. I, olOj PI. Jungh. I, 2t>7.
Grah. in Wall. Cat. tot of DO.

!MALACCA;

Urvey

*2! 300! DJ B. Malay Archij

blowing | these tw mts are he
\etioa of Thnt A ^{!£}
to rank seeraa ni , ud it is pi P^
ire termed VAK should also be B! 1 specificoilly from A p<
The point can util; tiphic i
*Acacia** ng the preparation of aaoH R revision it seen■ fco deal wiLli tii
■ms as they hav ,\t kvith by Jfr Baker. Tho trae *A. pennaia* ul
unknown from oar nixu.

;ied trees. *Lean* innate. *Flowers racemose, verv*

We

3 ^ ' _

.V. deeply campanulat/de

■ th« base of th, staminal column, free aba !

to **capitate**. **Ppd!** iar^ob

* turgid, indehiscent, septate between the .

2, ono in Jlalaya, one in **Polynesia**.

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ANDifi, ntii. in Hoot To, J T

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"■ "' Wall, c!

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■ **Sir**"

07. ENTEROLOBICfM Mi

Calyx ,

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'gth hardening, or **pulpy** and fin

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ning continuous septa between eeda; the aw kern
;ill A olitig a
epon);iueoue in S .

-'Piain. A Inrge spreading tree 40- <0 feet 1
*Ii,

•nbescont. *Leaves* evenly 2-p
112;, pubescent, basal gland none but with clouds bi
b e in the upper, paired in the
lows

. ■ ■ ■ i-0-jagate, 2-3 in. long, r:!' nubesc
. each pair of leaflets; leaflets decreasing down-
to in the upper, 3-5-jugnte in the lower pinnse, ovate-
obloiv is above, densely pubescent bcrit;
"in- al, termiual
, '8 in. wide

i,' in. lot. f or 2 ' axils -
e pubescent bm.ot '15 in. long a ipdcr]
Oalyx iufundibuliforni, «scent
j, -li) in. long, teeth wide-triangular, short-. *Corolla* pinkish,
infuu-
tube 1 all,
rabescent, half as

long. n tl
LIP, me^
.,,:i |i firm; inous sepfa betwe*
soed.->. *Seeds* ', "4» in. 1 '25 in. ■« ! in.
ii brown sinning with distiuel ker-"brown
it arillne. *Inga San an*
nth. Hook. Loud. Co
The RAIN TRF¹

PLANTED in many of the provinces
taneously, afcleast in the Andamflns and Nicobars. A unlive of Guian
introduced in i indies whence it has 1A• : il.to A-

[ifioies, fckougij of much **raoi** [action than *Pir*^
■ of some eoo;
vea, aa compnr' !tu>st D
The sweet **pulpy** 1
incea an ivbutnl ^ groed, :le,

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to tree was **riaehftcb**, wh
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QCe in *Enterolobium* owing to its
that gtmns. The pulpy, in p
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68. CAIJ.VNDRA Benth

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^"; taceons browu. Bak. in Flor Brit n
AI Wall. Pl. As. R;ir. 6. 124- Cat 5! A • '
ttum.m.ak ' «*! «wfeTaw Bfhtl.

PBS Baker in *Flora of British India*.

ai falayan specimens at Calcutta; Itr D_aV_{BV} i,™
U. »a>611 however, allndcs to

\ Durazz.

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| ■ ■ ■ minute. Pod large,

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Bti-ap-shaped, straight, iud<

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125-30, spread, fchi

Tropics ■ ■ arid.

Slirab, : • the pulvi

o a firm all

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Miiin-m. i

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bird to one

lenflot froip upper margin; lonfleta

Pith's) smiill :—

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.Ijels small, fow-Sd.,

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(7 pubescent stipules. only Forma of one tree and
Bat that tree is wi
constitutes in reality Miquel treats ns Itna a I
ty-Boxbnrgh'a Mimosa stipulae, :ind
species, certainly a very !he ATiilmnft;
At « ? ' ' sen i

59. Anm i. JN\
 lei. o11'

in. k pi'oxii;
 ^ elliptic-oblo:

it beneath, -75-1 '2J in. long, '4--7

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H i

• ■ 1 in. rate-laucg
 w.utu ouuui- -white tube shorter i
7 iu. 1 in. vv

t boi
 aly wi iculufce. c -
 in. wide, "1 in. th

i ■ d.
 ; Hai ; . ;
 ricobaf,

Pulo Jnngah, B. Mal«y Axchipeli
 , iha ;" the
 d. Jonrn Bot. 111

t glabrous; with pale bark. *Leaves* erenl is pub
 3-9 uate; rachia

I- to, 4 in ud OII '-3- (I -11 i-,
main-raohi /a
• 1 pinni

r or tlio
or retuse, 1

quely rounded, or roi on lower, ctraeate or,
 Bubseseile, ght or faintly pubescent beneath,

i-2 in. long, *5--75 in. n-i F;

ipifcate umbels V25 in. across, white a tgrant ; pedanch

i bL-ons or puber u I ous, solitary or 2—1 tog

or corymbose at the ends of ihort I

• 1--15 in. long, slender, pabernlous. *Oahjx* -io--2 in. I

leltold, tube glabrous or pnberalous. *Corolla* *o iu. loug, tube glabro

the.teeth- ovate-lanceolate, externally pul b. *Fila*

iu a uniform tubu shot tor than corolla. *Tod t*—12 iu. long, 1-2 iu.

J. U. SS

ling—*Materials for a Fl*

linear-oblong, blunt at both ends, flat, much compressed, v slightly thicken* i sutures, smooth, glossy, pale straw l>(oMi the seeds, there reticulated, pale-brow

ely oval, much compressed, '6 in. *la* wide, *1 in. thick,

otb, pale-brown. I3ed.i. I", Sylvj >3 ; Bak. in Flor. Brit. 98. *Albizria la tifol ia* Boi v. En eye. LL 33; M iq, Fl or. Ind.

Lebbek WilJd. Sp. PI. IV, idIR DC. Prodr. II, 4
-i Willd. Sp. PI. IY, 1060 ; DC. Prodr. II, 407; W. & 275. *Acacia Si-* .. in Wall. Cat 5265.
Ic. t. ""OR. *M. Sirissa H* Sort. Seng. 40; Flor. Ind. II,

The

Plauted in e«

K

J96 ! Dis'i ■ throu
wild in tie drier regions of Asia an
5. ALJJZZIA J A *Bnk.* ex Benfli. in T> Lin
XXX, 56-if. A Uii> erect nnarn
yoaug shoots dark-coloured, fain tj-pubernlous
bem 3 eet in diam,, hi ood bliu ':-.. Z
-8 in. long, with a la te gland *5 in. above
iles persisting as wo Brm re< . 0B8 iiookt
pinnce 6-32-jagate, 4-6 iu. long, the *mm* *dnvy* rach dike
berolous; leaflets 12~16-juga> og-obtus=", sessile, with eligl
obliquely rounded base rigidly '5-*75 in long in.
; , dark-green e, pale but hardly glaucescent be;
late-veined, quite glabrous on both surfaces. *Flowers* in
many
Lmbels *7f ' in illowish-white with green stamens ; pedun-
ender finely pu ,1-1 . ;oled in fascicles of 2-8
on nodes towards the apices of numerous axillary *mi*
nodes sometin >lved as brunchlets 1-2 in. long so as to form com-
pound ana bia puberulous, the peduncular portion i
the flowers 3 iu iong towards enda of branches, to 12-13 in. *h*
axils down; pedicels rusty-pubescent very slender, '25-*3
g. *Ooly* '15 in.¹ long, teeth short deltoid, densely
pubescent ully. *Uorolta* J it), long, teeth ovate-acute
externally, densely cnt as is the tube. *Filaments* connate
at "base ia a white i
f'orolla, free portions of filaments over 1 ID. loin i*
reen. *Pod* indehiscent, 12-18 in, long, 2'25-2*5 iu. wide, very t:

vnd brittle, pale yr h-brown, very faintly reticulated opposite the
Is, sinuate-repaud along the unthickened suturefl. *k !!S
tersely ovate, '25 in. 1 ng, *2 in. wide, muoh oompessed, testa smc
■urown. Bak. iu Fior. Brit, Iud. II, 299.
PE, >'1U Bubung, etc. *Kunstlt*

Waterfall, *Curtis* 1921 ! MALACCA ; * *Mairigay* 581 !
Goodenogh, 179u ! SINGAPORE; Kranji Road, *Ridley* 6297! A very
 fine species.

Q, A AOB \ Benth. in Hook. Loud. Journ. Bot.
 Ill,

A tall erect unarmed tree sometimes 100 feet high, young
 shoots
 rather d; 2-2*5 feet in diam., heart-wood
 black.

Lea; Ay 2-pinnate ; rach:, 6-12 in. long, finely-downy, with a la
 in. above base an-¹ 1-2 small ones between the bases of
 the distnl j<MI'S of pinnae, stipules small quite deciduous; pinnre 3-4-
 (rarely 2-) jugate, usually 5-8 ii long, tlie secondary rachises glabrous
 or i nf; leaflets 8-24-jugah i«ely oblong, sessile, obtuse, w
 ver; mnded base, rigidly 'iaeoons, *75-1 in. Ion
 n above, glaucescent beneath, rectieulate-veined, the
 mid oxie-tliird from, r die! to, the upper
 glabT faintly span adpressed-hairy above, more densely
 ad-

• . neath. *Flowers* in numerous small heads
 in. across, yellowish-white with pale-; imens; pedm
 iibernlous, "75 in. long, solitary or oi in fasci
 fie tip] hird of r small corymbose
 long, themselves in ■■ es 8-12 in. long at the ends
 o

'<i': 05 in. long, teeth obsolete, tube cainpanul-
 extnrnnU eiy pubescent. *Gorolla* 'It in. long, oblong in
 bnd,

mceolatD, externally densely grey-si⁷ \y as is the tube.

iments connate at the base in a white tube half as long as that of the
 corolla, free portion of filaments *4 in. long, pale-yellow. *Pod*
 indehis-

:eut, 6-9 in. long, 1*2-1*6 in. wide, thin, flexible, warm-brown, glossy or
 dull, sutures straight-, or slightly repand ; valves uniformly wide-retiea-
 !-12, broadly ova in. long, -25 in. wide, much
 com-

testa smo< ;t eei>ish-yellow, faintly areolafce. Bedd.
 Fior.

; Bak. in PJor. Brit. Ind. IT, 299. *Albizzia*
micron

Miq. Fior. Ind [, 24 *Acacia vdorai*
 Willd. Sp. PI. IV, 1063; DC. Pradr. II, 4,66; Wall. Cat. 5231;
 \V. &

A.. Prodi-. 275. *Acacia fomato* P>C. Prodr. 11,467. *Mimosa*
odo

Linn. f. Suppl. 437J Roxb. Cor. *PI t.* 120; Horfc. Beng.

40; I hid. II, 546. *Mimosa marginata* Lamk. Eucyc. Meth. 1,12.
The BLACK MALACCA; (*fide* Baker). DISTRIB. India anJ Tnrl. Cuina,
.Arr. Baker notes the presence of tins in Malacca and the species is therefore
'Deluded here. It is, however, possible that Mr. Baker's specimens
are from s, for no botanist hue over comtnumcated Malayan **specimens** to the
aleatta Ucrborinni.

7. ALBIZZIA mcERA Benth, in Hook. Loud. Bot. Ill,

An- inarmeii 30 feet high, young shoot
 ibingose. t*k pair
 ra I ia diam.; ho art-wood brown. *Lea*>
 12-18 in. !i a large gland '25 i;
 ■ nondary rarl;
 orate below the last pair of le
 "obiqni ■ i. te to ovate-oblong with pel ong, bluri t
 [nely cuneate on upper rounded on lower m
 n\y coriaceous, 1-1*5 in. long, (in young trees sometimes 2 in. long)
 in, wide, dj ..; 1 iron above, paler beneath and v
 ivery later sparsely u ed-pub<
 :l 20—25-fld. '75 in. f yellowf^ii-white
 famen slende
 often : on nodes in the np;
 .. long at the ends of leafy '
 1 in. lot ngnlar
 in. Ion/c lmlf as f
 tube, densely a ily pabesceni laily. *Fil*
 i of fil
 .1' , 4-8 in. long, 1-
 in. wide, tbi e, bright i
 Blightly thickened; valves n\

■ ■

: -br 90 , Miq. Flor.

II. 299. *Aea* V, 1063; DC PJ
 ■; W. & A. Prodr. i *elata* Grah. in Wall. <
 . Subnrb. Calcutt, 2GI (no *osa el at*
 rb. L >-
 OoCO G tf D 1ST RIB. III

jniqa; Malay pelngo.
 It ongli tbw npeclos extends from
 30ftl¹ i, it should uevr:
 coi' -lore *ex* i, though qi
 at' e Andaman- ma to boai together a sontherE
 idanua of that gronp and from the Nicobars.

8. A .-A Benth, in Book. Lond, Journ. Bot. 1!
 *h, all parts

ji¹ : 5 feet, ind
 evenly 2-pinnati . 25 iu« 1 ; uite glabrous, with a seas
 cup-si .-land H-8 in. ; e and with a
 p ana at;ually l-jugate with socoii lary rachis in- 1^{Ull}S>
 ;and oi In. belo> ^air of lei
 ;eond 2o in. below • nultima

l-iogafc. ..hen leaflets 3-j on the distal'

a second pair oi , -Jth , i long, bearing] pair of small lea or oblong-lanceolate, apex , -atl. or abrupt Aiqnely cuieate, glo both surfaces, fchinl. ous, dcere*, TM down 4 in IOMJ, L-5in wide, the i in nuOl heads -6-7 in. acro8S, ye]I(Mv , 75-1 in. long, soliW or

^sonno^^d^nppcrfe-C idx; £ ^ . ^ 77 I'M in. long, themself(b ^ ■ clesg-] i ragand nearly , ' , Se

.bernL

I - :orolla; . rf fj] i od at length dehi 6-10 in ^j.or -

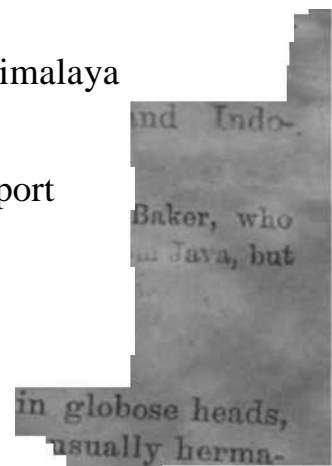
■wn_t dull, wtfcnlatad ' <<>

I.e^ere.

Bentli PI Brit Ind II PORE : fide Baker. Dis -lava ern Himalaya (fide M

<<0a. Dr. Miquel report

70"] i Mart. ;cf trees. /, , , , , -, abrupt! apikee or



rra, stigma minnte tea| pOE7 Bf__ , ' asually deJiiscent tb

>re and , biic^ened.

lot OP slig]

Species about 100; cosmopolitan in the Tropics, about 80% /c can, onlj 1-2 African.

transverse :—

1. *P. dulce.*

**2. P.
*confertum.***

3. *P. buhali*

4. P.

P. nicobc

6. P.
'IM'C>'0COI*J)I

7. P. *afline.*

8. *P. el*

- rets senile, faranohea terete; leaflets of at
pinnae 15-20-jugate; (pinnae
5-8-lobed small, the distal pairs not
much exceeding the others) Floret ... *P. contorta*.
branches angled; leaflets of distal ...
5-S-jugate: —
Pinnae 3-6- (rarely 8-10-) jugate; leaflets
small, all trapezoid, the distal pairs not
much exceeding the others; plan ...
Pinnae 2—I-jugate; leaflets medium, ternate.
... 11. *P. Clypearia*.
Pinnae 2—I-jugate; leaflets medium, ternate.
... 12. *P. angustatum*.

1. *Pithecolobium pitagorae* Benth. in Hook. Jour. Bot. III, 199. At ... -t high with glabrous branches; stem 2 feet diam., the ultimate branches pendent, armed with stipular¹ thorns. Leaves evenly 2-pinnate, rachis 1 in. long glabrous, basal gland 0, with a sessile small cupped-gland at its apex between the bases of the 1-
HG0, with secondary rachises *25 in. long also gland-bearing
at apices between the bases of the 1-jugate leaflets glabrous on both
surfaces, pale-green, approximated, oblique obovate-oblong, rigidly sub-
coriaceous, obtuse or occasionally subacute, 1-2 in. long, 1/2-3/4 in. wide;
rachis ascending, 2-3 in. long, converted into conical ...
main and secondary rachises both shortly produced in acute points,
a dense heads 4—5 in. in diam., on puberulous pedicels *25 in.
■hairy or 2-3 together in the axils of small lanceolate
bracts . long", along slender nodiflorous branchlets slightly zig-zag
towards
or puberulous, striate, from 3-5 in. long, the bracts
lower two-thirds accompanied by minute stipular spines, those
1" fourth often replaced by reduced foliage leaves;
the
ies arranged in terminal panicles 7—12 in. long, 5—8 in. wide, ex-
anding into the upper axils. Calyx .5 in. long¹, grey-downy,
subcam-
ulate, shortly toothed >la wiiito, *1 in. long, puberulous
tube
wide-indivuliform, neither longer than the ovate-acute teeth. *Fila-
ments* united at base in a tube as long as that of the corolla, shortly
Ovary puberulous, shortly stipitate. *Pod* turgid, twisted, dehiscent along
the lower suture, both sutures slightly indented between the seeds, 4-5
in. long, 1/2 in. wide; glabrous, wide-reticulated, the valves coriaceous,
claret-red when ripe. *Seeds* 6-S, obovate-oblong, 1/2 in. long, 1/4 in. wide. 2
in. thick, testa smooth shining purplish, enveloped in a firm edible

pulpy pale arillus. Miq. Flor. Ind, But. I, 40; 13edd. i'lor. Sylrat. t. 1S6;
Bak. in Flor. lirit. Ind. II, 302. *Mimosa dtdcia* Roxb-

G. King—V

iyar,

¹ I. t. 99; Hort. Beng. 40 ; Flor f, 55G. h Will

05; DC. Prodi

igkt, I 98.

• titivated in ran

Aiding,

f8 Collet'

ative of America whence it haa ■■■ a
generally, HUI to India.

2 P 'OBIVM CONFER-TO th. Trans. Linn. ; "X",

ibrous 1<

is .vitj

bark. J.

> l; of

the 1-

ltll StU'

ipery, obloug, in. long,

1*75—2 in. wide, i>r

i -tinct,

* in. across, on |

sessile "05 in. long, puberi

ilia, wiiitc

glabr< ■

ag aa the lanceolate

;;lous ou the

Ie.

F

miicd at base in a tubo Blightl

ger than that of c

white, exserted 35 in. (■'■

i«, BubseBsile. I

urgid, horsd-shoe H' pi

I, 10-] ^ in,

sotnrea

indented

ivalves thinly COJ

ng, faintly m

75 in.

long, *S in. wide.

sicol

a. thick; t

i, •! ; ; :), areolate on the outside, tbi;

y. i

in Flor. Brit. Ind. II, 304.

Albizzia splendens Miq. Flor. Ind.

Ind.

Ba'

Suppl

MALA. _ , J\ t

h 1951! Goodc n o ugh

17 G 6!

lon Eervey/ J•

long,

ann 4228)!

Bp* > ^! -- is remarkable in having px

do not

twist spirally ftml i

itly qiaa^- iiKleuih

' »ngh coRt which apparently ttikoa the place of an arillafce

e. litt

atrii¹

3.

ruM Bentlt. Trans. Linn. Soc.

erith JJ:

XXX.

i mi- ■) 30 f h -¹ .alp-brown pubescent
brancfelets
 ark. *L'':\ve8 evenly 2-}* abevnloua
 no bah <i but with a round gland just below tiio bases ot'



ii

A70 in. long
1- 1h;)'

tie on • **pinna of ■**
eon shining

'in wid.6] firoxi:

25 in. wide, later il n

in.

p ~'6 i

nicies

y fis long¹ Urt re
be lo: in. long it if

an

ulous

portion n •

n

ds 8-10, cr<> compression, 75

in. Ion

■lain is smooth, shining' dark-purple ;

B; FJor Bt-ifc. lmi. il, 301r, I ick, M

f: : B . Comp. r, 22i

AXALACC /t/ («^aj ■

ifcra fJiwi ; / 1801 !)

Y name of this ns " .'

bi hi Iklatadoa I

ugh is " (.

our.

4. PITHECOJ. BATUJi Benth. in Hook. Lond. Journ. Bot.

Ill,

■o 60-80 fdet high with preading crownyst fthick^p

ncililefcs glabrous; bar' grey. Leaves evenly

2-pinnat '6-1 long, with a gland near the middlo

but n bases of the I-jugate pinnae; rachises of

the 2

>long ieufce, I funeate, firmly ■

Icafl

lexible, Lrlabrous and shii n both sides, me jreen, diatul j

1-8 in. long, 2-3 in. wide, proximal 3 in. long-, 15 in. wide;

petiolul[^]

IS in. long. -fid. be 5 in. ncro?

■rous slender pe long, solitary

srith small glabrous ■ •us brs

• oa

J.

. f> King rials

'■/(<J in leaf-axil

tw the pea^{v/^} near n ■.■ »f brauel>

: spaisely ptifeeruluus, "05 in. long, tub
3 minute gla'

rotts,

infinniibuhform one and a ha i length i

bb. I<\ ■ ■ shortr

that <>1" corolla, free portion white, exerted, '25 in. long. 0

i0 ia.. Ion^r J^orse ped or loosely .s j>iTa

"s firml-. ! filoiL¹ 'lie lo

tire upper, uidehiscent ii

ate lob

occase ni

in. in diarii. "SSi" ^fhick, testa i

chin d-dull,

isnbsent.

iiq. Flor, Iml. Bnl, I, £

Brit. Ind. II,

ya Eoxb. Hort. ' 1

: irfc. Beog;^r

^a Eoxb. Plor. In i. I

. Mai. **Miscell.** I, 1. 14; Hook. Bofc. Misc. I.

I. **Miscell.** H, 7. 78. *Jnga*, *Up.* (Jrah. in Wai

TO. V **Orah.** in **Wall.** (

,u;m> B

Rnifcensti 88; H;t k. Cat

B< ■ii. PI f ■ /

[erb. Kc

PKNANO; *Curtis 1051 711!* 720 1 2916! PEIUK; Tl>

10841 ! MALA*

¹ ' 13 ! *Bidlett* Dis'i I;IR. Tenasserini; .

»51 !); Java, enUivai- ' *Kurt 2110 ! A*

hilippines, {*fide* Baiker).

y name in Pcnang a^r

o^ Eoxburgh

ro."

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3 as I\ *bijcuiin-*:

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I alone the tree<jonra nnooltiTated. Tl :^r

b is feho only nam

that, though occurritig ;i in •:■ ■

wild in Java.

: ■ to ho no!ed.

pnbli* l><, — is ho afterwards

deet-r

P"ll' ; : "fort. Bong 93j—b]

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erta un roe *dead*

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however, tu imply that, like 2L fci ' /tu<,its seiiUs k

si z

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!)an fW'

■ge Of

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•g, -5-1-25 In. wi(k.

4 1

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h

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|on_ .

'i n n ;

what compressed, -6 in. long, -5 Jn. wido -25 in
--•ons, dark-purple smooth sl, f, ^^^

■ Kurz; Jonrn. As. Soo B "

f JJnult

Ptikecolobinm oppodtu;u Kurz loc

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Miq.



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-3 in.

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• aftnlate, 1011 deltoi
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I ■ 7r> '2

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tt-10, pi

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arillnj in PloK Brit. Ind. IT, I
H. Cat. .lack. P
i. iu I! r>nd. Jonrn. B

; for ova

hug beeu con ; in reality
very superficial; the leaves differ in having glandleaa eeeondiiry
Beifl are quit© different in ehu{>.

■ the two remurkal iar. Ti
tly is undo Hq., of which neither Ho wars nor fruits
are

"s are of the s:utj:-
> pffKnt?n are rut her i nnti ii;
... - ,. ttioluleg bcaui
,-ionoofouf

lough gives "Kradus" :is

PITHKCOLOBILTM AFFINI . hlUV
1,577. A si! .ned tree IL iteui in
bed -puber cvenlv
with :i

ve the een
bases of tJie I- pinnse ; s< ■; oXd i
in. i< 'i leaflets i-, (leo^ ofc of proximal
piumm

ion profs-ul :gr wi(l tea only 1-)
Finrla between tLe «
labrou

long,

olules disfcinct, is, -J5 in.
slendei¹ peduncles '6 in.
idcs-of 2-3 together along 1 ig an
ample terminal p;inicle 10-15

i linuk'ly bracteolato at the base, '15
annul-- I. teeth very short, m!y Ijrown-siiky
vvlid ;nly g
h ovate-Ianceulat. .. ■... w,li(d uah«l in i
u(s loughas thai

illy siu i. Ion"¹
re, v. 'ves thin'
bly wkle-r< -greeu exleruall^
blong, I 5 in.
iu_ : uxooth sliming-;

Lor. Urit. Ind. ! 304
tfaiigay 577! Hervey! PEKAK ; ^*?i 3957!
; Tanjong Bauga, Ilidley I ;
; Borneo.

Tli' ■' *»« *25 TM_ wide ; thi*? ma
5 in. At all events the fruit of the spent* of which

jng—.

Mr. Bentham : the pod which he describes, a h belong
specimens, evidently agrees Tory d ith that of the Peninsular plauL
8. PiTii [assk., Setzia T, 22"K ee 15-30
t liigh (occasionally higher) bran; ny-puberalou
cent, bfii'k grey. Leave !y 2-pin.nate, rachis gltO o-4 in.
e glah other between i h e bases of
? in. i

itli small glai. ■- the i
lima] pair of I ii
main-rai '75-1 .., wil.. i bei
leaflets vei*y larger of nppe [»i
uroxiii! u long, 2 ofu>v
2-j.. in. long, 1*5 in. long, 1 in.
lotleta often ionding pinncB of thi
elliptic-oblongTj ape lier abruptly pointed, basi glabrous
a bui.h surf; es bright green .-.uning above, paler dull
ben
i,brous, \£o in. long, lateral nerves 5-8 pairs, ascend ii
y small 2—5-flxL heads 2 in. or r>3 across, on
us J-3 vevi
above the a itli a

i. large sessil
the branches of each axil dimini heuiselves
similarir disposci ou a Hoboump his as a
tei luinal paiiii!' 16-20 ■ uliescienfc, *05 in. loi

lonj r as
lit a tl
ted. Ovary with .;. shori long as
;-7 in. ; the I
i. wi ■ riaceouf
as,

nally, orange within
m- ■ . lung, 6 in. wi<)e, "1 in. thic a, thin, cru
th, Bhining; without aril l u
Buiten . Kew. ! - Jirimj't. Wall.
>1" Jack. Inga CUj-pearia Wall, Cut, 5270 B. not of Jack
Huok. Loud. Jom-Ti. Bot. It I, 20!
Ind. Bat. T; 33; \, ik. in Plor. Brit.
... -I Soc. Beng. X P.
■ nend.

Ni-
Palo Chi

)7.] 'C ■ 11 # — lit dcria h for a Flu ra < Uahi\
JJ5!J! Km : 3771 ! 4799!
4822! 5674!



reja, yiife Baker.
Borneo
id Sumatra!
i-li none of our English colla
■ the Javanese name as " K
like of Baker and of Miquel nnd ia the
Knt-z. Mr. R tor moroorer quotes Wall.
Caf.
species I SVull. I 'O'B. from
■ inately no e imple of either of these ^allichiAn nmbe
bi t there nre of the (xriffllthkn and
mcc
mm himself. The orig .-. BoiitAri
" m !>i
■ • !uL As re
a and accurate
> an an In of his species in the Calen4
bnriam.

er to *coutimiG* its use even if it fthonld turn oai ia
renlly the same thing. Air. K').

in F,
'eaves \ Itose of *P. lobatwn* ; th a while
a, considerably resemble those of *P. e* S .
-, in 187(i; appears to bo the earliest mention of the plant,
ant ■!!! America, *P. macrophyllum* Spruce, was published in 1*
necef: re-name TcjKniaim'a plant *P. Teysman*
a lapsus cala- *Kewenais* tfirea *livga elliptica* Bl
Ptf/n ;aafc. as a synonym, for our species; the re:-
actual state of nff.iirs. The tree baa i been seut to Calcntta from
Penanj or

■ KtSHtei ibeaoent, stem 8-12 in: THICK,
aves evenly is pnberuloaa 1*5-2'5
if h 1 or 2 large ellipi some distance *helovr* the bases of tbo
*r 2 pairs of pinnfe; rachises of terminal pinnas 4 in. long with 1
lands some distant >vv the liases of the 3 pairs of leaflet?!,
basal
-ea when present '5 long with a : .some distance below
he 1-jugate " times emnll
irt 1-jujrafce j; til 1-jngate *lea* >| leafleteovafce
!ift.*es and rathei caudate-acumii ■, btant a
t-green, glabrous shini , dull nifor
iressed-j i beneath, disfcsl ■ p»n U2" in •
,roximal I-:"1 ! in_ ^ tnose o-f the basal pinnae 15
■ I,-; petiolnles paberaloas, "15 in. long.

,r,t_s •,> ;. , across,-on pnberulonR p '5 in. IOJ
ri-acoiuL (1 - ' ■ 2-3 together in axils of bracts or su

per leaf, 6-12

B

long. di externally, tub
olate -12 in. Ion. wts at base united n
outside, as lo that oB corolla, '
in. long. Ovary very long, spheric.

the) in. v,

puberulous, not sinuate bhe seeds.

. | lobe with s, -7 in. Ion

wid, ■■ ; ■■■ 'ace

; AK; at low eleva

71

is related to the I

by in large fls -ets an 1 ■

io. r

R.TS^*^^^B

. \

bi. .15.

; "i .. ' high,

wid

impressed branches,

in. bicl

only 2-pinnate; IL

•i long with a Li

the middle, Eolinr povtiou

until fls 1

>i pinre ; pinna usually -o-jag

sometimes a^ F**'

rarely as many

small B

- below bases

iii

■ or subat'ii;

a oblique

brn-

te, tipper and lower margins si

!lw, main nerve diagonal ;

papery, pale-green puberulous ab

.scent beuath, •.-)->75 in. long,

vide, pe les 0.

re in terminal and

ipl

uncles I Coot across, with Blender main-rachis fi

tiliforni puberulous I

i, 8 in. long, bracts -mall

1

hairs puberulous '25-'4 in long, the sessile fl

ear their tips in the axils of small

u<>

puberulous, p

lons, t<<

">in.

eth lnceolai

long as tube.

, ■ ; ,

, -low in a tube as I

Ua, free portion cream-colour

5 in. long.

Ovary faintly

pu..

■itate.

Poo

in. long

5

id<

pivally tmsi

glehiscng along

»us, &ncl pa-

ternally, it on . ge, within smooth, vermilion, si long; slightly sinuate between seeds on lower margin. Seeds b-1.^{fl},

ovate across fch' "5 in. long, 25 in. wide, '2 e, thin ceons. Benth. in Hook. Lo

Jon ill, 2IV; Bak. in £lo>\ Brit. Ind. II, 305. Inga cantor

Ui. in ' -II. Cat. 52S3. Inga Finlayeoniana 'vah. in Wall. .

Ridley 5223 -^f PBNANC ; Porter (Wall. Cat. 5283) ! Stolizha Curds 19! 264! MAUCOA; ' U ! Maingay S7&I Hervey ! D Scot mi 1658! 1899! fFWy 20;f (<9! A" I 377. '88P! ;/■»*»»».

t P. 0/ ' Imt v;rv f>- its sessile glands, as well as by its ees«

11. Pri'HECOLOuiOJK CfiVPBAHiA Bonth. in Hu< k, Lond, Jo urn. Ill, 2t>9, A fere 30 feet high with spreading brown-pubescent ang t hark dark-brown. Leaves evtrnly 2-pinnate ; rachis an^tilar, pnBefulons, 2-7 in. long, petiolar portion L-1*J! shortly si imitate gland just, above

1 ffla: ' !>iw e | it the lowest pinna¹

i between i gate, their rachises with of irds, dist;

leaflets excefl¹ (lie 1 ong, basffl 1 v-2 in. long; lea

J- j agate, trapeziform, wide

lled and low Miquely rniil ly truncate or lei, main r>ei agonai 'dly lj, ' rk-green cons or pubem'tua glftU shiningab

ed adpi hairs ben liuiual 1 j in. wide, lowes* •) in. long, -> in. wide : ■ liolules O. Flowers in snj;tJi

bel¹ ba '35—*4 in. aai*oss, •{ peduncles '3-'5 in, lo solitary or 2-3 vertically sapei ' above the Rxila of bracts wil large gland, on angular branch lets 3-4 in. long similarly disposed on t!

■nlar niftin-raehis but with the bracts reduced to , igled

tip pedicels of florets 1 in. long, ,

forming u large terminal punide extending into ny ^e or obsolete; the whole iuflore

18 in. long, 10-15 in. wide. (sampanulate, 05 in. long, nuberu-

lous externally, teeth short deltoid,	<i>Ifa</i> white, glabrous, '1 in. lung.
eth lanceolate half as long as tube	<i>Fi</i> <i>ts</i> united at
base ii	
tnbe shorter than tliat of corolla, free portion i	in. long,
bemlous stiT <i>Pod</i> spirallj twisted,	ong, -4 in. wi
ehiscing alon: I< Jure, valves ' inly	<i>ma</i> , orange out- I;
ide, red within, glabrous, stipe "15 ii l« P; d j.	: uate I sen

ds on lower margin. - ¹On £T axis across
1, -25 in. Jong across, 15 in. testa dark-purple, thii
stneeous. PI. Jungh. 268 ; Miq. Fior. Ind. Bat, 1, 3.*> • BaU. in

Flor.

tm, Ind If, 305. *Mimosa trapezifolia* Eoxb. Horfc. Bong. 93 : Fl.

Ind.

[I, 546. /Ma *dimidiata* Hook. & Arn. Bot. Beech. Voy. 181.

l»g

Ulypearia Jack. Mai. Miscell. II, 7. 78 ? ; Hook. Oomp. Bot. Mag. I.

/"all . 6270A. *Glypearia nfrra* Eumpli^ Ex am(m).

112 ?

PCT/ (Wall. Cat. 5270 A) ! (> ! PRO

! PAH A: . K&ifet/1476 1 SINGAPORE; T. ^4/

35' 5698^T MALACCA; *Qri* Main

It-

'll ! IS D

Moluccas

This ie apt, wtn re unusually small, to simulate *P. cot*,:
wh h is, however, easily distinguished by *hs* smaller frni ■ pedicelled f\>-
and <rete branchlets. It is also apt, wVion its lopflets »w
t both have angular bnmchea and ^necli«.t'1 U;<1 florets

only Bnfe dinernoatic ,-itur« of the glitmls, psptciully tii(>i;|-
tial racliisoa oi la are stipitate in i'. *Olypea*,

P. u >ï

iere ia jnnt a trnce of doubt na to whet¹ nphma' I
since that author ^Rgarea no glamls, or >■ ■ fn
Jack says there is no petiolar gland on i of his apiecieB. Jack'
he says, knowi. ia Sumatrn a ■ " *Ji*

12. PITHBCOXOBIUM ANGUt.A¹. ::M.. ^T■
111,306. Aitree 25-; et h i g h ^'c h sprctulii- ■'poberalo

.iinches, barl *Leaved* evenly 2-pinnate ; r
vjgular. pftbernlons, 3-B %, with a large
r the middle of the pet, Foliar
ion with smaller sess-'« glands helow the base° of all
las but t

last pair of pinna¹ set obli upper truncate ei rp-ed^ed
pianBe2-4- chisefc i imilar eraal
;laiaci

below each , , the distal 0-7 in., the lowest i-i'5
in.

long; of upper . -unse 5-8-ugate, of lo 2-3-jurratp,
all
iiiiii ' ar<1; terrai s of most oi the pinnw
wide, ovate-lanceolate, g ;ipering to an

iate, the midrib central, the base of the vein dist
more .ely rounded and the midribs progres-
m< :
diagonal, ; axillary leaflets 1 in. long, L. wide
n* 'ILIOUB above softly pubescent l>
young, 'iaceous, i en glabrous sili ve,
dull puberulent beneath when mature, lateral nerves 5-7
sili rather
prominent leath petiolule about 7 in. long. *Flow?* in ■
small sub-
umbel > rymbs; > ii -hort petiole 75111. long, fascicled

II gland-bearing bracts on angular branchlets 4-10 long-, ti;inael cycled in axils of bracts with a large basal gland i a foliar .simply-pinnate rudimentary lamina, so aa to f term in panicle prtending into axils of upper leaves, 15-20 in. long, 12-18 in wide pedicels of florets *2—'25 in. long, bracteolea mim obsolet *Galy-c* puberolons, earn pan ulate, 05 in. long, teeth firhon i pale-yellow OJ¹ white, - in. long, tube infuudihtuhforni, teetli in' limceolu half as long; unif< ily spariugl) silky. h a tub nearly as long as that of corolla, filaments white oi

Ovary ulons, sh< ioug, 7

v>: nil'. iaceoii ffl' the p<<f1s ttlauwh rangl' s aud ious externally, red and glabrous within; distinctly sinuate between the seeds on the lower margin, stipe very short. Seeds 8-10, 'te-oblotig, 'o iu. long, *3o in. wide, li in, thick, testa dark-purple, hill, thin, cms is. Miq. Flor. Tnd 1; Bak. in Ffor. D. Intl. II, 30fi.

acitianyida

■ dor.'

iiUKis •iA 552 !.

LALLA;

nieckini! Wra 1102! S ELANOO R; *K" nst ler* 86<;

PCltli .j57ti¹ 6407! *Qoatiwugh* 891 Die-. J Uijiftliiya, Assam, Burma, Sumatra.

A. rather variable species, with two leading typss, hard ever, itstl oven as varieties owing to the number ta for i
¹ these, (a.) h>. la — the original

plm

nal leaflets—extends froui the Himalaya r.o Chittftguug, the Andamii: iuniatn* t'his is very uniform in >>r aiid Iwth /<3<<

acutatiyula

'L Cat. 5a7Lj, iind *tun ami* although it happens Miquol when deearibing '. *acutan* eiyed it to he different from *Inga*

■MI, 1/3.) witav laller r •r (lets and

neually more numerooa pimtea nn<l leiiftets — extend;' from Upper Bunnii oast of the frrawaday 41 mu^h the MQ to Tensacriui, the M<lay Poninsoia aad Jan*.

uiiform than the preceding and often *hns.* lealiets so like those oi that it can only be safely distinguished by its longer pedicels and sessile This ia the plant of *Wall. Cat.* 6*270 0, from Penang.aad is tin- *Pitiiicolqi, iam*

of Mitjnel *as* opposed to that author's P. « Beuffell.,

-lor. PENANG; 69! SINGA-

like *P. angulatum* as defined in this paper, includes both pla:

XXXIX. ROSACES.

: ■'. rubs or trees. *Leaves* stipulate, rarely opposite, simple
r compound, *fihtcers* usually bisexual and regular (very irregular ID
Qhrysobalanem). ■^l ■■•-■^{or} adnal ary, limb

usually

5-lobed

innate

styles; stigmas simple.

nous,

and

incurved

short.—

I¹

but

eh

the temperate.

Of the

Bentham

:or in their

Bpoci-

L« from the Frov>

;

tin

style

inferior,—

Calyx-tube

Stamens

Stamens 2.

Tribe II.

rarily

r shrabs

solitary,

Jilyx n-i

I.

Tribe III.

« very

ovules 2,

air\n:ls,

the

tf the

is nmneroue,

>wv. or

or

6.

Pv

.TUBS.

ICS simple,

herini

i-odite,

turbiu

definite (rarely

lateral in *Ckrys*

in "bud :

• innate carpels,

styles; stigmas simple.

nous,

and

incurved

short.—

I¹

but

eh

the temperate.

Of the

Bentham

:or in their

Bpoci-

L« from the Frov>

;

tin

style

inferior,—

Calyx-tube

Stamens

Stamens 2.

Tribe II.

rarily

r shrabs

solitary,

Jilyx n-i

I.

Tribe III.

« very

ovules 2,

air\n:ls,

the

tf the

is nmneroue,

>wv. or

or

6.

Pv

.TUBS.

ICS simple,

herini

i-odite,

turbiu

c ; fil;,

iers small, did

con

or

e; ovules 1 or

m< 'tenes or berries* t or pendulous, testa membranous or coi

ceo; cotyledons

Ian

mo-con

radicle

short.—

I¹

but

eh

the temperate.

Of the

Bentham

:or in their

Bpoci-

L« from the Frov>

;

tin

style

inferior,—

Calyx-tube

Stamens

Stamens 2.

Tribe II.

rarily

r shrabs

solitary,

Jilyx n-i

I.

Tribe III.

« very

ovules 2,

air\n:ls,

the

tf the

is nmneroue,

>wv. or

or

6.

Pv

.TUBS.

ICS simple,

herini

i-odite,

turbiu

the Malayan Pen

ilfr i

usually

usually

at its base. Stamens perigy-

e; ovules 1 or

m< 'tenes or berries* t or pendulous, testa membranous or coi

ceo; cotyledons

Ian

mo-con

radicle

short.—

I¹

but

eh

the temperate.

Of the

Bentham

:or in their

Bpoci-

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Calyx-tube

Stamens

Stamens 2.

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ovules 2,

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e; ovules 1 or

m< 'tenes or berries* t or pendulous, testa membranous or coi

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usually

at its base. Stamens perigy-

e; ovules 1 or

m< 'tenes or berries* t or pendulous, testa membranous or coi

ceo; cotyledons

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but

eh

the temperate.

Of the

Bentham

:or in their

Bpoci-

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;

tin

style

inferior,—

Calyx-tube

Stamens

Stamens 2.

Tribe II.

rarily

r shrabs

solitary,

Jilyx n-i

I.

Tribe III.

« very

ovules 2,

air\n:ls,

the

tf the

is nmneroue,

>wv. or

or

6.

Pv

.TUBS.

ICS simple,

herini

i-odite,

turbiu

ICS simple, alterna f[i]ite entii*e
herini i-odite, rabv. icen funnel-shaped;
K'<lij-r-ti>be oblong, campanulat©,
turbiu

, I^l tbequal, imbricate. / r clawed, deedit
 >uu. *btautens* 6-30, *th* 'aettt united into an Incomplete i
 or connate into an nil bundle, all perfect, or some with-
 out aiuhf. ■ ' J *Carpel J*, adnate to om ride of the cal[^]x-tobe,
 2-celled,
 ' tyle basal, filfform ales 2 collateral, or .1
 erect.
 ical, oblong*, obovoid or ovoid, with a 1-2-relled, 1-2-seeu
 or rarely coriaceous pericarp. testa mem-
 ions, us lurge fleshy, radicle sm
 species, nai

I
 DISTBIB. About
 e tropics of botli

Calyx-tube viHuna inside. Frnjfc 2-celled, rn titan o in.
 . bony ■
 \G3 m>=4 irtv 'v}il-

wes with 10-12 of main nflrves, J. P.
 pubescfint borieti' n
 . r;s vvit.li J5—Ih
 and pub
 -s mth
 liq,

ne ... nerves JL>-1G
 pair;;

vena ab<j
 inn ens 12 ■>litary.

I in. in din-ral incif 4. P. sjttC"
 in rnoeuieji or pttuicl 5 P.
 ■■os subinesaile with broud bases; main

IU
 12-! : fruit **ovoid, not compressed**

stamens 1<»

isd at the ba etamena
 12~1'> ■ 8. P. *scabrum*.

fea quite ^labrona on both etirffiees ; maiu nerves 5-7
 (rarely IOj ; liliquoly ascending, never spreading.

Flowers straight; petals subr^ujil.

Main nerves of leaves 6 or 7 pairs; fruit covered with anutac'ontu
 scuri tells glabrous inside ... 9. P. *Kunstleri*.
 ; quite glabroos,

10. P. *ianvm.*
mar) rtd ppfr; | / ■ ■.
»lyx-tttbe glabroti« and lined by t'■" - ■'■.: ! tube ; fruit
less than '5 in. long, quite glabwm* the pericarp
sather ■ 12,

PAB **r- Blame Mel. Bot. (1855) Pt. I. A**
small

ee; young brandies slender, decidnonsly pubcruluu.-*, the bark
pale

m\ ■■ eh lenticetlflte. Lv<r elliptic or ovate- lanceolate, shortly 11nd obtusely acuminate, fch- ;ided or cm ate upper surface ous and shining except the pubesoc ' ni lower palt; brown when dry, reticulate and covered, ex 10< pairs of ^onspievi>"!s slightly asct glabrous wit er of cobw bUy liair ; Length 1 5-3 in sceii'-. Pa stillary, longer than the le tint short; few-flowered branches, tawny-tomenh .g, on short pedicels, solitary or iu eye It^vnsely puberulous outside, internally withali- ibn tcessesat threat r^d a broad belt of detlexed ube tei ■ I' '», obovn than the

3, sp ■ ■■ " ■■ IE of t! ■■■ nan* pug the ii!" ■ Pi* A ovary villous. Fruit obi sfightly cu d, with n pale scurfy patches, slightly bhann 1 in-long aud "€ broad. Miq, Fl. Ind. Bat., Vol. I, Pt.

354; Hook. fil. £1. Br. lad. II, 311 (excl. «yn. P. a«m,t, i»a) ; Jac Misc. II,, 7. I ,ws ? pnnctattui Wail. Cat. 2076.

MALACCA; Muingay 621, PENANG-, Curi« 1163. 1 a1*C ■ "V3S»"

2. PAKI • ; 'HUM, W . PI. pi. 306, oung brautibpt* sluu>. profusely

lentle

oviae-oblonj ' rounded, eglandular¹; upper sm face gfl&bj'ous, lu; lc pubero nerves 15 to Lo pairs, lingjxtominput 1 -j~^~o 'I in. PJJ^CCH f»viHa. terminal and

clusters #t-z- Tf "miner shorter than Leaves when in flower^ longer lu fruit, hoary-fomentose ; the branches short, crowded, the ultimate branchlets cymosely 3-flowcred; bract shorter than the caly¹ tube, oblong, obliquely acuty, fcomentose. Flowers *25 in. long, on vet abort pedicels. Calyx rafnndibuliiorin, tomentose outside, deflexe villous inside; the lobes lanceolate, acuminate, pubesvut he inner Petals as long as the calyx-lobes, oblong, slightly uilated up-rds, oV)tnse, not flawed at the base, glabrous Stamens 1.0. shor than the petals, all bearing anthers.

Fruit oblong, coropressed, obtuse, slightly Jeered to ■ ; cov< with a layer of tawny scurf bout 2 in. when ripe and 1'2 across, it ; pericarp cru _ous, very bai\l, '25 in. thick. •E-A-¹ ; Orljitk, fay 622. PERAK ; Kin-j'

ioxic *Leaves* ve

3 rounded ; upper surface glabrous^!
pale wi li₄Ue areolae, puberuloua on the ne,
I*TM* obliW rather B^igh'fc.

U, solitary, many-flowered,

«ab,ibboua, minutely tomentos, o^ide, de^ **<>>

y

Prfofc not longer than the

ely pubeS(

oated with grey I

"ma obtuse
ong and 1*5 h

Oo^^/ar 10369, 10422

TM>>>* .

A speciea reatlily diaein^ici
numerous parallel r.cives pm_n "

>long frui*> 1''K« le«

m q. in its leaves, *bi&thn*. i...
its is uniformly
also m aiae. .Zdt

/.. oe8>

and minut

1 iaceous'

ovate, sho: id broadly acuiuJ
d d along the sides of the upper
ulafce when dry; the

l.

upper
1 paler, minutely
>I>; main nerves about 1{
*f iole
1 in.

^ with many

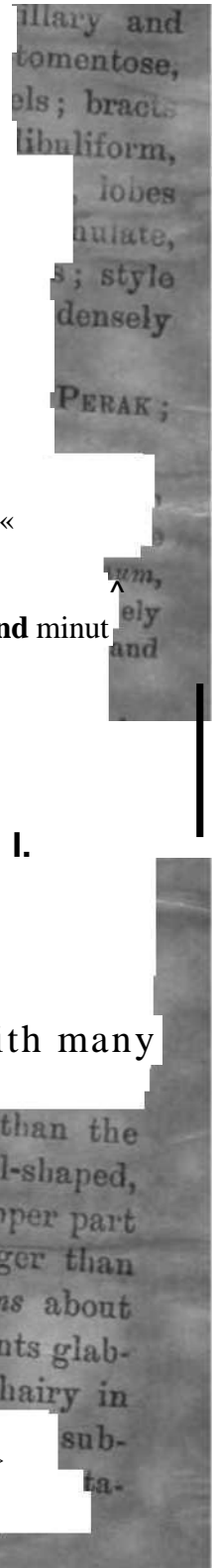
the i, in clusters of 2 or 3,
adpressed hairs intermixed. ; ,,, taut, spssile, bibrarfceaie at
the haZ flower, oblong, subacute,
sl.ghtly gibto,,. to,. outside,
inside; its lobes broadly obloug, obi

brW
I.,,;,.,.,.,
Mj V"

10+ IQn^01 L

b' shoi>f'er t!ian the pisfeij . tn

roufl, united at the very *h:isv*. *Ovanj* sericeous j sf.]
its lower half, ofl&ervvRo glabrous. jy>><< about / ^
orbicular, slightly compressed, densely covered with a ""^iTM _liam*>
eeous scurf, 2-ceiled



(-. King —

PERAK ; *King's Collector* b'145, 10326.

This apprhohies *P. coalamin*, Bl. in the shape ftu ner<- leaves
fcingaished from t!mfc Bpocies by its spicate inflorescence and solitary flow
Its fruifc also ia more orbicular than that of ¥ *im*.

5. PARIKABIDM MAINOATT. King n. spec. A ^PP ; young
branch
ivith dark bark bearing a jblon^ lenticelR. glabron^ *Leaves* ver;
, elliptif-obio "y shortly and ob acum
: rounded; both surfaces glabrous and with minutely
papillate
reticulations, the upper shining, the lower dull and rather p
ner\ es 10-32 pairs, spreading, curving, rather prominent
beneath -

IPV -4-5 in. v | 1-35-2 in.; petiole *3 in., stout.

Sjsik

usually in pairs, ardllnry, shorter than the leaves, pedunculate, mim.
tomentose. *Flower* ft Bee ■ j, or (to the apex of bamens)
'6 in.; bracts shorter than the calyx-tube, broadly i tomen-
tose. *Cah.* infundibuliform, tometost "d-villous
inside; the lobes short, broad, rounded very obtuse.

JP* ■

than the calyx-lobes, obovaf iberulous.
h longer than the petals densely wooly ; style
slender. *Drupe* spherical, tl llookci
pericarp thick and bony, smooth on the inner surface,
fnrro

on .ue side. *S&edi* litrq-e, with a thin texta fil
inFLBr.Ind.II,3I0< /.)

MALACCA ; *Maingay* 618, and prolvvby also (!«

Tliis in some respects reaemblua P. -■
both in its mnc wss»* mtfT from the forrrmr also in
the
venation of its *U*

ATUM, King n. spete. A 0-120 feet hi
thick* as a quill. Mackish-cinereous, I en tic
Leaves thickly coriaceous, subses. iiptic I , acute
rllly acuminate ; the base broad, rounded or minutely cordatn; a]
suiface glabrous, shining the main nerves and midrib slightly j
nent; lower surface darker and duller than the upper when dry, g;
rous except a few stngoje hairs at the base of
midrib; the 12-14 pairs of spreading curved main ner
nent; length 45-7-5 in., breadth 1*5-3*25 in. ; petiole only about 15 in.,
Ies axil lar; or seve ra 1 toge tl borter than t

h a ucute, very tomentose on both surfaces. *Petals* longer and
 let rh few short rather or unbranahed, minutely
 ■to
 mfnt
 ose,
 few-
 flow
 ered;
 bract
 s 2
 at
 tEe
 base
 of
 <?. lightl
 shor
 ter he ealyx-tube, elliptic, acute,adpressed-pubesceL
 tube
 funn
 el-sh
 aped
 ,
 adj> Utomentose outside, doflexert-villous insi
 t
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 the
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1S97J

King
—Mater

Malayan Peninsula.
28J

more narrowed than the ealyx-lobes, snbacutoi glabrous.

Siamei

mg-or than tabrooB-sericeous, the
it- r half. id, not compr istaceous-seurfy outside
j>- 2-celled, 1*15 in. To I '8 in. in diam, ; the
pericar

cru IH -2 in. Hiick^ minutely hairy inside.
:\$Colh 130,3711.

A **spedea** % P. <>&■ Hook. fil. in ifca leftree winch however
fan rnerveaj oui. ili^_-ring great] y from that species both in its inflorescence

7. PAEINARHTMASPEBITJ Irj. PI. Iud. Bat. Suppl. 307. A
50-80 feet high; you .iches slender, with dark-coloured bark and
ow scanty deciduous palo flexuous hairs. L kinly c
ohloug'-hujceolate, tapering gradually to the obtusely acuminate ap
th rrowed to the base and continued along the
of the upper half of the short petiole ; both surfaces glabrous and -with
minute pitted papillso, the lower paler and more reticulate ; main
nerves 10-16 pai nt, spreading; length I, Lth 1-1*65 in.,
tiole "25 in, *Racem** i axillary o ftl, solitaiy, half
nately toiii, towers about '3 in. 1<
(* the ess atamens) ; the pedicels "1 in. luny ;
bn tiie base of the tlower 2, obtuse, tomenLose. *Calyx* dens
tomeatose; the tube clavate, delloxed-pilose inside ; the lobes broadly
ovate, subaeute, imbricate. *Petals* longer than the < 'obes, obovate-
obloug, not clawed, glabrous. *Stamens* about 10; the fi)am lab-
rou.s, united at th ■ tisesti and the style sparsely vili
-ovoid, com pi y nbtuse, with a vertical groove a!
the two sid and densely covered with hard p
»irf, nearly 1 iu long and G in. broad, 2-celled ; pericarp thi
bony, hairy iusi

PEWANG ; *Ourtis*, 203. PAHAHG ; *Ridley*, 2603. PeitAK ; *Ki'nfs Col-*
ctor, 3537, 7568. DrsTRiB. Sumatra.

TJiero is an original and autbenti(? specimen of /' in

fferbariam collected by **Teysmann** in Snmatra, and ifc agrees absol:
ic specinifins **abore ijuoted**. The species is near ty *P. seal*,
aflsk., bat lias fewer stamena and emaUer and diffdrently shaped leaves. The
ripe

fruit . **iiimably much smaller, for specimens of unripe froit of *P. sea***
■ VQ as large as specimens of ripe fruit of this species.

. PABINABIUM acABKUii, Hassk. Cat. Hort. Bot. Bogor. (1844), 2G9.

A tall tree; young branches dark-coloured and with a few scattered hairs.

Lioriaceous, elliptic-oblong, shortly and bluntly acuminate;

base bi mnded or very slightly cuneate, eglandular; I tees

glabrous. g, strongly but minut(jly reticulate, and with numerous
email perforate-topped paptlre especially on the retieuktions;

wain J. n. 30

King—. for a *I-lorn*, o

nerves JP-1. f> pan :der, spreading, with a few shorter internodes
length 4-6 in., breadth 1*75-2*75 in., petiole 2 in- *Panicles* (sometimes
to racemose) axillary and terminal, often two or three together much
shorter than the leaves, anthers pubescent; the flowers numerous,
collected near the ends of the branches; bracts oblong, obtuse,
pubescent, shorter than the calyx-tube. *Flowers* (from the point of
insertion) 6 in. long; the calyx-tube merged in the
pedicel

ent outside, deflexed-villous inside. *Glyx-lobes* ovate,
indulate, subacute, imbricate, minutely tomentose on both
surfaces. *Petals* larger than the calyx-lobes, obovate, clawed, imbricate-
cent. *Stamens* 12-16; the filaments united at the base into a tube open
at one side, much curved, deflexed. *Ovary* lanate, 2-celled. *Style*
sparsely pubescent, shorter than the stamens. *Fruit* ovoid, obtuse, slightly
complicated, vertically grooved, rough
pericarp; bony, thick, 2-celled, the cells pubescent, 1 in. long and
*6
in broad (not ripe). Hassk. in *Flora* (1844) p. 585. Miq. *Fl.*
Ind.

Bat. Vol. I, pt. I, 354 t. V.

PERAK •*techini* 1981.

only once collected in Perak. I think it is a new species. I doubt whether the two should be kept separate.
rimum, liable. I greatly doubt whether the two should be kept separate.

The
fruit is described at great length by Baker in the volume of *Flora*
Tor
I, p. 533; but I have seen only one authentic **Buccimen**, and that consists only of
fig. 1*. *seal*-
of it there are Oa
ripecimeus. And with these
niei - :

9. PAUNABITJM KI D. spec. A 50—"S
eefchigh;

young branches slender, cinereous, glabrous. The coriaceous, oblong on
Umceolate, tapering from about the middle to each end, the
apex

acute, the upper surface acute, eg)fin
rather dull, the lower with faintly conspicuous reticulation and
minute punctate; nerves 6 or 7 pairs, curving upwards, only slightly
conspicuous on the lower surface: length 3'25-4*0 in., breadth 1'15~
'25-3 in.; lobes of the calyx oblong, obtuse, tomentose
on the inner surfaces. *Petals* longer than the calyx-lobes, obtuse, glabrous.
Stamens about 12, glabrous: the filaments united by their bases,
longer than the petals. *Style* as long as the stamens, villous.

oblong, ovoid, slightly compressed, obtuse, **tapering** to the base,
1.25 in. long and about 0.9 in. broad, 2-celled, densely covered with
pale-brown crustaceous scurf; pericarp crustaceous, smooth

PEMAK; *King's Collector* 3715, 3745, 6917.

I have seen no specimens of this in flower. The description
of the flower above given has been taken from withered remains found
persisting at the base of the ripe **fruit**. The leaves are

, but there are only 6 or 7 pairs of nerves as against 10-16 pairs in species. The fruit of this is moreover slightly larger and much more and the interior of the cell is glabrous; therefore in those of *P. asperulum* the cell is inside.

10. *PARINAR^M GnrFWTHiANUM*, Benth. in Hook. Niger Flo
 A large (young branches rather stout, bark lenticellate bark. *Leaves* coriaceous, oblong-lanceolate or elliptic-lanceolate caudate-acuminate; Harrowed at the stem to the short petiole; both surfaces glabrous, the upper shed, the lower duller; midribs 7-10 pairs, curving upwards; length 1-2 in., petiole 2-3 in. Mary and terms till, pedunculate, longer than the leaves, pyramidal, near the base glabrous, the branches sparsely-flowered; bracts, if any, deciduous, about 5 in. long, on short pedicel. *Calyx* 5-lobed narrowly funnel-shaped hoary-pubescent, the lobes rounded. *Petals* broadly oblong, concave, glabrous, nearly equal to the calyx-lobes. *Filaments* longer than the petals, united at the base into a short tube.

very tomentose; the style longer than the stigma; labrous. *Stamens* elliptic or slightly obovate, blunt, glabrous, 2-celled,

about 1/5 in. long and 1/5 in. in diameter; pericarp

thick, lined with dense silky pubescence. Hook. *Fl. Br. Ind. IT*, ■

P. multiflorum, Miq. *Fl. Ind. Bat. Vol. I, Pt. I*, 356.

flora, Koitli. *Verh. Nat. Gesch. Bo* 70.

MALACCA; Griffith 2047/2; MELANESIA; Curtis.

SINGAPORE; Ridley 4gji. PLINIAN; Curt

Griffith's specimen 2047/2, which the type of *I* species, has more

fruits long: *av* spec; lint

[can detect. in the flowers. I

hole in it is imperfect. It may mean that.

ftpeciea

nador *P. Grijlthiawi*

11. *PAIMWARIUSIHETEROPETALOM*, Scortechini ee 60-80
 feet high; young branches rather slender and with bark, 19

glabrous bark. *Leaves* coriaceous, glandular, oblong, arising from the middle to both ends, the apex acuminate, the base both surfaces glabrous, rather dull when dry, the lower very punctate; main nerves faint on both surfaces, 0 or 6 pairs ascending length 3-5-4.5 in., breadth 1-1.5 in., petiole stout.

\$ axillary and terminal, about one-third to one-half as long as the leaves, with short branches, everywhere rusty-pubescent; bract at the base of the flowers solitary, lanceolate, tomentose

long, sessile. *Gah/z-tuhe* curved, narrowly tubular below the
bel
and suddenly expanded above it; the lobes thick, color
unequal. oblong" to suborbicular or obovate, even

or tomentose, the hairs inside the tube not d lab-
rons, longer than the calyx-lobes, very unequal; the bw< red
broadly elliptic, concave, clawed; the three anterior nn
-lute, imbricate, flat. Si . in j "buh
ange, as long a.s the petals, glabrous; the anthers small. 0
rillons, 2-celled ie curved, longer than tho stann
Mlousiithc

lower, ginbro bhe uppt t unknown,
PBKAK; 3c--rteckini, ... i Collector,'
A specicH easily recognised red flowers and very unequal sepals and

12. PAJ t? NITTDTTM, Hook, fil. Fl. Br. Ind. IT, 310. A
tree

set high : young branches very slender, with pale
(shining bark. Leaves elliptic to elliptic-lanceolate, sliortly and
bluntly
•iate, the blade much-narrowed to the i id continued along
the sides of the upper half of the petiole ; both surfaces quite glabrous,
fclic npper very shining; the lower ost glaucous
when young; main, .nerves 7-9 pairs, ascending, faint; ieugtli
1 in , hi ;;idth -8-rT ly 2 or 2*5 .le below the w
pjut •] vide* slightly shorter or loi iie leaveB, liorary*
B, nxillary and t^-minal, wit¹ izontal
owered bi U shorter than the flov
,te acute, 9.1 -'rs "15 in. long in
%VHhl, at Bttbsessile. Calyx widely funnel-shaped,
,LS broai !f;11') acute; the astenor hoi aentose; I
ur lined by ihe subglabrous tube forme*' of
the

and with a thickened liairy process on tho . i'le
L0 aiii Petals longer bhan the calyx-lobes,
oblong-obtuse
inourved. Ova nsely sericeoas, >*le slmrt. Fruit above
and, glabrous, 1-ceUed, *35 in. long and about'25 in. in diam. ; the
per bii , lei ly woolly inside.

ft 2047/1, Deny 189, 1180. Pi
D9, 80S' Curtis 147, 858; /.
72.

o speciraeisa which I hare ^

has been fully o<

•i nright

; for tliist pi
in havi

like :

of which aro linetl by

a dilated filaments. It also has a small **1-cdlod** Ei ait
with lhery \v ii

A shrub or small I

simple, alternate-;

reen, qnite

entire polygamo-dicecious, minute, racemose, minutely bracteo-
Oalyx-tube shortly eampanulate; lobes 5, imbricate. *Petals* 5, (or
 I), oblong, deciduous. *Sta* 2 perfect unilateral, and several
 imper
 fect. *Carpel* 1, adnate to one side of the calyx-tube, 1-eel led; style basiiar;
 ovules ii. erect. *Fruit* oblong, coriaceous I-seeded, in dehiscent.
Seed solitary, erect; testa membranous, pubescent; cotyledons 0eshy,
 licle inferior, plumule hairy.

PARASTEMON UROPUYLLTIM, A. DO. in Ana. Sc. Nat. Ser. 2. XVIIIIF,
 A tall tree with pendulous hab> yoi og branches very slender,
 lubrons. *Leaves* coriaceous, ovate-lanceolate to lanceolate, sometimes
 slightly oblauceolare, obtusely cauda :*-;:.cuminate, the base much
 narrowed; both Surfaces glabrous, '•' ver minutely lepidote; main
 nerves very faint, 4-0 pairs, oblique, i mediate almost as distinct;
 length 2*5-3 in., breadth '85-1 o in., petiole '25 in. *Racemes* nearly as
 lone as the leaves, slender, axillary, glabrous, usually solitary but some
 times 2 together. in. long to the apex of the stamens, oa
 short pedicels each with a minute concave ovate bracteole at its base.
Fruit cylindric, paring a little to each end, glabrous, "45 in. long, and
 '25 in. in diam.

all I vines, except the Andamans.

3. PKUNUS, Linn. ft,

Shrubs or trees. *Leaves* alternate, simple, quite entire, or serrate
 or crenate or glandular-serrulate; petiole often 2-glanduiar. *Flowers*
 white or red, solitary, fascicled, corymbose or racemed. *Calyx* deciduous
 in fruit; lobes 5, imbricate. *Petals* 5. *Stamens* 15-60, pengynous,
 inserted in the month of the calyx-tube, filaments free. *Carpel* 1; style
 terminal; ovules 2, collateral, pendulous. *Drupe* with an indeluseent
 or s2-valvod, 1-. h, or rugged stone. *Seed* pendulous,
 testa

lerabranous or coriaceous, albumen scanty or 0. DrsTRiB. N.

temp,

regi re in the tropics; species about 80.

8 MAEI A, Kurz For. Flora Burma, I, 434. A tree 40-G0
 high; all parts, except the inflorescence, quite glabrous; young
 uches ifither slender, lenti eel late. *Leaves* membranons, elliptic-ob-
 long to ovate-oblong, acuminate, suddenly slightly and often unequally*
 iarrowed to the base, with minute black dots on the lower surface •
 tin nerm, 5-7 pairs, spreading, *very faint; length 3-6 in., breadth
 2'5 in.; petiole '4--75 in., eglaudular. *Racemes* solitary oi in pairs,
 rom the axils of fallen leaves and about as long as the leaves,
 pubes-3iit. *Flotvers* ratliei- distant, about '35 in. in diam. on

puberulous edicels -3-35 in. long. *Calyx-tube* campanulate,
tomentose; the lobes rect, o\ate, subacute. *Petals* orbicular, about 1
in. long, deciduous.

*Stame?** 00^s-80. Ovary ovoid, gi; . itie style much louche' tLan the
 Btamens, the stigma dilated. l~> ■ > ■ ■ ■ eylmdric, with a pointt ipex
 and

rounded base, glabrous 1-1 "25 in. long: pericarp th
 inside. Seed mil Hook. fil. Fl. Br. lu

Rrtabanica, Wall. C
 ANDAMAN IsLi K i lectors.
 DISTRIB.

VAR. *Scortechinii*, Kin[^], bases of it. ves rounded, main, i. pairs ;
 racemes less than half the length of the leaves; flowers m.

K in diam.; stamens 30-40, fruit about *6 in. long.
 PEKAK; *Scortech* ?82; *King's Gollec* iS.

This variety may possibly prove to be a distinct species. Although
 differing

from the Audit in mu>H0 and Burmese specimens in the points noted above, the Perak
 specimens have the same general *fades*.

Evergreen tree's or shrubs. *Lew es* alternate, usually <\

stipules minute, fugacious, (large ami pt>rsistent in species) b;i
 glands 2 or 0. *Flowers* small, racemos p .ctimes
 UDiswxual by want of the ovary. (*ibe* obt r

panulate, deciduous ; Unib 5-15-toothbed, *oii* *Petals* n
 5-6 in tbe 5-6- K, 0 in tbe 10-15-toa'.hed, villous
 tose rarely glabrous, ften ondistiuguisbtible

us 10-50, in one or more series at i he orifice of the calyx-tube ;
 filnments slender, incurved; ai small. *Carpel* 1, ; in
 the

lyx-tube, ovoid or subglobose e terminal, slender, exserted from
 the bad, stigma ovulet ndulon I
 Outruns.

versely oblong, obscurely tlidymous ericarp
 thin, dry or juicy. *Cotyledons* very thick, hemispheric; radicle minn
 eupeiior. DISTRIB. Species about 30, tropical Asiatic ami. one African.

Edges of leaver entire :— St'pulea large and persistent
 tipulefi small and fiigaceoua :— Flowers "5 in. in diiun.

1. *P. stipulaeextm.*

Flowora mnch It s\$ than "5 in, in diam. !— i-y gl<ibrou8 :—
 emes not mnch longer than tlio pctiole3 :—

a. *P. (jrandiflorum.*

Leaves 4 or 5 in. lotiaj and 2 in, broad, lower
 surface pnhernlous ; main nerves 7 pairs
 ives]5-2 in. long tmd "G5-1*1 in.

3. *P. ii ium.*

brond,

p, *iTtiingtiyi.*

lower surface deciduously pubescent and rugulose
beneath ; main nerves 4-6 pairs
Leaves 3-5 in. long, ovate,
glabrous

beneath and beneath ; main nerves 4 or 5

F.

Racemes 2 01 3 inches long ;—

leaves 6-10 in. long, 6-10 pairs, stamens 30;

6 or 7 pairs of xit^yes, their apices

much taper

P. aeuminatum.

Flowers 1.5 in. I* > H:T, 5-merone ; t nens 40 or

50 ; leaves with 7-10 pairs of nerves, I

and obtusely aciiimim Ovary villosa or

7. *P. yum.*

hirsute :—

Bacemo-. inach longer than the petioles (from '75-

1*6 in. long) i—

Leaves glabrous on the lower Biirface

8. *P. Scortechi*

Ler the lower stirt'are

glabrous

9. *P. pcrsimUe.*

except fur a few scattered ad pressed hairs Leaves

with shorf ad pressed hairs on the lower face,

10. *P. j'' i*

not. ghbrons or rugulose

Racemes very little longer than the petioles :—

Lower surfaces of leaves with short ndpressed

hairs; ba=es of leaves enneate, their

apices

10. *P. parviflor*

caitinto-acaininate

TAB. *denua.*

Lower enrFaces of leaves minuJely pi;

midprf;ssed triscJi-B intern; ;i

hrtirsj bases of lea es roandpd, ; nines

obtusomid emnrgiuate ... Lower enifjices of leitves

11. *P. ovalifoliwtt*

mimttely rusty-pnbes-fcha hairs partly deciduotwj leaves

with ruled basea find r>:■uninate apices ive.H jjlabrous on the

under surface Edges of leaves sinuate dentate

1. *P. Eookerian .*

1. u STiPtTLACBUij King n. sp. A tree

P. brevifolittm.

: laely rusty-tomentose. L> rery

i. *P. Gnjjiihii.*

coriaceous, broadly

young brandies

elliptic broad and slightly cordfite. the edges revolute ;

upper sn ^labrons, tlie nerves and midrib deeply depressed,

the

latter pn it; lower surface rusty-pubescent especially on

the

lid rib, maiu and transverse nerves; main-nerves 10-12 pairs, spi-ead-

curvlnng upwards; length 5-7 in.. ' 2'5-3'75 in., petiole

"5

in., very stout and densely rnsty-tornentose; stipnles persistent, broadl
svafce, or caudate, acute, boldly ribbed, puberulou.-, persistent.

Rac&n^es in fascicles from the branches below the leaver 1'25-2 in,

long, rusty-fcomentosef ; bracts broadly elliptic, c weave, tomentose

outside, glabrous inside. *Flowers* 1.5 in. long, on pedicels about as

long as themselves. *ijx-tube* campanulate, with 10 shorf obtuse teeth,

tomentose outside. *letafo* 0. *Stamens* about 15, exserted, glabrous.

Pistil longer than the ovary villous ; style stout, erect, snbglabrous;

stigma capitate, iscoid. *Fruit* unknown.

EKAK, *ScorUclni* 11020.

2. PYGEUM GBANDiFr.ORUM, King n. spec. A tree 50-70 feet high ; all parts, except tho inflorescence, glabrous; youi tnehes rather stout. *Leaves* thinly coriaceous; elliptic to oblong-elliptic, sometimef slightly obovate, with an abrupt short blunt point; the >. cxun eglandular; npper surface shining, smooth, the lower less shining an(minutely pustulate; main nerves 8 or 9 pairs, spreading but rurvi upwards, prominent on the lower surface; length 5-8 in., breadth 2'75-3'5 in., petiole '75 iu. *Panicles* solitary, axillary, nearly a the leaves, with a few lax corymbose branches, almost glabrous

Irusty-tomentose towards the apex; bracts broadly ovate, concave, blunt, puberalous. *Flowers* *5 in. across, on pfedicela "15 in. long j near the apex of the pedicels 1 or 2, minute. (widely campanulate, short, with 5 broad lunt subreniform lobes

tomentnse outside *Petals* 5, much larger than the calyx-teeth (*2 in. long), subrotuud to broadly oblong, blunt, re flexed. *Stamens* very numerous, glabrous. *Pistil* slightly longer than tho sta the ovary pubescent, style puberulous; stigma small, a . *Fruit* unknown. PERAK: ; *King's Collector* 74*25.

A very distinct Bpeoies with large glabrous leaves, and larger flowers than an] here described.

3. PYOEUH i.TEKMKDtuM, King u. spec. A tree 30-40 feel branches dark-coloured, lenticellate, aubglabrons. I< UB_r broadly elliptic to oblong-elliptic, the apex acute or shortly acuminate, the base rounded or slightly cuneate; upper surface minutely pu. tuiato, not shining when dry, glabron except the broad, dep I pubescent mi lower surf us, pubescent on il ves and midrib; main-nerv' ; pairs, oblique, curved, prominent beneal length 4-5 in., breadth about 2 iu., petiole '35 in. *Mucemes* about 'b in. long, from its of fallen leaves, solitary or several together, densely, tawny-tomentose; bracts shorter than the vei

ly infundibuliform, with oblongat rmiry teeth. *Petals* non< *Stamens* about 20, gl rted. *Pistils* as long ae the str glabrous; fstigma ■ cj *Fruit* subglonular, compress by the style, gin¹ "3 long and about *2 in, thick.

. PEit AK; *King's Co II* 791.

MALACCA; . ' ovate-obtuse, conca outers less than "15 iu. long. *Calyx-tube* wide-

PTGFITM I vi, Hook. til. PI. Br. Ind. II, 319. A ti

brant si .der, with dark-coloured glabrous bark,
coriaceous, i tic-la . acuminate, rathei
broad bast if ten with 2 small glan ;»e
■upper surface glabrous, smooth but not shining (when -
dark-brown in colour and rugulose, deciduously pubee .nain-nerves

her pifcroineui on the lowci
 lete OJ lie face; length 1*5-2 "Padth "65—1*1
 in.
 iok ii iu. Ra B Uarv and extra-axillary, about as long ns
 tha
 peti bracts bary at the base of the
 pedir
 ovate-acute, con care, toutit te, glabrous inside. *Flowers* '15
 in.
 in diam., on pedicels shorttr -n selves. *Calyx-tube* funnel-shaped,
 its niouth with 6 obtuse villous tt ^ *Petals nov* about
 16,
 ■ t ed. *Ovay* sm all, often ve ; sty le si en d ei
 Bharp Mm ronnte apex,
 ud 35 in. i

'ames very near P. h
 la 1», wiirtins /'
 ar p. e latter are glab
 ook iil. Ki. Br.
 t high: ong branches slender, tLtrk-colou tdpressec
 herulous. *Leaves* tl >riai*eous, ellijitic-lanC'. ely acu-
 be ba 2 narvow plnncls justabove it; botl
 and midnl); main nerves 4 oi* 5 pairs, cnrv
 r.BH; nineut and dark-coloured on the lower surf-
 UK 1-14 in., petinle '25-"3 in. *Racemes*
 only
 about P5 in. long, axillary i fcra-axillary, tomentose ; the bn
 at the base of eacli pedicel sub-orbicular, acute,
 glabro
Fhi a long ns themselves, "15 in. in diam.
 (

mlate, totnentose extornally, glabrous inside and wit t
 tee Mi. *Petals* (if any) deciduous *y-
Ovary glabrous, compressed .
 onger than (lie pc compressed.
 with a slig
 BeeU

BINQAPOBI lb. PENANO j C 735
 The racemefl of thi« are often very aiiort, utmost sessile, and 8< tlar.
 « a very distinct flp< I iiave not boon nble to discover any petals.
 6. PYGBOM ACI-MINATOM, Colebr. in Trans. Linn. Soc. XII,
 360,
 A tall tree; } ung branches cinereo' ibrous, rough.

Leaves

coriaceous, elliptic to elliptic-oblong, shortly and obtusely caudate-acuminate ; the base rounded or slightly acute and unequal, often with 1 or 2 obscure glands ; upper surface glabrous, shining, the midrib and nerves depressed ; lower surface brown when dry, subrugulose, glabrous, dull;

6 or 7 pairs, curving upwards, prostrate (almost winged)

is on

length

icteola
de.

ly obloi
in.



1: King— 3.

; length iili t

or

-Heels '1 in. lon< narrowly ab-acui

My campanulas, *15 in. wi '1 about

6, obi an ceo late, o

out 30, iong-e: I, glabrous,
jjlabro

• icul;

; sli^h '5 in.

it. Buj-ma, Chi .

fil. FI. Br. Ind. I, :

with ci

Laely acut.

andwi i-gethii

ie p-

iining. [i

the low

i

surface ;

Rnc>

the leaves, si vitli si

ut*2 in. long aud '25 in. in di .yh

[-•2 in. long; b ilatt

«e externally nt within; lobes 5, oblunnj

18. Sti

s the .

338£,

'•ies is very near P. ■ :
onn.

- A slender h

anchea puberulous, the b:n c-coloured. 1

■ ii^-lanceolate, aenfe

Lulai*; shining-, glai

i hairs on the de]

shining, git,

taai^n J^1

v i j
fciols

■: length 2-3 in., breadth *8-V35u

• solitary, axillary, 1-1*25 in. Ion<
(if any) deoidnous. *Flowers* "15 in. long, 1,
pedicels "1 in. *Gah/sa-lube'* narrowly e&nipannlate, with 6 oblong
sub-
acute lobes. *Peiah* none. *Sfamet* u 1:2, exserted. 7
shorter Mian the stamens, ovary with 10IK c hairs; style glabi
L&. JYK>7 ersely ublong, glabrous, minutely pubesceni.
i. Iiroad.

57.

Knrz Joun , , jal Vol.
A tree; yonug brand- d onslly rusty-pu,b)
ms, elliptic to elliptic-Iannwilate,
i uiuii; .. funded or
v glabrosi the
inn in B 7 or 8 pairs, spreading, very pro
t) on iho iov.- iroadth
■ in.; pofci L. iv in

■ ■ ' neai
■ of falli a U¹.: o in. long, densely ta way-
's broadly ovate, acute or obtuse, longer than tlio perit-
1 in. long and '15 in. will" at the mouth, their pedicels less
in, *Oah* •■ -campanulate, tomei itside, gli
the mouth wi tistarific obtaae t<
2 or
rous, fipreadi

In the gropi i in. . . ju. for ■:.
h bi*oad. *Ku* II, f20.

FL . ITlm t. Burma, I.

rtffith. Si

Mi"

Fo. 2056 from
to J' /.ampougu-m, Miq. In my owi
of liis P.

i (irit&thiai mena fr\ ant any noi
ritten I with bis own This species n
tlior ia considered as MiUayan c aa Burmese.

10. PvGwr »m. & Binn. in K

Ind. JJ, 309, A tree 50-70 ;lnnrod^

tnt, /

;•■ io-■

My cai

■ (!"

t'face shini

G. King— *M*

glabrous except sometimes Hie midrib]
 sparse short ad pressed hair ■> find main i.
 main nerves 5 or 6 : . not curved, very afc on the
 lower, faint on the upper surf^re; length 2*5-3*5 in !'
 petiole '3- *Racemes h-om* '85-1 5 in. long, soli?
 gfther from the; fallen leaves, tomentuse; bracts *bi**.
 touien >rous in VAB. *dent*
 'ah witU G obtuse ;ilous teeth.
Hymens
 ,bcmt 18, ex glabrous. *Pistil* as long as tin
 ■scent i illy towards the base ; stigma capitate,
 dist *Fruit* ly broader than long, compressed, sparsely
 adpressed-pubesceufc, subglabrous when old, '25 in. long and 3 in. broad.
 Miq. Flor. Ind. Rr.f. Vol. I, pt. f, 361; Hook. til. Fl. Br. Ind, 11
treum, Kn-Jl. a, Biome
 1H *hia*, aiume Fl. Jarae Praet. V fit, in pt»
 P);)iAK;
King's

r 7236, and L0827 ; *Curtis* lii.¹

ii*o; racemes not ranch loi. a the • ;, tlie floweii
 icb crowded and ^uite sessile, densely co with pale tomeutara ;
 icts very broad, subglabi •
 KAK; *King's Collect*, ;, 10195, 10396, I

iat this variety o|i^>it to La treated us a apciai.

11. PyiiEOM ov.M.iroi.) ec. A small tree
 young brneh'.ri with rather rough cinereous baik, luously ru
 pubescent. *Leaves* oval or broadly ovate ; the apex obtoi)y and
 minutely em- ase rounded and egiandi *upper-* H
 uutely pnncal-e and ru

ino-, slighl ^jpe ; luaiu ;!■«
 ton tipper and s) . mines

the lo' face when dry; length 1*75-2*15 in., breadth JL—1*5 in.,

axillary, stout, from 3-Sin. long, few-flow<
 usely rtisty-tomentose; bracts obliquely ovate, very com-:
 glabroi le, densely tomentose oi *V'Lun* - - n. long, and
 -3

lie mouth, bi3ssito. *Calyx-tube* campanulate, dt loman.-
 o , glabrous inside except at the busej the mouth wH
 'i> *Petals* none. *Stamens* about 30 or 40,
 glabrous,

mueii
narrowly ov^ -ous; btjle stou
1. *Fruit* Bui with
shortly
s, Ppamely sirigi
pEI

;in the Btamens ; ti.L-ovary
jlabroue; 'liquely
tical groove and

!

T)c

12. PTGECBJ H-JOKERIABCM, King n, spec. A shrub or small tree ; (mug brand J, glabrous. Leaves thinly coriaceous, more less bioauiy'ovn^{fe}, sometimes ovnte-oblong, ahortly acuminate, the e broad and sometimes slightly nanowed to the petiole ; ■e glabi ■ lowej? minutely rusty-pubescent especially on the midrib and nerves, the hairs partially deciduous ; main }nerves , 7 pairs, spreading, sliglifcly oblique, interarching rather }far from edge; length 2-4 in., breadth 1-1*8 in., petiole '25 in. ttncemes axillary and extra-axillary, sometimes crowded, usually less than '5 in. i?, densely rafous-iotuentose. Flowers '% in. in diam. on very short pedicels each with a broadly ovate concave bracteole at its bn

tomeutose outside, glabrous inside, widely cam pan 6 obtuse teeth. Petals 6, about as long lie calyx-teeth, lam pubescent externally. Stamens horn the mouth of thoealyx-Jtibe, uooufc

glabrous, much exserted. (yle longer tl¹ (an ious, stigma obliqn <coid. Fruit sub-glubuiir,

1- <l it mi or trtr elongate with a shallow J. vertie e and

wn.

19 King's Collector 1070, 208;

is species I believe belongs No. 628 of the llain<:riy Herbarium referred I Sir Jo: tjph Hooker in n note on p. 322, Vo!. H of the ' India, bat ti \>y liini for wntt of sntlicieitly* good il.

t'OLitiM, ilook. til. fc 1. Br. Ind. 1J. -i^l. A phr h ; young bi*anchi :-coloured, glabron \y oblo hortly and obtns :uminati itel arginate, both surfaces q labruu iva-na brown, zuo lu»»vr ^iwn ; main neiyes I- t»r .r> pnir filing, ;h 2-2 :■ in h h 1*1-1 3 in., p axillary, only aboatS in. long, sub-globose, tomen-cacta small. Ca\ with 5 or 6 Petals none. Siumew \()-\>?>_t filaments

eh v 111 r> u s ; styl e rather sh or t, glabrous. Fru it u n kno w n.

IALACCA ; Summit of Mount'Ophir, *Qt'fji.th* 2051.

14 PYGEUM ORIKFITHII, Hook, fl >2. A
nig branches stont, densely tomoutose. *Leaves* conV. mg
or oblong-lanceolaie, obtufle or ditusely cuspidate; the ate
and e-toothed; the base rounded or acute,
with 2
ill basal glands; both surfaces very minutely dottt (ho
upper
rial,: h)e midrib arid mnin nerves impn nu\ pul..rulous , lov

Kjng—

Bui: y pub'M'u! flin in.:

Q!C

sol [n, Ion .

ilc. C **ibconic, with** (J ubl. t.h. *Petals n-*

..0.

'Tectly knnwn, the nuly speoimens of i

. The **above** deacii[ilion **is I**

description <

It may « "imafce-toothod leaves.

5. RURUS, Lini

Sub-ereci rmentnsc KIH-UV.

rnatt

Q pound ■minal

apd axiHary coryua

lining tli be. C

c

ilJ

.iihttat^ly 6—7' 'minnl "]

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hallow

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chos with t iin c

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n^rea; y

1.

shrub; **the** ■; branc

inflore

nyorrusfcj

isor woolly jprickl*

>) aud. rt'curvi I thu b

mnl '!

Bll

■ lobuUte ;

tl IM. lou«

i irrc

i-Vg

. iu diam., bi-uota lik

I v than tmeroi
 lor. Ind. 11, 5 Bat. I,
 -, Hubas 34; Doi
 & Gii 89 ; Thwuite
 R«6«s //,- . Wall.
 \o>. Jnurn, Nat. I
 in Bot. Rv
 in DC. Prof. 1F, ;npl
 In all theProvim ept the 'Island
 moion tlio \ii\j parts. Di
 ickles ■■ -10

i. 1111. A setai-scandent
 slender, with pule J
 base only, the n] with _-i shallow
 re dent o tlie acami-
 and soruetimes the nti
 ; li '■)-L 1P75-2'O in.
 ;

ib. *Stipules oviiif. pini*
 wered, leaves, tew-
 Calyx-Joh m diam.
 ■ ' ■ Peti bhe calyx
 ' . PI. 1. 381 B, /.
 Lnal ga as the leaves;
 s of tL'

. Smith Icon. tned. HI, t. I

Kin

joi;- branches *nt* first pnl tl
 dark-coloured and with
 broadly ovate, deeply cordate at the base, ; lie; the
 eiuate and remotely tl ; lobed; upper surface smooth, glabrous
 tie puJ ■ midrib ; nder 1 (except 3 or 4
 the midrib) without prickles; the nerves and veins glabrous and die*
 nut brown, the an ;ale-tomentose ; leugtl
 breadth 2*5-- , petiole 185-2 in., with a few sinaii pr
Stipules i> nnrJifid, deciduous. *Panicles* pubes' t small
 scattered prickles, a few axillary ami
 leaves; the terminal one much longer ave (15 in.
 ' distant br ; the flo\ clust<
 e.yt■ >*<ini 1 ios, sabsessi fe or short' Iyx-)
 triangular, b! <

• 7; Bhi I PI,

741-7

PERAK;

1468.

| ■ iith Tc. Ined. HI_{fc} t. € A ssbsca
 Vfo* U\T ; brunches, petioles leaf-racliises and inflorescei
 stiff usual¹ glai with shorter soft itermii
 few Bbfl 'ked spines. *Leaves* pinnate, 2-5 in. leuf-
 ceolaffe or ovale-lanceu
 senate, rarely wi *2 lobes, the ap imiliat
 *er surface sparsely stripose, the midrib and n
 strigose than the minutely reticulate, nevei
 ; length of ltsaflei '35-1*2 i ;les
 the- lateitil le.il*icts i-*2 in., those of the I ones 'o-
 ■ lanceolate, acuminate. ■* 75-1 in un
 jedii b longer than tliemselves, solitary or in lax few-flowt
 panicl lanceolate, achiminate, nob prickly, woolly
 or

?Uy larger than the calyx-lobes, broadly obo\ e,
ruli eli' I, ii-el . the nunnruus red carpets on
 a glabrous ;,b. Flor. Ind. II, 518 ; Walk Ca rz
 For Fk. iBiii. Burm. 1,43?, *Jlool* iiook. fil-Fl Br. la
 II, 341. / j, WiMd. K. *asper*, Don Prodr. 204; Wuli.
 39UO feet. I loOjJ feet, No. I
 Java.

.G. PYRUS, Linn.

Trees hrubs. decidiv ie or .lea
 deciduous. *Flowers* white red or pmk, in terminal corymb
 or linear. *Calif*.tul* ..iu,
 turbine

Ror reticxed, persi

quincunci

ally imbr u hud. 20 or more, filaments
sometimes conn at

the b: . *Disc* annlar. lyx-tube. *Orrrpeis*
2-

t<> (,lir- calyx-tube; styles 2-5, free or connate below,
stigmas truncate; oynles 2 : cell, basal, collateral, ascen
Hjme) fleshy, 2~5-(8elled ; cells with a membranous or cartila-
tocarp, I-2-seeded. *Seeds* when in pairs ^sta
coriaceous; cotyledons amygdaloid. *DISTRH. N.* anil cold
regions ; species about 100.

Pvui ■ GB \fern, Acad. Sc. Bolog. Ser. II, VIV,

A small glabrous tree. *Leaven* coriaceous, ovate, usuc
base cnueato or rounded, the edgi e or sin..
sen a* surface shining, the lower dull-brow n dry:
mnin

!-ves 7-9 pairs, prominent on the lower surfn *Fruits*
globose-} minutely nigulose. - g'a-brous, the x-lobes
not

porsigent, *7.> >nK :ind '6 in. in diam., 4-c
V, !"
in. - hilig, i i'rniui»-s r: ■. !

Weuzig in Litmse^, 1674. - • Knrz tfor. Fior.

m. 1. 442. *P, Kareiisimu*, Kurz iu Juurn. As. Soc.

B 7-; U, aot>: 1873, II, 9J

I'ERAK ; at an elevation of 2UO0-2500 feet; *jgcnrfecl*

OiiUEit XL.

rubs or herbs. *leaves nh* ystipuf

base of the peti opposite aD<

■ons ; flowers hermaphrodite or polygamo-dioecious j the
pot- « and Stamens svmnv

o the ovary, sometimes nearly hee, son ,rior , o
imbi-Icatfl or valvate. *Petals* 5 or d. Mu.n -- •

rarely Bttb-hypogj, M_t, te<

LUalli..g or double their number, rarely n_{nmf}

carpels ; n*, mly 2- ov 3-5-cell rile ph

occasionally I-celled wit), par placentaa ; Rl

camels, distinct or combined nearly to tLo »i,tn™it. *+-

/, , , , - . y summits, stigmas capitate

or lateral and suboapi^te ; ovules nmo ■ uatropoue, erect or per

dulous. *Fruit* capsulAT or berried. *Seeds* numerous or several (solitary
in IV^mu) albuminous; the albumen rarely scanty or nearly want-

ing. DiSTRIB. Species 580; in the cold or temperate ^n01JS of t^

wLole world and in the mountains of the tropics; to*- ■*

genera of tropical trees.

Burma; Kbasia Mountains; Sumatra, *Forbes* 2050 ! 2376.

few si*.
Tr<" l'frfj woouv- shi'ubF" ■ ~>le Tenvtsa, 4-merotia
tioweis. and dry frnir. with n single large smooth eeed ... 3,

1. DICHROA, L.

A sub aceona shrtib. Leaves opposite, more or
olate, persitent Pan u\
Umb 5-6-toothed. Pe{<rfs 5 or 0, thick, ; :uo
iO or 12, epigynous.

infiles numerous, on 3-5 pnxietal pi; Forni
ina of tl blue. unmer-
1

I' I' (H)A ■ LIT* L'A
brunt*.
uieatr 9 more c
ire itt the low.

m 'C-17-'¹ in. Pa»w* I pressed- pubescent. Hook. fil. Y\ Br.
b, Fl. Hongk. 128; Mnx i llem. Acad. Petersb.
p. 2. '(randD. latif 'iq. Fl. Ind. Bat. I, 721.
722.

Ada. Jom-n. Hort. Soc. I, 298; Lindl, & Paxt.
J. cyttuea, Wall, 14.1 ; Ten- Nep. t. 36; Pl.
r. t. 213; Bot. Ma 046; DC. Piodr. IV, 16 in
Jouin. Ijinn. tioe, II, 70. Lt&rdti. inp. in K>.
Boi yivatica, Reinw. in bitimt I
dr.

PhRAK ; on the Central Rang< rieekini 2GG. D]
lgher pnrts of the Malayan Archipelago; iippinesj Ten-:
ate Himalaya froiu iJliotan to Nepal • Kb;. ;Uivtains.
DICRRO*.

u'scent,

2. V/:::NMANNli,

Trees or shrubs, usually with terete opposi
late riaceous, unequally pinn tte
or
 vtlets usually g] aapbrodiie or
diceceas. *Gulyx-lnbe* i>he lobes 4 o at l
deciduous h 4 or 5, Bessile, imbric n
serted under the lobed margin of the perigynous disc. *Stamens* 8 or
10,
inserted with the petals, the filaments often CIODL: the
authors small, 2-celUd. *Ovary* free, ovoid or couictil, 2-celled.

a Flora of the Malayan

2, subulate, persistent, t-lif irople.
 - celled, septicMallj 2-va)ved, the vah h-shaped, ;Vw-nr m.-i
 Seed's oblong, reniform or subglobose the testa membj
 en hairy. *Embryo* te in the axis, or towards the ap the
 albumen. Disir s about SC Malayan, on
 \mericv
 i, Planch, in Hoolc. Lond. Jomn. B
 p. 470. A small tree; young brat; ■ ith sparse I
 hairs <yhmticel- -s obov.-ite-rohind, ad press
 - in. in in, long, pinnatfc; leaflets 9-11. ffe,
 narroT ;ncGolate with :icnte a;
 aT< nd oblique basea, their edges remotely
 the ces glabrous, i\ glabix>us bi
 cniiered black hairs ; maiu nerves 6 or 7 par
 5-1 in., tlio terminal one longer, breadth 2-
 t the app • bran

an 1 in. : | ,),<.

ter.

vt. i

. **Bhime** liijdr., &

MKIJLCC; an Mount Ophir, *Griffith* *Pi-*
 . ation of 5000 feet, *Wray* 3814; on Gunoag Idjan
icortechini

3. **POLTUSMA**, lilume.

i roes or shrubs. *Leaves* **opposite** or snhoppoosite,
 t'niinal mo
 m-Indian spi.■■■ 3-bractpnIate. *Calij*
 the ovary j 4, small, cent. *Petals*
 Hnwish or greenish, much recurved when expanded,
 emus, usually hairy within. *Stamens* 4, epigynous, filaments hni
 inferior, 1-c yle columnar, stigma simple; ovules nomer-
 on two parietal placentas which project coi
 ite cavity oi wary. *Fruit* sub-ba g,
 snbbasftl. ^)rsTruB. Sped M^Iayao, British Indian ■
 tn.

eava

ii airrfacog :—

• VPS sharply sinuate-dentrvt, membranous; flowers *2 in.

long r< "i "i 1' P. j

vf>8 quite entire, coriaceous, flowers *3 or 35 in, long:—

Leaves ellipuc to **elliptic-rotund**, or obovato;

calyx

)S6

..<

.*.

...

...

2.

P, CQ

Leaves oblong or oblong-lanceolate, calyx nearly glabrous 3. J
 •.iljfos on the upt* the undrib am! iiervoa,
 of fen vrith the into: spaces ou the lo*v fam»«IHO
 l-pubcscoi' :—

Fruit truooife nt i n>nl with 4 clenp rorfcir.
 flowers not more than '3 i

lit not truncate at the base and not vertically ridged : —
 l-'ruit Bubglobnlur; flowers '35 in. long; leaves entire
 Fr'tut ovoid, tapering :tt tho base; flowers "gj
 leaves entire or r»

labrous on the Tipper surface, tho lovrer surface always ■uug
 loavea, and usually in adult leaves covered with dense
 yeliowisb tomentnm :—

Fruit Bttb-gtobalar, [ed, '25 in. long 7. J ir

vttli 4 dcoo vortical 8. P. i

long

i]y known Bpeciaa near P. vchitina, Bl. ... 9. P,

1. I' ;A l'ABVIITLORA, King n. spec. A email
 branches slaffiler, glabrous. Leavt narrowly ellip
 Bhortly caudate-nc-iniiiiate, the Bdges sinuate-dentate in tho npperihreo-
 foui ntire in the lower fourth, the base o both Bnrfnea
 gla, dark-oot«ni-«i.l rrrhm <^ r Bli^htly paler
 u the npper; main nerves 10-12 pairs, sub-horizontal, slightly pro
 minent on the lower surface only; length 2"5-3'25 in., breadth
 1-15
 in.; petiolu *3-5 in., Bpaxselj pubescent, channelled. R<tccmcs
 ter

minal, abort or than the leaves, puberalous. Flowers '2 in. long,
 then

05 in., adj i-pubescent; the bracfceolcs liner, longer thai
 tho pedicel. Calyx-tube narrow, nearly glfi^'-ons, tho
 mouth

angular acuminate teeth. - n^j t*"ici
 obtuse, pubescent externally, longer nit flu
 .ped, tho j ed by the calyx-tooth and >vnted base of
 the style, the base rounded and slightly gibbons, g-labrdus, '5 in. i. and
 '3 in. in diam.

np Inas, at 5000 feet, Wmy 4

A snecios somewhat resembling I Ua, Blauio in tho shnpe of its
 >ot Laving much shorter racemes and smaller flowers, and an oln In r""i?cv

J. PoiiTftBii* LEA, King n. spec. A shrub or small l
 branches glabrous, sparsely leiitieellate. featfe#coriaccous, elliptii
 elliptic-rotund, rarely sub-ohovatf, tho apex acute or short! minat
 the edges entire and slightly revolnte when dry, the bast
 labroua, tho upper shining, the lov

na
neB

tading,
IRUI 2

breadth L-S 2 in..
ul.

.; *eriaUfora*

o\y adpressed-pnbescnt Flowers -.45 in. long;
their

or than the podicel, slightly constricted under the
ptrijsfose like the,tube. ranch
t), slightly ! au the stamens,
linear,

o\χ th-villous inside. Fruit (very
yojing)

the calyx-teeth

>ii Gun on g Babu at an ^carter:
M^l. Ridley'B 5'2)9 firam Ke4fth P<
aves, ! inner d i

POJ IN'11, King n. spt\:. A in<
(fhh techini) ; younj? branches slender, with pale almost]>
>k, all the inflores> ma. L
oblui >late, sometimesoblaneolate, acute, mw-

11., bearing 1 linear-aicntniiate -e bractei
I d i l slightly consticted unrler
the
les ft i\ midrib

in, 1*5-2 in., petiole F35-*6
in.
; '■ ■ largely puberal'

E. ■Is about 'U> 1 *>les am

ncoflte, hairy. Calyx-tube nearly glabrotte lobes slmHow, trian-
gular. P tats linear, Rubacutu, pi 'scent 'outside, only
slightly so
inside, abo.nt as long as the almost ibrous afcamens. Fruit
unknown.

. inleyrifolia, Herb. Scortecbini (not of Iiliine),
PjiKAic ; Scortechini 1900.

UeiiiUly AiatugaiBlicd by its perfectly glabrous leaves vly

4. !>i YOSMA MDTARILT8, Blum* ijlltrrl. Bat. I, 261.
tenticoHate, decidnously rnsf.y-
nt. I Murrowiy ejltptift, tapering gradually from
abont

• cb endj^jiot caudate-acumina
Face black when dry, glabrous,
ahii

lanceolate, the midribes adpressed
: HIM in nerves 8-10 pairs, spreading, slightly prominent on I_{BR} and
slightly depressed on the upper surface, length 3-5 mm with
1-25-J-75 in.; petiole 5-1-1 in., slender, *h'* much longer than
the leaves, with short rather sparse pubescence, upper long, their
pedicels about 0.5 in. long with 2 adpressed lobes. (*Jahjx-tube*
about as long as the pedicel, pubescent.; its lobes linear. *FetaU* many
times longer than the calyx, linear, sub-erect, linear, slightly longer
than the stamens. Fruits ovoid

2 G.
King-

'fie

-;afce bnse. tli
length -A5 i
.vlie n ripe, rhe pedioi

>iaterl and crown

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Aliq. Ploc.

/40o7. MALACC.

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Beuu. Pl. Jav.

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;taii the ctvlyx, linear, a

DveniB broad,

aer side. *Fruit*

alar,

ma, - in. in diam.

11. f. & T. in Joun. I

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fit. Flor. Br. in'1. !

<u Rnxb, Fior. Ind. II ,

II. Cai PJSUAK

; *Scoiiet*

G. POLVOSMA

l.N yomigf

branches .

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lower sun

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ial, often longer than

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lyaves, BUI

1 in. IOJ
bracts.

2 linear-lanceolate

icc 1, pubescence; the mouth with

'—A! tit

flub's c>- Hpt'<_riena. :&v6 tlio .M

ovoi-d ■ • ::

Bui in o'

antly c >erak«udP'

Bli

.fd. Bat. I, 2

amul! ■ sg branches stout, deciduoi
to elliptic-oblonL

or the base etmeate *

surface at first with *n.* few scattered ad I ti

except the pubescent depressed mi'

I with soft velvety yellow i aentum ; main 9rJ

prominent on the lower surface only; 1< i;_rth 1—75 in.,

'i-1*5 in. *Raceme* terminal, about

times a !eaves» stout, d< -tomentose like tli

\yx. *Flowers* '4t in. long. th> rather o-v

:ii*ow ial adpi-osseH braoteoles. ■ 'alyx-tul

iwly In than

the calj

H^ i the an ovoid, with a

=sub-traucate brtse, and -with an apiculua formed by the na of il

of th- stylo, boldly 4-ri sparsely and deoidnou

I in. in diam, at the "2 in p

n(fs C

*King's Collector 3**

Sumatra, .lava.

Li

q a \y)

I identify tho Penang and Perak

• for [hi ipeoimen ;

Bl.> and I think my idoi

9. u RIPLETI, King n. spec

I minutely toment ly-ellipt

nninate, I *sea* entire and'slightly revolnie v.-\mn jtlry, I

<ft; upper am <l-pubr

Hir-n n'l tit 'j Iiroua and shiuui I with de>

jin ; main norves 9—11 paii-s, sprefi vms r

interarchiug, rutlior prominent on the low ■

eivea almost as prominent;

1-1*75 or oren 2 in., fcomenfcese. B> terminal, lmn

lensely covered with pale yellowish or whitish tuni

x mid petals. Fl 4 in. long U 1 in., '

on the fvel- *Gnlyx-t-* rter

thai .wid o; the tooth \ M?s much IOBJ

than tho calyx, linear, blunt, vi out.

hers. : the
Style subglabn nknown,
i'OKfc; ; i

A very distinct B]
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the styles, *psuU* n
h.fleshy albumen; •
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1. Di

aus or with a leafy stem, -pilo

■ reunite iu aion ; stijj

partite, sepals j».-,vsistent.
gvnoufs. white or tose-coloun

Petals 4-8, li

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Vol. IX, L!

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ut; ovulns 1-CO, axile, pendii-
bitid j eudocarp ol >*ny

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lowest in etich cell pi "pecics O.J; E

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: li America ainl in .South Afi-i

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■ >ractoato; stamens 10-14,

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ovule 1 in en us. Ca .oody,

Lbe exocarp. Seed

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m^ braiH ier slender, gl

L-UUS, pale-coloured when dry, Ie«tic<

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pit

s ha 'air only in their axils. , all fch' Perak spenim^ns iho B1
are mach narrower than in those from the Himalaya and Khasia niou

3. lino 00 Li ok.

Glabrous woody shrubs. / ipalate, evergreen, alternate,
with long- | s> coriaceous, gl >TS in few-flow
peduncular La surrounded by nu
od bracts increiin size from i inwards.

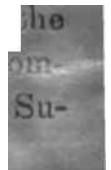
8 unsymmetrical, hen ate in ■
i the if the ; its limb
alar, i inside. V' »sy, 2-4,
nequal,

deficient in . clawed, oblong-ob lanceolate,
h ti Lick, elongate
■ celled, ectire not, pro-

d. Ovary half-inferior, ovoid, the apex bifid, 2-celled, or
1-ce

abortion olr the septa j nbulato, t leciduous, s
oah cell, inserted on two biseri
^ile

elied, :. i



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fit the fjlDg ptic,
ea 7-9 long ^ th

surfaces rnglose \
ling, faint; the mid
-2 in

Bubi in. labroua, aboui hair; 8

lely foi if their length.

pt. 2. ;

; elev. 3900 feet inBn



181.

XLIII.

II. Leaves opposite or whorled, or partly alter-
PS lin basifn subme] Ft en

~~piniatim i, always extfpulate.~~

jail, avillavy, solitary or faRCicled, sesRilc or pe
he nodes between the floral whorl etimea
nons. o) nt. *St* 8. 4 or
I. r in the bisexual flowov 4- 2- or 1 -celled

the styles • the cv
(1 in *Hi* lalous. *Fruit* small, dry or dr
cells as in thn ovary, to its coinj
pels. 4 cosino]

tic a comj .

I. ifcA&iB, Forst.

Brandiii! toes opposite, the n
hed, rigid. *Flowers* minut-o, neari
e, partial! mphr<>
|; lubus .:

4-ci
1 feathery. /
follbwii 1-celli

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paniole-b
Fria* shii i«. loi
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Bot. !

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ly sei into it iponent
carpels.
'■)/. I, pt. 1, 034. ke in Hook. HI. Fl. B
!fc 111. r. 102, (t .)f
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138. rightlc. J^ 106

Australia, itb Ameri< Mou n-
! of tho South of 13:ii \U

ORDER XLIV. RillZOrilOI;

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eqaal Lu num at usually smaller time ntfTT
Stamens Uf r twice the nm if th
pct:ils. in pairs, opposite to and partly y them ; rai-c
finite *iKunitttlia*) ; a '-culled, rarely muh
iore or ! a to the on rora 5-1 -called by solu
ea) \ stigma often lobrt
coll, pendni t PtMBacoons or wood:
mb, mostly intfl lh
pendul or not; albumen fleshy or 0; em]
albnmen, elongated if

rad

• bing while ait still mi
calplanl my sharing with tion the
l the e: \e, fcripalnto: style
comiato t —

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■ceiled; stamina L0-2S ... 2.

!(>-J2 ... 3.
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iyx 5- or 6-
indefinite; Btigroa 3-lobecJ
Taum II. LSOKOI

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t'i as cyii iys-

enru us, axiHnry, solit- ry or in pairs;
T-superior, its IOIJS refl
LO-lobed ,

6. i'

axillary fa*
f the oi

Leaves —

1. RHIZ

Branches man

jpoaite, i

bra *Petals* 4, entire, inst
i-loculate. I iled, luuf-inferi

calyx JLH a fleshy
t3, ovoid or o-

bftSG *Uti* perfoj (he £J
cending from tli^ o 5 sp-
quent on rand^jBPnjnr¹..

flowered; petaU I : *nato v.

Leaves oh\

petiole* -i-ed; pi : /?, cm)

1- \^T)y 160, I

;e evergreen pub or tv
elliptic, tapering i 't end,
apex mnoronafcc when ^{urvt}

tt and depressed; the lower si
k do!., even when dry the ru invisibli
., petiole 1-2-1-7

btlly long*-

the petioles, usually 3-rare I

Is short< lies coriace* giabr

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Lud inner fac . iJH
■ void v I intent
; the extrn it^fl r ^ng, cylindric, *6
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nn. widr: IT.I iJedd. I
bs. Bomb. PI. 95: \v

Intl. i .
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Oalc. YIU, 2. . W. &
, Ro>:b, (not of Liuu.) FI. Ind. I
_ '■!.—Rhcede Hurt. Mai. Vi, i. 3
In ne mouths of rivi coramou.
o Tropics of the Old World and ot* Australia.
.1 specimens in the Calcutta Elorbarimn
of it rge-leaved specimens of thia.
■pnoBA coNJULiATA, Linn Sp. P)
young branc!

■:■'■ ■ r«aud inia t,ed: 1
liglii! !itie>■ iacrous. titameus 6
sliorfc, authc: ar. Fruit h i-te, I in.
in^ radiole from a f< lies to a foot long, oylini in. ii
when. DC. Pr Blatu it. I, 134; W
or. Flora Banna, fil. F)
lor. Jav. I, 91. LL cavcit
HI, 32 ; Trimen Flora :i, I, lfi
In all the Provii; ouths'of rivers and in tidal n
Bu The Tropics of the Old World.

2. B :RA, Laruk
Trees or shrubs, te sually coriac
axi 11 ury, cymose, or solibary. Flotoert ratHer
ilyx 8- J» pfacoical
base of the ovn subulate
equal ia nuni: the calyx-lol)es. 2-lohed oi* i e, a
late, embracing ti form ;
anthers linear, muc
2-i-ceJled, included in the ■
J. h

Kin* — M

-bed, minute,

t-tube, 1

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•rood ei 'e apex, bearing

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[V, 696; 111.

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coriaceous, campunulate, ribbed, cnt for half its leu

tuh sV • r ■., ■ i no ciilyx-lobes am n

number, Bnb-convoluto, two-lobed at the apex and with '2-4>

the point of each lobe, pubescent at the base, other

rous. *Stc*

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Intl. i

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1. Ind, II, 4l

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Jl. Cu

'hwaites En. PI. Ceyl. 120.

ForestB in all the pro\inees. D;

lalaya, Australi

Africa.

2. BRDODIEBA EKIOPETALA, W. & A. iu.Wight 111. I, p. 210; ⁿ

[eon. 239 B. A tree; / brancht it/Ii cicatrices towards

apex. *Leaves* oblong-l&L

.al-obl

ttei

jblivaceolate, acute, t ^ very cuueate; upper Barfaoe shiuiug,

the

jrves Faint; the low own when
 ' bnt the midri¹ prominere in., hi-
 1-25-1 , petiole -6--7 in. *Flwvwers* 1-1'25 in. long-, soli i.\il-
 the ped mcle short, do, irved. *Calyx* as in *B. gymw* but lite
 [r 10. *Petals* shorter than the calyx-lobes,

deeply

h a stout seta hi t i c sums between i\ u- e
 densely clothed with stout white hair, the np
 one short bristle each. *I* in *B. orhtza*, but the ti fim
 er.' Wall. Gat. 2151; Bi-andis For. Mora
 Br. *id.* II. // Zi Blnme "Mas. B t f,
 J8. 1^J r, Grif. H 370; la PI. Asia-t. t. U4L
 In siraila^ sitaafions to the ln.st, but not so common. MAF,A<
 ; *Maingay* Gb^ . P
 PERAK; iVorfec'wnt; H van A.
 ulasia.

Bi; IDES, Blnme En am. PI.
 A tree ; -" ^s slender, with cicatties

fili

Biniace shming

... i
 »u short pedicels. *C* be clavate,
 iron, rtarmounted by about 8 linear obtuse flesh;/
 itself, at first spreading", but fin seel *Pet* but
 shorter than the c». BX bifid, the margin* sc ity
 whi

oui cal ioi acli crowned by 3-5
 with a single *B. Stat>u>u.* \$ 16, mn
 •5 in. i Le frnif in its fnudus with tlie gi-owin
 -: i • to C-8 in. in length Arn
 Wight III. 21 U; Mic. Fl. Ind. But., Vol. I, F; :urz p0:
 i Burma I, 450; Hook. fil. Fl. Br^Tid. II, 43S. Tiimen Floi-aC
 Mai. Misc. I. 34; Hook. Bo
 11, 80; Wall. Cat 487i); DO. Prod. HI, 32. ;;
 ifus. '■. [La;; LI; Thwaites En. 120
 a, Wall (not of Blnrae) C and B.

In tidal Fores other species of the gei in all
 th

IB. Malay Archipeh"

j PATIVIFLOEA, W. & A, Prodr. 311 : Am. in Ann.
 i A shrub or smalt tree . young branch .-, Hie
 ---lanceolate to elliptic- fan rental

ing and showing the

itly when dry ; the lower doll and evonious ; leng
 h 'Q —i 25 ie\$ axillary, titan
 g, laxl "4-'5 in. long, then
',6ecyii i\vned by 8 lanceo-
s-n length. *Ptfu*

white labrona
 ■> em! tal. dry 3-ccl!

in, Wighl LO ; Miq. Wl
B
16

Wuil.
f. 00; Dfilz. & <

slim ovat<
 txmd(

. 12, filfl inserted V)e<
 anihr Lied. d (at least
 abovi

style sLoi-fc, stigma
 i ealyx |»< nt at ita base, 1-celled, i-seeded. n*ld
 in! i ; ~' s7; riYer-moutli

ilo . petals apox; auth^re
I.

it©, aol cuts .
tisfc. I. ■

■i feet high. !
 or orbi

arrowed at the bi
 faint on both surfaces ; the upper sni , the 1 *lull;*
 'th 2-'J Uh 1*5-225 in., [>otioi

>\y poduncul: branched; flow in. long llc-
Qaty i 5 or U ovate-laut-
mttrgijiate oi ; setose-

macli longer than t :L filaraeiits.
¹ iu. lu! ■truded ra

deeply ridged and furrowed. Miq. I'M. Ind. Bat. Vol. I, Pt. 1, 591 ;
Kiirzft ma,] ?1. Br. Ind. I, 436 ; '
men
Flora Ceylon I, 100. >ik.jra deoandra, Roxb. I n't. Beng. 36:

I Wall. Cat. 4\$75.
STR11J,
pical tidal forests of the old World.
2. i CANDO Am. in Ann. Nat. Hist. 864.
A glan-
Iwarf tree ->-6 feet high. In long, obtu
tes emarginate, much and gradually attenuate to the*ba^
retlex a ner. irhtly visible on both
surfaces
•i dry, rh 1-75-2 in., breadth 1-1-5 in., petiole '6-1 in. Cj n
Uary, peduncL nched; flowers '25 in. !ong, short p.
, - oblong, mb-obtuse. Petals oblong-oboxi lie a]
nt ith 3 abort clav.'te appendages.

t 10, nearly as long as the petals ; the anthers ovate. . only about
fourth of the length of the filaments. Fruit cJ tlie
few inehea to a foot long, (rarely lour ■.) grad lally
and then becomin ileepl} ,ed
1; Wight [I¹ Mil

^;
Tropics of old World.
DISTRIB
4. KANBELIA, Wight & Arn,
A small tree. hem riaceous, oblong,
obtus ulet
axil! otomously brnneht-
gu, whit. 3-0-merous, anrrroumle.l at
the I
hy (adnate to the base of the ovary • . t_
k.iC bifid; the lobe rment8
pillary. Stamens indefinite, anthers small; f
Bbled, half-inferior, prolonged above the calyx into a fleehv
'-slender, stigma 3-bhedj ovules 6, fixed in pairs to a central
column. Fruit ovoid, girt at %» base by the ref! in b of tlio calyx.
Radicle fusiform, very acuminate. m t '
DISTRIB. A single species; British India, Mala \
! DII, W. & A. Prodr. I, 310. leaves narrow]

ijloug, obtuse, narrow i,he base, glabrous, 2-4 in. long, tht
j longer than the petiole, 2-3-chotomous, 4-9-
6-*S in. long, white. *Fruit* I in. long, obovoid ■ the
protruded radicle 0-Jo in. long, cylindric, *nv*\ |, J4ru_ i_n ^_nn jjat.4

Hist, I, 365; Bin b 111.] Hook. Jo.
 t. 362 j Wall. CV Burn IVZ
 For. Flora Burma, I, c. fil Fl. Br. Ind. 1
 idd, Linn. Sp. Pi DC. [I, 32; Roxb. Hart ileng.
 Wall. Cat. ££

ANDAMAN 1ST probably nlso in the other
 , Roxb.

Trc shrubs. *Leu*
 ▶ti> icons. *P*
 11, in p:
 crowded. ilnte, mi-
 the : 'iinb 5-N-lobed, tin , Tnl\
 insei-ted on the of a creholfl isk li*
 orbicular, '2-fid ttu-e, t t the a]
 fintlii all, obloi
 s, 1-c

I—1

15 in. 1

., short!;
 aes on podnncloa mucli U»« us, l>oari»g
 3 Bowers '25 in. long on pedicels *a*
 1. I A, Roxb. Hort. . Cbrora. Plauts III
 1. A small glub .f braur
 dry. *Lea* tiaceoas, varying tj elliplic-oblong¹,
 or otiong-lanceolate^ the edges* r in
 npper half or three-fan apex usually shortly ci |)aa
 or loss c;. : both ining eticnlate; the n:
 numerous, spreading nnd intern Length -■'
 breadth 1-V75 in., pet in! ,mj f_roni
 axils (tit peduncles
 den- fatly Iricbu
Calyx-tube cylindric, with I 7 short triangular inpu
 Jyx-te ular,
 crenate,
 clawed, noi >moirtGr the s' as
 ant
 thanti menta much longer thau the ova iers.
 brous, pulpy, 1 ially i Jed.
 PI. Ind, II

itli. in J .III. 7 FIT; F : iJook. fil. VI Br. Itid.

Triinen PJoI
iwis, Vim. in Ann. N I 71. 0. re^k/
. 211 t. 90. C ewsiff, Bin Bofc. I C
th, in Joini. Lii

► Inme Mas. 1. c. 130.

PBRAK ; very common. I probably also in I of
the other pro. yan Archipel

BeA i'g C. *integen-ima*, pnblisied ra 1828, is in = n merely the on-
tire-leaved form of this very common Indian tree, tbo Jea^ , nio!i are sometimes
wubiy Ituva
ked. Tie pn • Berrnlnte-IsnTed form of it ns 0.
is r i (1819), having previonalj a his Hi
nlGTiai^, 18 the oli ant,

mm, find :-1 II ens low who descrtl
Lie '■ ■ i ■

small

caudate-acuminate,

the

I **revolute when dry ;**
and Tvith

he numerous spread **gfhthly prominent; length 2-2'7 5**
in., breadth L—1*25 in., petiole **Stipule***

■axillii pedicels glighth T than
ded. Fl< v more feh
nnd : ii, «mt the t width at the month, on pedicels nearly
•1 in. long and bn latent I o-tube campanula! th
■*>

?g a<i ftpieces sligttlly* niflea
*etals 5, 11 iiForm, ■ronate, claw t am en.

tnens 10, iuserted on (he !'• d epiy;ynotfa disc unequal. Ov
to tli. celled, with 2 axile ovuli tell

fc, as loi the calyx -lobe pna 6-lobed, **Fruit**
unknown.

Pi *Kiw/i* 1013. SINGAPORE; *Ri*

Th* -hi"" aw described by him oa taken from a
(1 by ^rr. Knnstlep are noted fts from

n
. They resemble . xntcly flowers
the two be! ama BJK

give this
species

inside R'
does not differ much
It also closely resembles C,
di

n ; for it

afa,

Blame, in leaves, but Uis larger flowers.



tor, glabrous, lack w/ male, the tlucke:
 •lihuiceolate, the &y> . the. bit- uning^hc
 and \vi* k glandular dots, enl
 the lower dull, the B-S \ ,t spreading main-i 'itly pro-
 minent; leughth i-75-2-25 iu., breadth -8—11 in.,
 pefci

<3h L'S| lanceolate, 25 in. long, caducous.

incho? more in length, bearing at the a;

■ ug as theinselves, 3 flowe; length. Qaly,

ipaunlaco, ular 1<

ly none, stamens twice

the

• of the calyx, 5-celled, with 2 nearly alous ovules iu cue:

ima 5-lobed. I :ikuowu.

Pi

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flower lubea triie Cm

utmer P

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leaves and i itiolar elong;i' mli

or in p>:rs, minntely brae' its

i]ar>canipanlate, adhere? the av;i mouth

expanded and vi

mtfl at the apex, ins

St.: 'ved, ixjser

lining the cnlyx-uiha. Ovary half-inferior,

5-10-cel!

subnlatf; stigma >10-l< ivnlea many in eacli

cled, attached to '■ use, o-10-ceiled, ma

I* ovoii triate testa; albur tpiona with

the

bryo in ita axis; cotyledons i¹;^, narrow licle terete

and

¹ Two species, both Malaya

Calyx-ti l> tooth- flowers 5-mcrons;

fionsply ,c banflttth ...

I. P.

Ualjrx-tubo wit

,ua 2. P. 8a'

\ Pi M,\CALTX A:-;

Tijdsch. III, 20, t. 2. Young branches rusty-pubescent
ovate, oblong, sometimes* slightly wider
shortly and abruptly acuminate
a few *M* scattered sub-stellate hairs
middle, *i* pubescent
stellately

lil
'
' surf:"
11S when old, the
d

12 pfl
7 in., breadth I

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Ridley GO] 7;

BJ. PEI

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Ovary superior

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End. 11, 4!

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 I. 3-n puberulo.os or pubescent or sometimes lab-
 ies, '75—1*5 in. in length o jut one-third or one-
 innci it'll ; ' aaller sot stipnli
 p, *25--o 'ow the larger lapping
 i fcw-Rowercd axillary
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SIIIUJ le;ivt'« entire

1

1. TBEMINALIA,

Leaves alternate or subopposite
often with glands on the petiole or near the base of
the midrib
Flowers small, apiculate, (bracts)
staminate, the upper flowers on the raceme* often male
the lower hermaphrodite
flower *the* product having a calyx

mouth «with 5 short val

3, pendulous from tin
size and textm

Spei in the tropics of both v

f. Frmf c ovoid or elli eg cotni>
never n

frnit siilj-chtvnr, obscnr^ly 5-v

l :g to a very n. ...
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Picar r, with TOT;

- elliptic 6.

J in. l i o i brnr

2-25-L' «g, its I

(incii;

Lea^.'

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1. Ti'

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- oblong-hmceoti

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ate or sometimeftTOTmded; both Borfacea when very

glabrous and bhi

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panicles shorter tltau tht-

deciduoualy

ruloi^{is.}

■IB

a of the Malayan

•2i MU.,s* umapJirodite, each with ft deeidaou
inear b; le. Calyx g): rusty-villous inside, the tul
obi glands 5, rusty-woolly. *Drupe* oblong-latitudeolate,
slightly
cla smooth, glabr bsaurely 5-ridged, 2-8 in. long, and '*
in. in diam. Boxb. Hort. Re- FI. Ind. If, 435; Wall. Cat.
!•-. If. 12; Miq. FL Inrl. ■.Bat. I, pt. T, 602; Ku
:e in Hook. fil. FI. TI, 440; W. A
Brnd. For. FI. 223. *llyrol* ■ *citfiua*, Gaertn.
Fruefc II, t. 97.

BRITISH INDIA.

mnlayana, Clarke in Hoofc fil. FL Br. Ind.
El, *ffetioles* '75-1*25 iu. long. JBV»t7 about 1 in. lo:
linek, Kurg. MALAO. *ijjUh* 2178.
Maingay
for 317

This B] nd ita variety ■iv.-*dayana* may be readily distinguished From
/ (which in n< ar Asiati
by the pecaliar aroolate reticulation of the ami .tves.

v MA

uder, u isly rasty-puber lenticc *Lew*
opposite, tttei^ed, elliptic
ovate, shortly and rather abruptly acuminate, the base i lor
some-
what cunoato am litly oblique ; both surfaces glabrescentor
glabrou
minutely retic reticulations on the lov -selato ; main
ner
9-12 i t) pnirs^spreading, curving npwatiiaa at the tips; I
breadth 2-3 in.,; petiole '70 ig, often with 2 i
ex. j luterl aud tei!
■-Hko r mlous inch
shorter than the when in 0 hen in Emit /
•15 in. iu diam. at the mouth, each sabi by a linear puberultf
bracteolo as long as itself. *Ovary* nr indric, thickened an
pubescent ton the bnse, tbe upper half ami fcl ith gla
outeide; the mouth cupular with IOUS bvoad shallow teef
'■•rMly inside, i ■ . t-: oblong,
tapering
litrie lo each end, slightly compressed on o Le, obscurely
beerla¹ 6-"75 iulong, and *3-'35 in. iu diini.; 'pericarp cru
ceos, hard, thick.

N■

M 4N ISLANDS ; *Ki7ig's Qblkrfors*.

Earned in honour of Mr. K. H. Stan, C. I. B., Deputy Superintendent of th
; Nieobar Islands, whose powerful help has made it possible to explo
of those tiKw ngialauds; & spneios of which the nearest ally

■ply *T. a* Loitb.

3. TFKMIVAUA BKr.KKiGA. Eoxb. FI. Ind. IT. 431. A
tall

i clustered at the apices of the branches, coriaceous, obovate, idly elliptic or sab-rotnd, the petiole? lun^; the apex usually ad and rounded, raro s.te, sometimes slightly unequal; both surfaces pubertii lien yo ! reticulate when old, the upper with numerous minui Lain nerves *ij-S* pairs, spreading¹, prominent, the midrib pro: aides and sometimes s near the sides of its length breadth 3¹." petiole V75-4? in, axillary, ser than the petioles, shorter than the leaves, raaty-pubesce | *Flowers* about "25 in. in diam., those in the upper part of the spike male, those in the lower hermaphrodite. *Calyx-tube* short, stout, includ- the ovary, minutely tpmentose, the mouth with 1 triangular lobes, pnbesceut outside, densely villous inside. *Stamens* muc'

I ovoid or globulnr-ovoid, densely c I with minute pale tonien- t.uni, when dried obscurely 5-angled, 1 in. long and '75 in. in diam. W. & A. Prodr. 313 (*exol. syn.*) ; Wall. Cat. 3968; Wight Ic. t. 91;

Thwaites Enum. 103; Dalz. & Gibs. Bomb. PI. 91; Brand. F. For. Fl. Brit. Burma T_t 4.55; Hook. til. Fl. lit*. Ind. II.

Id. Fl. Sylvat. I a Fl. * t, 159. *T. Geli*

Hook. Kew Journ. Hi, 227. *T. pwictata*, Roth NOT

Prodr. Ill_t 13. *T. egi* a, Roxb. Herb. *I i?i Willd.*

. IV, 968). *T. moluccana*, Roxb. Hort. Beng. 33; Fl. Tnd. IT, PEUAK;

Scortecjrini 1684; *King's Collector* 8778. DISTRIB. Brit India.

Roxburgh describes ami figures (Corom, Plnnts t 1 InH. tl, 431) H

form

of this with two glands *id* the apox of the petiole inder enfar- leaf; but this form has not hithorto been collected ID any Malayan country, and its occurreuco in British India Host, be rare.

4h *TEBMINALIA FUELTIOCARFA*, King n, sp, A tree; young branches

rather slender, decid rusty-tomentos* roes crowded near the apices o! the branches, coriaceous, obovate, blunt, tapering from above the middle to the petiole, slightly oblique at $t \setminus t > >$ base ; both surfi ^labi*ous and whiniug, the U>wer widely reticulate and minutely dott HI nerves 4-6 pairs, spreading bat curving upwards ; L ;-iin., petiole about -8 in., thickeued towards the base, ty-pubescent. *Flower*» unknown. *Fruit* elliptic, blunt at each end,

lon£, breadth 1*5 iu.; the h a short sharp mammilla '15 In. long, the pericarp thick, spongy, with horizontal layers of nbi sue, the endocarp woody.

Si: B; on Bukit Mandai, H. ,V. Bit
This has been -,ly once, ami the B* without flowery. I
hate
ed it from its corky fruit. In its leaves this p roBemlea the Plitlippit,0
ic>lj but that has ft very tnuob •" trait th*u

et the petioles of its le ibrona, whereas in this the p« re pubes

MA, Griff. Notul. IV, 685. A tall tree; young
 as thick as a swan's quill, puberulous, rather rough.
 coriaceous, oI minutely nan-owed ive the middle
 to the acu r surface <_rlabrous, very shining when d
 lower dull t-Iy n ibescent midri
 and n main nerves 7-9 j ading but curving upwu
 length 5-65 in., l b 2*25-3'25 in. ; petiole about S
pikes solitary, axillary, nearly as long as the leaves, rusty-pubescent
wers nearly all hermaphrodite, about 2 in, indiam.; their ov;>
 elongate, clavate, rusty-tornentoae, each with a linear bracteole. *Oaly*,
 parsely hairy, the mouth rttfltr-villoue inside. *Drupe*
 obovate-ellipsoid, subacate, plano-convex, glabrous when ripe,
 1'5 in, lo: Clarke in Hook. 61. PI. Br. Ind. II, 445.
 MALACCA ; *Orijfih, Maingay* 643| and 044. DISTP.TB. Burma.
 6. TEBMINAUA CATAPPA, Linn, Kant. II, ",19. A tree
 eet high ; young brandies stout, puberulous, becoming glal ms,
 tie
 tips vstb largt: cicatrices. *Leaves* coriaceous obovate or
 obovi
 oblui /, with a much attenuate cordate and oftii bi-glandular base; the
 iole very short, stoat, broad and channelled ; both surfaces glabrous ;
 maia nerves 8-12 pairs, spreading, not prominent when dry; length
 6-9 in., breadth 3*5-5 in., petiole '35 in. *Spikes* axillary,
 slende;
 glabrous, shorter than the leayes. *Floivers* '2 in. in diam., each with
 small bracteole, those in the upper part of the raceme mostly
 male
 and shortly pedicelled, those in the lower part hermaphrodite ;
 calyx-
 tube containing the ovary, conical. *Oalyx* glabrous outside, the
 mouth
 villous inside, *Orary* glabrous. *Drupe* ellipsoid, somewhat
 compressed,
 keeled all round, pointed at the I ; pericarp pn ipy, eridoc
 woody and v<>ry hard ; length 2 in., breadth J"2o in. Willd. Sp. Pl. I
 7; Roxb. Hort. Beng. 33; Pi. Ind. II, 430; Lamk. 111. t, 84S; DC. £
 -jdr. Ill, 11 ; Wall. Cat. 3975 ; W. A A. Prodr. 313 ; Wight Ic. 172 ;
 "Rot. Mag. 3004,- Miq. Fi. Ind Bat. I, pt. I, 599; Bedd. PI. Sylv. t. 18;
 For. FI. Brit. Burma, I, 454; Hook. fi]. Fl. Br. Ind. II, 444^
Catappa and *T. Badaviia*, Tnlasne in Ann. Sc. Nat. Ser, IV, Vol. VI,
violuccana, Lamk. Diet. I, 349, (not of Roxb.) ; DC. Prodr. III. ;

Wild. Sp. Pl. IV, 96 (excluding the synonym *T. glandulosa*, Roxb.) 'V.
procr^ Roxb. Hort. Beng. 33; Fl. Ind. II, 249; Wall. Cat. 3974;
Kurz For. Flora Burma, I, 454. *Terminalia* nov. spec. 1848, Kurz
in Journ. As. Soc. Beng. 1871, p. 130. *T. Myrobalana*, Roth
H Sp. 378. *T. sibirica*, Willd. Sp. Pl. IV, 968. *T. intermedia*,
Spreng. Syst. 11, 359. *Juglans Catappa*^ Lour. Fl. Cochinch. 703.
Qatappa do-

me> ■ ■ • litorea and C
Badamia •

Herb. Amboin. I,
>rt. Mai.

4.

Tn all the provinces ; near the coast.

A magnificent speei; tnea attaining an enormous
lorizontal branches. The stem is most pi<
ryo is eatable, au*1 is often lei

Almond." I IIKTB reduced to , Boxb., thi
between which and T. *Catappa* is Baid to be iv » obscurely 5- fruit.
But
ting

its with this peculiarity may be gathered from the Ban
the ordinary sharp-edged smooth fn

7. TEKMINALIA BIALATA, Stevd. Nomencl. II, 668. A i
80-100 feet high; young branches stout and with larj
tves crowded at the of the branches, a thinly
coria-

ceous, obovate or obovate-obloji<r, with long », the apex nbrn;
and shortly cuspidate, narrowed from above the middle t o f f

nally oblique base; up| iiog when dry, the lo
dull mid pal-f-r, the reticulatii main]

,7—Q pairs, Rpreailin^ .;ct on

I in., 1 4*5 »

drooping, i-y, longer than the petioles but m
leaves, rusty -pub evnloua. 'era "2 in. in diam., , the n
Sowers in the upper part, trmaphrodite flo- i the
lower,

a minnte deciduous bracteole. *Gnhjx* nistf-pnbesftent

out-

, densely rasty-vitlons inside; the lobes triangular, re' *Stamens*

■ted. *Ovary* villous. • tllipsoid, ti

med on one siiii ! with minute dense rnsty tome

turn and with 2 lightly wavy, coriRceons, pubemloufl d\y

strmte W in., breadth "6-*75

wings from 1*25 n. in widtli Kurz For. Flora Burr

Clarke in Hook. fil. PI. Br. Ind. IT. 4' i(a, R<

HoH. Beng. 34; FL Ind. 1

and probably also the NICOBAB I *Biiroi*

\, King i i tree over I*.¹

r slender, deciduousl}' pnbern

ernate, crowded near the ends of the brunches, coriaceou-

oblanceolpte, BIII ud blu;

to- is; petiole, eglandular and so quest tht

mse, the edges thi< and slightly rev rouf

and shining, the lower pale and sub-glaucous, both ty reticulate

when
 in f -cent. *Flowers* 15 in. those
 in tlu:i lower hermaphrodite. *Calyx*
 minutely i , sub-oyHndrio in
 Eemale taper noh upward' rath wi
 lar and with
 broadly i, shortly Innate at the
 ise. &ff reiltjxed i, shortly Innate at the
 ■Jed into 2 coriaceous, horizontally
 h -6-1 in. wide.
 Si -is wit,. PKRAK J King's
 . : lleij

2. CALYCOPTERIS, Lamk.

A diffuse sub-; dent shrub **with** droop
 opposite, shortly pefcioled, elliptic or ovate, re.
B
 ense, axillary, and cr Is of fcl
 brra large panicles. small th a lanceolate
Calyx-tube 5 produced above the ovary; limb
5-fid,
 I mttcl- I in fruit. *Pi* *Stamens* 10, the five
 npper oi His h ■ vilh them
 ; 1-cell I. infe ;
style
 ndolou i the top of the coll. ¥>
 narrowly I led, surmounted by the enlarged
 x. *Gojyledons* convolute. The on!/ es.
 Ci KRis FLORIBUNDAjLamk.▷ ippl. II, 41, and 111. t. 357.
 A diffuse scrambling shrub, sub-scamlent; **young** branc
 ileuder,
Leaven sab-coria nceolate to
 ly acnminate, tl) ! or **slightly** narrowed ;
 minntely torn . the upper ts.wnv, the lo-w and
ves 5 or prominent
 lath; length bh 1-2 in., petiole in. *L nee*
 ruaty-tomeni in, iu **diam.**, Mowish-green,
 each with a short lanceolate pubescent brae

Tail juieh shorter than the linear-lanceolate calyx-lobes. *Fruit*
 about
 -35 m? long, narrowly oblong, 5-a crowned by the
 enlnrged

ftly.x-lobes which often attain from '75-1 in. in length. Bran-
 ! V. Flora 220; Clarke in Hook. fil. Ft. Br. Ind. II, 449, *Galy-*
coj> Kaira Journ. As. Soc. Beng. Yol. XLVI, pt. II, p.
 For. Flora Burma, I, 468. *Get* Floxb, Cor. PI. t. 87 and
 Wi. Ind. II, -I oth Nov. Sp. 216 ; DC. Proclr. Ill, 15 ; Dalz. & Gibs.
 Bomb, PI. 91; Miq. Fl. Ind. Bat, I, pt. I, 605 ; W. & A. Prodr. 3
 Wall. Cat, 4 *Getcnia nutans*, Roxb. Hort. Beng. 33; Fl. Ind. II,

428; Wall. Oat. 4012 ; Miq. L c. ; DC. Prodr. Ill, 15. G. Roth
Nov. Sp. 217, . *Combretum sericcum*, Wall, in Herb. Calc.

G. King—*Mater* a
Flot

PENANG ; *Wallick.*

Si } DAMANS ; *King's* (.

There is a variety nth glnbrottfi 1< stamens
equalling the cal^fc-Iobes, I b Ktirz ha» gh I name
tiis name for the typical form being C, glabrous
variety from »ny ol the Malayan provinces.

3. LUMNITZERA, Willd.

Large glabrous shrubs or small trees, (plowing in tropi
marshes along with Mangroves and closely resembling them in habit.
Leaves clustered towards the ends of the bi J, alternate, thickly
leathery, sabsessile, narrowly ohovate, entire or scarcely
creni *Flowers* in racemeB. *Calyx-lube* with two adnate bracteoles
near 1 he base, oblong, narrowed at both ends, produced above the
ovnry; lobes 5, persistent. *Petals* 5, oblong. *Starmm* 10 in two
series, or fewer.

nj inferior, 1-celled ; style subulate, simple; ovules 2
from the top of the cell. *Fruit* woody, elliptic-cblo 1 in. (incl
ing the calyx-limb), longitudinally striate or neatly smooth. *Seed* 1
;
cotyledons convolute.—D* oies2; on tho shores of the troi
of the Old World and •

Petals scarlet; stamens twic? i*el;ils tt
same coloar ... L *L. coa*
Petals white; stamens of the same colour and .»» the
pet; '2. *L. racemosa.*

1. LuHNiTKRi COCCINEA, W. & A, Prodr. 31G. A small tree 12-40
feet high. *Leaves* oblanceolftte, obtuse, 2-3 in. long. *Racemes*
terminal,
sometimes several together forming a panicle. *P* icarlet, '26
long. *Stamens* 5-10 (usually 7), twice as long as the petals and of
the
same coloar. Miq. Fl. Ind. Bat. I. pt. I, p. 600 ; Clarke in Hook. fit. Fl. Br.
Ind. II, 452. *L. litlorea*, Voigt Hort. Suburb. Calc. 39 Knrz Fl.
Brit. Burma, I, 469. *L. pentandra*, Griff. Notul. 1 \ i Ic. PI.
Asiat.
t. 644. *Pyrranthus lit* lal. Misc. II, 57; Wall.
Cat. 40J8.

ANDAMAN ISLAND. PERU *Collector* 1 lb< *rlechini* 1001

j
and probably in the Mangrove swamps of all the provinces ; Di.v
British India, the Malayan Archipelago, North Australia and Polym

2. *Li;5ixiTzt:RA RACEMOSA*, Willd. in *Gea. Naturf. Fr. Neue S<*
JV, (1803), 187. A small tree 20- it high. *Leaves obli <«*
oval, obtuse, 1-3 in. long. *Racemes* axillary, elongating in
Petals
minute, white. *Stamens* 5-10, about as long a
ad alst
white. DC. Prodi W. & . 316; Miq.
Fl. Ind. Bat.
I, pt. T, 006; Diilz. & Gibs. Bomb. Fl. 90 ; Tulasne in Am fat.
Ser.
IV, Vol. IV, p. 103; BeUd. Fl. Sylv. PI. XXI; Uiund. For. Fl.
221

! Foi. PL Brit. B irma I, 463 ; Clarke in Hook. 61. Fl[^]Br. Ind. IT,
Pyrranthus albtis. "Wall. CaJ. 4019. *Petaloma alternifo*Hu, Boxt
 *I Ind. IT 372. wra *madagascariensis*, DC. Prodr. Ill,
 Rheede Hort. Mai. Vi, t, 37.

In Mangrove-swampa in all the Provinces. DISTRIB. British India,
 layan Archipelngo, North Australia and Polynesia.

4. COMBRETUM, Linn,

Shrubs with long pendent or acandent branches. *Leaves* i petioled,
 opposite or more seldom alternate or :ernate. 1 's hermaphrodite or
 polygamo-dicecions, in spikes or panicles, bracteoles small. *Calyx-tube*
 constricted above the ovary, short or long-produced, nrceo-late
 funnel-sliapod tubular or uampaulate ; limb 4-5-lobed, deciduous. *Petals*
 as many as the calyx-lobes, (0 in *C. apelalum*), placed on the
 lyx-liml twice as many as the petals, inserted in fcwi
 with them. *Ovary inU* L-celled ; style 1, subulate, simple; ovules
 ■endem ■ top of the cell. *FTnil* with ■ J-■ > win[^]s angles or
 ridges, dry, generally indehiscent. *Seed* 1; <■ aa plaited or flat,
 in . PISTIUR. nion in the-

- : i i South Ai
- | | | |
|------------------|-----------------|----------------------------|
| Flo [^] | it 5-auglod ... | 1, <i>C. frijoliatum</i> , |
| ra4-meroas; fn | jled ... | 2. <i>C. tctralophum</i> . |

Flowers 4-merou8; fruit 4-winj»ed :—

Tube of calyx much elongato ; flowers not squimose, buds
 ellipsoid, their apices vory much pointed :—

- | | |
|---|-------------------------|
| Flowers condensed in globose masses at tiio ends of tlio
branches of the panicle Plower-Bpifces elongated | 3. <i>C. sundia</i> C\ |
| Tube of calyx long ; flowers sqnumose, boda globose, the
apex rather uci; Tnbe of c:>.lyx short; hndg not pointed :— | 4. <i>extensuin..</i> |
| Flowerg sqnumose ; leaves not cordate and with distinct
petioles "3-*4 in long:— | 5. <i>C. chinense</i> . |

Fruit not compressed, its faces all narrow and equal, its
 wings brnud and thin G, *C. sqtuih*

Fruit com pressed, two of its facea broad and two
 narrow, its wings short and thick flowers not 7. *G. Wnnji*.

squamose; leaves cordate and with very short petiolfs ('05
 15 in. long):—

■;labrona except tbo midrib :—

- | | |
|--|---------------------------|
| Panicle and calyx with short thick glandular hnirs
Panic!' | 8. <i>C. K.</i> |
| flowers pnbcrulons ;
fmit blkck when ripe and with narrow wings Lefcves,
cepfc when old, with long adressed hairs beneath;
pauioles HericeoiiB-tomentose; fruit | 9. <i>C. nigrescent</i> . |

pale-brown when clry. with broad tbtn iringa

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pani< (Uiberir

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fl. Brit. Burma 1, 461; I in Ho. k.

Br. Intl. 11, 451. C,

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TRAMG; i

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■ob. fil. Pl. BJ- .lit''¹

45 A pow

young branches slender, wifclf nihi.

uety scale. '

te, thinly cu;

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■ T surface glal oing, the

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tered brown glan

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' pairs, oblique, ascendinj

or

mspicnoual

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in., breadth 1-2 in., p 3-*4

axillary, solitary, nine

tl >li^litlysc

below tliu HL.

M

outh,

'■.ing n,H the ovai

p ■ .:

Petals slightly

long and half as broad, shining, dark-coloured, the edges very acute but not winged.

MALACCA; Griffith 2195. PERAK; King's Collector 1012. * DISTRIB. Siam, Borueo.

Miq. Fl. Ind. Bat, Suppl.

ji-biuula

elliptic to olli
the b led,
d; boi

ier punctate and with very sparse scales ; the lower with the
li'tic with about

jhtlysooti
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prominent on the in
dry ; length 275-4 in., breadth 1*8-275
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tea. *Gahj*
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i in dense globose minu(ely *h*
U minatoly pubescent, not scaly,
■ above it cylmdric, expanding upvvai'ds into-
'-y triaxigular-

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ot filled with
Petals mucli
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Stanii . ad, with

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\ 44.52, 58G4," 7827
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ly recognidcd by its panided inflorescence, the brandies being umbella-to
<f Sowers with verj *nads* which are not

b. Hort. Ben 29.

mg si or slender, led,
ate, L, iriaceo
broa elliptic to sub-rotund, rarely ovate, the apex shortl;
y acu' b-acute sc broad and rounded, rarely
htly c;, ; botti ■:<* glab] the lower reticulate, punctate
and slightly roth. nerves G or 7 pairs, spreading, interarclr
4 lii V from th« h 4'5-7 in., breadth 275-4 iu., putlole
in., si iliary and solitary, or sometimes in few-
bra panicles, rarely terminal, often as long as or longer than the
pabtTulous. *Flowers* "25 in. itfide at the mouth when expanded;
fche buds ovate, very acute at the apices. *Calyx-tube* very loug, (36 in.)
infundibuliform, puberulauB; the mouth '15 in. lo; oply cat into
4 triangular acuminate roflexed lobee. *Petals* ovate-truncate orobovate,
shorter than the calyx-lubes; calyx with a ring of hairs at the throat

de, otherwise nen
J-25-V5

. long, aud (i
J. ..

Lbrous. *Fruit when* fully ripe about

wings) ut- u-ly as broad, wings scariose,

Bur run L i

;rck & Miu-ll.-Ar 1874,
pt. II, 188. C 'JInmu
Bijd. (HI ; Mitj.

MuelL-j lis. 13ot. 210. >iul
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OuhjX'tul- slond<

■\h lu-ofiCdly oborate, clawed, **longei**
glabi*ous. h of calyx ful
ig and *8-1 in. **broad, with** 4 slightly unequal
horizontal striate B] I ml. !

iiil. Hcure!-
Jnt. **231.**
DAMAN T ; VCrj f . PkRAK ;
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∴ fil. FL I>
ovate.
In the 3 (doubtful). 1 ia_

... Port
elliptic-oblong, acamin:, <vate, l/ ' ^ 8

7.] G. King — *Materials for a Flora of the Malaya*

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not appear to have been collected since Wallidh's I
V^{iu}S^{UP} ev^{te}, as tt variety.
ubescce:

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Fl. Lad, III, 231.

red (like almost all other part
es with bi le margins. *Leaves op]*
elliptic lliptic-rotund, rarely ovate-lancedla
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7. C

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Youuf branches

slender,

Labrous but slightly scaly.



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length 2-5-3¹) iu., breadth

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feet long; branches rusty-puberulons
rusty-silky i,
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aces with shorter scattered

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■nt- on the lower snr pressed or

h I 1-1-7") in., [:iole 1-*1/

and terminal. ir than tho lea the brandies few

1, everywhere sot¹ tfons-tomentos I
in.

g, cyliudric; the mouth slightly longer, widely* canipantilare, v
Mallow broad acute reflexed fceel ftly tomentose like the
tube.

the edge of the calyx and projecting

■o7 refl

each end, cl.

ions are few.

5. Linn.

Large shrubs scandent or subscandent. L oblong or
t, acuminate, entire, / largo, in short axillary or terminal
spikes. Caly 'ami mnch prolong thn o.

■ i 1-cd:

rttally adherent to the calyx-tqh ma sub-capita

ovn¹ pox of the localus. i
dry,

us, subiii nt. Seed solitary,

fun. Species 5, D or African,

titan I in. to ... I. Q, ,ra,

Cal 5-2-5 in. long ... 2. Q,

1. Q DSNSIFLOKA, Wall. Cat, 4011. Young bra
minutely rusty-pnberaloos. Leaves elliptic-oblong or oblanccolatr

minate, the base rounded or minutely c pper

RQ] ccept the aidrib and ma \-es; 1

surface glabrous, the 6 pairs of curved ascending main a with I

of hair in their axils; both surfaces shining and minutely ptipill

length 3*5 io -i in., breadth l'5-2 in.; petiole "2 !>CRCnt on tin

upper surface. ciliary and solitaiy, or termimil and almost

paniced, rusty-p tibescent; b

lAun. Sp. PL • ' "

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35. *Q*

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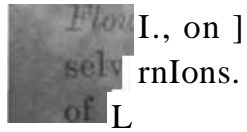
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rnIons. *Petals* lanceolate, n c than the

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∴ Kotalse, IV, 356.

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SIATIC SOCIETY OF BENGAL.

Vol. LXV Part II.—NATURAL
SCIENCE.

No. IL—1S97.

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• recent years along its north-western I
er time a • close] 80 for

1. PIPTANTHUS I). DON.

1. I'll r:s REFALfcNSIS V. Don.

Add to localities of *F. B. T.* >AM ; Khasia ; at Lailankote, etc.,
i .' Maniptu i, hill novi

M ! BUUMA ; Oliin

2. 'THERMOi B».

Ot-ATA E. B

[y downy, leaflets ov; linear. DO.

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Alt. ii.

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Add to loc of F. B. .. :—BEHAK; '

8. CROTALAUIA VCSTITA Bah_t

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Sandow Hill

10. LLAKIi HPMIFI rah.

Add to i of F. B. T. :—NAOA HILLS; Kohima,

:B Bui. /.

1. CROi ih.

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Add to I ;. L :—

7am Inamallays.

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Wd to localities of F. B. L :—BURMA \ South.

• ARTA MULTIFLOBA J5/A.

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Jities of F. B. L:—MALAY PENI

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 v. *Th<* \wedge not in a fit Btat.
 ng under *C. alhida*, though
 ntoro likoly that it will be found specifically distant I
 IHOTALABU
 . leaves oblong, broader upwards, obtase; fiowei-s few
 lateral sels.
 ng, acute; flowers many in
 terminal
 mn' *Wight* in *Wall. Gat. n, I*
 W: i; Dindygat Hi, ira,
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¹ UG'Ik' for itj

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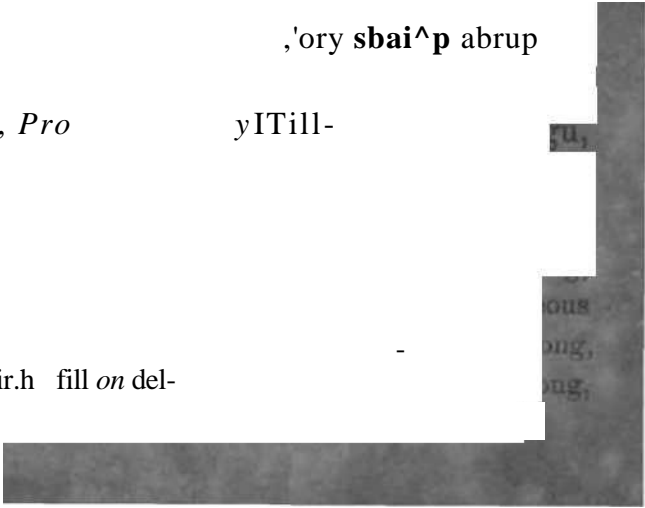
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MILLETUk

Add to localities:—SELANGOR; 800–1200 feet, *Kunstler* 8759!

To the kindness of Mr. Ridley the Calcutta Herbarium owes the possession of excellent flowering and fruiting specimens from a plant cultivated in the Singapore Botanic Garden. Mr. Kunstler has collected in flower, in Selangor, specimens that agree in every detail with Mr. Ridley's flowering specimens.

29. *MILLETTIA OCCARPA* Prain, *Journ. As. Soc. Beng.* lxxvi. 2. 92; leaflets 9–13, oblong, subcoriaceous, terminal usually much larger than the others, rounded at base, apex acute, glabrous finely reticulate beneath; standard very sparsely silky externally; stamens monadelphous; pod large egg-shaped, softly dark-brown velvety.

PERAK; *Scortechini* n. 429! *Wray* n. 2141!

A climber, leaves light-green above, whitish beneath, 6–8 in. long, rachis puberulous, leaflets 2–3 in. long, 1–1.5 in. wide, terminal exceeding the others. *Flowers* in small axillary panicles one-half as long as leaves, rachis and pedicels slightly puberulous, 2.5 in. long, 1.5 in. across. *Calyx* campanulate, externally grey-puberulous, 2 in. long, teeth obscure. *Corolla* white tinged with pink, 5 in. long, standard uniformly sparsely puberulous externally, orbicular, entire. *Stamens* diadelphous, vexillary filament free. *Ovary* 2-ovuled, densely pubescent. *Pod* sinuate and size of a fowl's egg, 3.5 in. long, 1.75 in. in diam., densely softly brown-velvety.

Nearly related to the preceding species but very distinct by reason of its leaflets glabrous beneath, and its very different pod.

22. TEPHROSIA PERS.

1. TEPHROSIA TENUIS Wall.

Add to localities of *F. B. I.*—**Bo**MA; Segain Hills, *Wallich* n. 5970! Shan Hills, *King's Collectors!* LACCADIVE ISLANDS; *Cardamum*, *Alcock!* Aucuttia, *Alcock!*

2. TEPHROSIA CANDIDA DC.

Add to localities of *F. B. I.*:—MALAYA; Singapore, *T. Anderson* n. 43! *Hullett* n. 670! perhaps introduced.

4. TEPHROSIA TINCTORIA Pers.

VAR. coccinea Bak. (*T. coccinea* Wall.): in the light of the specimens received from Upper Burma since the plant was first issued by Dr. Wallich this seems to deserve recognition as a species. It differs more from typical *T. tinctoria* as regards foliage than does *T. calophylla* Bedd. and it has at the same time the long lax racemes on the strength of which *T. calophylla* is kept separate from *T. tinctoria*.

4b. *TEPHROSIA GRAHAMI* Wall. *Cat.* 5652; slender, branches finely adpressed-sericeous, leaves simple large oblong-lanceolate obtuse mucronate sessile, rarely casually petioled and then sometimes with a pair of diminutive basal leaflets; flowers very lax on long slender axillary peduncles. *Kurz* in *Journ. As. Soc. Beng.* xlv., pt. 2, 272. *T. tinctoria* W. & A. *Prodr.* i. 211; *Bak.* in *Flor. Brit. Ind.* ii. 112 in part, hardly of Pers.

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water better than many others. But it is for its tall and slender stems which sometimes reach 20 feet in height without being more than 5 in. thick at the base, and which are always hard, never soft and pith-like as in *S. paludosa*, that the plant is mainly cultivated; these long lithe stems are used as the wattles of which are constructed the walls of the houses wherein *Piper Balle* is grown.

5. *SESBANIA ULIGINOSA* Sweet *Hort. Brit.* 129; diffuse, unarmed, racemes short few-fl'd., pods erect subtorulose, not twisted. *Aeschynomene uliginosa* Roxb. *Hort. Beng.* 56, *Flor. Ind.* iii. 14. *S. paludosa* Jacq. & DC. *Prodr.* ii. 265 not *Aeschynomene paludosa* Roxb.

BENGAL; in swamps.

This species Dr. Roxburgh compares with the South Indian *S. procumbens*, and Wight and Arnott would endorse this comparison. What these authors mean precisely when they say that Roxburgh's *A. uliginosa* is not the *S. uliginosa* of "authors," is hardly clear, for there would appear to be only one published which is founded, Sweet indicates, on the *Aeschynomene bengalensis*. It is just possible that the *S. uliginosa paludosa* (*Aeschynomene paludosa* Roxb.)

6. *SESBANIA ACULEATA* Per
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Wall Cat. ;)G75 I.

UPPER BURMA: Hills south of Kyali, Prazer ! TB^ ; M: Endine
ir, Gallatly ! DIKTRIB, China, whence seeds were sent to Dr. Wallich.

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\ij Sin. across, with and wide venaciun of thoao of !fi.

Dr. Wiillieli, when hR & rsc obtain* a plant, anpj 'lis-
tinct fpecies and had it figured for the Pi. As. Rar. i Subse-
quently be obtained from Silhet very fine Bpeoimen; , and came to
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ixt of PI. As. Rar. U, 8) th>t hifi ; WUH tii« name HM

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ear; these flowered and fruited in Nor. 1836, and so for the fl
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 BO as in *U. hamosa* not laxly so a.H in *Lotirea c* *lota* aud *Urartu*

47. ALTSICARPDS NE< Add to
 synonyms:—*Hedysarum procumbens Roxb. Bart. Benn. I*

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 These

are:—
i, 4, ?w; :tnd leaves below giabr. <mall
 ■7atc, wr orbicular, obtuse or Bttbacnte, racemes *e* <lyx

N, W. HIKALASA; *Griffith i* ; Pn.t.hankoto, C 22006! RAJPIT.
 Abu, *Kin'j.* K'ATTIAWAI: VVESTEN INDIA BBKGAC

pore, *Kurs ! AUSAM* ; Nowgong, *Simons I BURMA* .
 Thia variety com bines tho habit of VAR. *styracifolius* with thq glabrous leaves
 and stems, and the inflorescence rne *A. rugoatts*. It haa been identified
 with
 VAE. *II*> i8 not the hirsute leaves and steins, nor haa
 e elomj: uis been referred to VAI:
 Mr. Clarfco in which it is equally d R^r-
 Wallicb'a *mn-*

ling, «teni3 and loaves bolow finely pi
 :t dense, calyx oon iliated A. pilifer W
ah.
 8. INDIA ; i Slwn Hills,

with al' by Dr. Wallieli. aial

"8 of the South Indira Jinlly

ymmatry of an otherwise very

t-ell characterised I deletion of the synonym .4.]

vea tho

. It, should

bo added mij:

^r_ ^luS<B

^iO corollas aa yellow in this

ari<tty, a!

!la*

• # * Di

m^1 longer than the Brsl joint of

h uot ilubricated

in the fruiting stage. F

I

D>

9, ALYSICARPC

10. ALYSIOABPC IDS Benth.

This is reduced, in the I¹. B. i., to A. md the -v ■ Tt i3, however, impossible pis nts, their pods ben

Bre'is liardly ;

i<j present one n. vni. There ia, howovar, very

raring this species from the two plants named i>y Dalzell Ah

•■ and A. of which thp P. V. f. Un\$ trail

; those two are isrio wil

ijQf.

are pla

tromiaea in tax

iea is tSijSfti.tUUly tho ar

i iirraigement whi el ono half of a natural gi-onp ndaly the

in a second, atr privi hat tlie .

romise nllttws.

'ew J

Boh. iu F

ii. L72.

**><

the leaflets being o]

by its ally 3-fo!iL»lu;.j aa i c lanceolate as in that species.

>esmodinru

rotundifolram

Bob. in Fl>jr. B L ii. 172.

ar, siig!>

.,n which it ia distinguished by its rather n]ar loavet

The wri naon

oome imbricated : heuce all ot' thom vie

as(!■ i. F. B. I., which includes two of them then

for retaining the group in arpm rather than for transferrii

gPa- vhiuh all have thu put!

atoms better to lo

the gi-oup in a smuil m: 'i gonns lib

vhau to transfpr them to

me, already

matter of fact the group

staudd i iiate between these two genera^ and indicat.

probably they

are not uaturallv sepftrable.

The characters finally separn
i *Flora of I*

i are, nccordiupr to the Kej

•cn-olla " inrlud'

ir the genua as *i*
one oF thi indnderl
fro™
gen

hat, by its admission, violates :

IOLLETTIA HE

A sic: at tbe nodes. *Leaves*
foli stipules rigid .St.; >ersisten
or 2-3 together on a rather 1. aيدر pedund
■ *i* calyx; the peduncle bearing a]■
envelo; ;ID calyx. *Caly-* ;lar 1"
lobes ehoi't roaded. **aborbicular** without appendng
tite obt

m.

1. N
Stylosanthes *' fac
>n *Fl. i* ii. 174- *in part.* '.

As. *Soc. Ben>j.* xlv. pt. %
BURMA; Prorae, *Wallich* Posolxio. in the plan I
Uett u.

,>erennial} stems creeping elongaf'
B, potiol t 1-2 in. long; leaflets potiolnlate. iolnl
loug< glabrous above, sp
beneath, stipules *svaz* aobului under
mn the I atrigoae as
"beneath, and tbe calyx externally. *Petals* long-clnwed, standtird
loug, apurrud and also toothed *on* lower raarj^in j ovary glabrous.
,ting genna \ iembliiii i. *Hedy:*
floral structure *vm* >f the uex
• i*s a coneiderable reBRmblanoe to X>>
W, *t A.), £or may oJiBnally :
kno^vit, beta who may metn
kindly oomrai; na.

PHT1

Cli i-be. I Ufoliola
or 1 an' short!
Iti-
matuly i. ,. **large** itaped metubranuus much accrt

OaJyx tubular

;late; wings oWonv

auricles of stai

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.. Ovary short-

surrounded by a shallow

yleinP

hort-stalked ovate-rotund,

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Malayan.

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Coll. \$• lhmd., Journ. Linn. Soc. xxv

t. 7;

nsoly ad pressed-hirsute; leaves densely

r than leaves, sometimes paniculi

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Sfcedman, *Colleit!*

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Makhoye, *King's Collectors I*

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ODIUM I

\i DSfBELLATUM DC

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east of that aei of Sontbern Burma, of the
 Is, niul Malay Pec' Yrehipelago.

inlani ifced in 9 specie moons.

V\; *Ilvi* DO ii. 325j not tnc in the *F. j'*

Bpeo ccount of its more villoua b

porsiBtoatly pubescent pods, but is not perhaps a vevj- valid -. is
 only kaown from plants grown in the Calcutta garden .'tnrJ in
 (as the Collector's ticket notes) it was an introduction f
 ."J687 D, *Hori. Bogor.* u. 2037 nre ?ooVi examples of the foi
 'vari&ty' bag been by Dr, Wulliuh and otherB confounded with the
 t *Wall. Cat* n. 5687 B., whia! <t apparently Dr. Wallfch d ;der
 separable, und which is a very distinct species.

lb. DESMODICTM WAUJCHII *Pram*; brancli , angled, leaf!
 nse raucroulatt. *1 rtiomboid almost *us* 1 of
 pod large as long as istently hirsute. D. ni
Cat. 5C87 B; *Coll fy HrmsL,* *Linn, i* *f* 1*0.
Ui< Segain, Liine Hills, *Wallick!* MeiktiJ *lett!*
A i ith densely fulvous young hranchB.
 t)ly ful\

.letB very distinctly rait ih^

ped lian

en., joiuta 3-4, strigoBe.
 0 this Ui !iame *Desmodium rh*

nmnp ni ased a?

ii. 161, which cannu: liia pbint. Swttit's name ia
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thosu pnrol icationa thi. -'otanists.
 ms emp] thor to *in*

the Calcutta garden from

the subsequent J-
 and LR makea no refei L&ngKjipi

doaoiption of Indian))lants preserveti . Dr. Wallich'e an I copy of
 hat he did not know th.e plant, an" -Terence,
 whore (not knowing that S *ad* already
 taken

le to chungo its name) he calta it D. *li* A from
 original ref* All the evidence now ig the

6 ar, pr< »B J>. podocarpu

OM BL*< *Praïn.* Ixvi. 2.

JM ete, leaflets acute, rue^ rly twice JIS long as lii-oad,
 road, p<

Langk;

A. gregariona Btra; iriabreaoent lenticollea ;
 \ in., leafiei.

1. (not of
Dr. I5ox-
Tod it to drop
name in

peduncles short. *C* < *v* .., teeth twice as long as tube. Pods £-1 in., 2-4-j.
strigose.

A very distinct species, resembling *D.* *its* inflorescence ant
Wallickii in the reticulated nodor-snrface d it differing
extreme]

twu. ³ leaflets. Like *D.* ■ *iiia* is an inland
syocies.

2. DESMODHTM v OTES *Wall.*

VAK. tyjtftra ; pod silky. *D.*, *Cephalofces Wall. Gat. 5721;*

W

Pr. idysarmn *Cephalotes Roxh. Flor. Ind. Hi. 360.*

ib-Himalayan ti-nct from Delna Dun {*King! Duthie /*} ea Very
common throughout Indo-China, extremely rare in Iudla, proper.

leaves and branches

glabroi

or only slightly silky, *D. congestum.* H

PA dyaaram umbellafcam *Uoxb.*

ry common from Canara and the Concan south\\

Ceylon. MISIMI ; *Griffith!*

Va

Ktirz! T > \$h! CHITTAGONG; *Uool-*

TIIB fcv ero is hower

Bak Dra- K

The r i the

. branches triquetrous, le

of pods small, broader i: an Ion

Ur?EB Bi C hind win Hills, *Prazer ! Maymj*

*g's Coll**

A «hrnb oi unal I with aharply trin,

ong the angltis, with long p yellow b

deeply villous, leaflets glabrous

nniformil , end-leaflet 8

3s, on BI

Ua whiJ in. long, sparsely strig*

!iroa<l

than loog.

Near to *D. C* rat larger iu all its |

and a very different pod.

4. DESMGMUM CBAXDB *Knrz.*

Apparently a rare species; th< ions originally d

not

j

him but by Dr. J. AnderBtm, F.B.3^ at Tag

previotti i by Dr. Griffith, which tin

lenasserim, oame from Tipper Burma; they

\y Griflitli from Up \$ the Huknng Valley to Av

■collection of' I hia sp where it was obtained by Pray..

7. I-1

^A,

GS of *F. B.* &:—tTPPETS Bui

1 DC. To

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, an in places wteri ms)i
side by side, it ia highly cold, all
inefc. I ■ubspeotea of one soniowhafa
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32G. ILedyearnm trtquetrum L 74G; if;
atrn L

and CEYLON. AS^ \H\A,
Tonkin, China (Hou .

Ea common in both the Eastern and Wasfr
romarkablo that en found in the sab-Himalayan traot wher<

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Ai Khaaia Hills M; Clarke l d thia ((
and Krowin^' bidu by aide ; in
rim, Mr. has niinilarly found this
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in ivhicb oxtcuds as far as, autl ini const species of,
Ma^L plant vras t deaoribed from Timor -na.

; poda thinly mombranons, very broad, glabrous) through
L Desmodium lUatnm DC. J' ■>, Hedyearnm alatom Roxb>)
; KnASIA ; CACHAR; CliITTAOONO.
ijably distinct of all the to-

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Fuse ; poda tliiti glabronB a
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VT* from Dehra Dou

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Prain —Som< >nal unosre.

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) clearly never saw U. *alutuni* DC., the plant which

supposed to be that species is D >n

9. D; ;a BO.

;ves inconsnl downy beneath. DG. Proc

iei. ii. 1G4. Add to syn tiyms of F. B.

'icir.e, Journ. Linn. &' f Walt.

Add to localities :— . Mann ! Nichuguard, C

M>. Clarke hns iiv IUB pi Wall, which mainly diK

from D, ig 11 very short petiole and is pe dlj

distinct; oova in that ooso, however, U. *ornoc* is tlio older nan

B. *vchtina* Prain, Jo Soc. Jieng, lxvi. 2, 142; lea

Ay velvety beneath.

e. very rare or at least very loco per Hiirma. Mr.
Praxer

Dr

ii, tho only ouo received since

. k. in ^or. B.

iponicum. \y ovate, terraiual Vhombo

ly pub a and below,

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Al i very common

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Kashmir, *Gltirk*>\ to

Th

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•Thwal Babur ani

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Dr. Wallicn sent this

^a among the specimens from Nepal <
lllc voln the Pr

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)i: Cm

Herbarium was be
locality in the Pn . Asa
thtB fci opal at all

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ivhero they we

The species is t by n. 5711 A, And a n
Cat. 5711 A. is nn eiai Mr. Baser wiith the 1 ■.n

been to show that the two arc *thu* I ant. !
only other colle< plants from Nepal BIJ
that country, havu eijtuii. i to iind I)

r. WaJlieVs *Oat*, n. 57' ypal. Un.
umV. t,ter wna isantd a mixture of two plants, n

One of them is *D, laavm* DO. which was at a later i
llr. Benthamaa *D, Gu.* aof *B>* mpromiso is ati.

aa regards *I), laxwn* ; the Himaltiy:
to *D. i* though Mr. Baker deviates from Dr.

: of making them TO
rt under Bentham'B name J
•i is given t\|s a for *D.*
is omi

-ssani OJ

as a djutinot specie
The othor phi

of which a
hfl6 arisen ; the thank s of Indinn botanists ur Cnsimir De C:
with Mr Baser, hn he plant with the type sh^u's in the
pr<, ilorbariara, and en so kind as to pr
hia own herbarimn, one of
to Geneva by Or. Wallich and that formed the basis oi has
thus finally removed any doobt that might exi ^pocies.

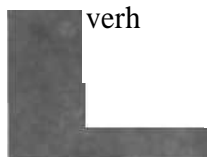
14. DesMomi t6.

Add to synonv *F. B. I. :—D. trinerre Grah. in Wall. <*
5720. *D. Ga; -dh. PL Jungli. 226. D. j*
Bah. in Ftor. Brit. Ind, ii. 165 not D. podocarj

Add to lr of *F. £. J.:—I* from I
01/ *Kuvzl*) up to 2000 131
Sibsa^ar, Masters I fi Perak

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not vary in any localities and is RK,
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/Rtalka to its pi ■
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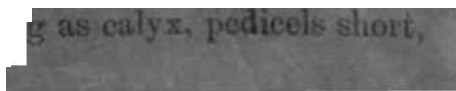


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g as calyx, pedicels short,

D.

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&/ Naga Hills, *Vra*

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terete, branches angular glabrous. *Stipules BV\$*

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Mr. Kurz hua united it has,

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of fact the synonym i.lmt should It

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aven as varieties.

MODIUM KULHAITEMSE C. B. Clar

pedicels long.

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at KJO, 4000

he nn. 13096! 13109!

Branches woody, obscurely angled, sparsely hirsute. Si
oeons, wido-lancoolate, perfectly glabroas ab ty with
addressed grey-silky hairs benen tlule k-% in. kni"

«, ^ iu,(

tte point, and

downwa-leaflets almost sessile, 2-3

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upwards like the'central but with avery oblique rounded b

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; leaflets entire, pedicels

corolla large,
glabrous, reticul

]■ D. serrifertim Wail.

glabrous above, are

smaller and n

J. n. 50

Cat. Lith. p. 215 inter addend.) D. oxyphyllum Herb. Ind. Or. H. f. & T., not of DC. and hardly of Bak.

KHASIA and JAINTEA Hills; "Montes Silet," i.e., Khasia, Gomez (*Wall. Cat. 5708 C*)! Khasia, 2-4000 feet, *Hooker and Thomson!* *Griffith* (*Kew Dist. n. 1621, Field n. 389*)! *Gallatly n. 676!* *Mann n. 281!* *Clarke nn. 15154!* 17813! 19167! 40415! 45119! Jowai, *Dr. King's*

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the angles, and sii

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of those of D.

The leaves HIBO aro vory difT

;g<|rj the calyx teeth, L

much narrower ia

Prain; leaflets vc y

beneath, pedicels m

stent, corolla lat-ge ; joints qi

ia!ate-veu(

TEN ASS 1 rjijateudim r, 1000 feefe» Gallatly !

angular, densely uniformly rusty-pubescent.

1-li iu. only :

,uyb oxt» .

latter at times paticnl

from the axils of 2-3 lancoolate exteruall

rigid perais

., pubescent, teeth trian^ul:.

o tube. *Corolla* j iu.

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Add to li

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' &• B- '-:—P^NANO; Pinara Bukit, *Ourtis* 2771!

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M VKiGATUM *Zoll. Nat. en* (k. iii. .

wuU\ glabrescent

the upper sm ■ *the cajjx, p*
 with minute hooked D, latifelium
 168 *noi* am \\\v. virgatum 3/
 D. gangeticum VAR. B atum *Mvp i*
 Cun i ^amuti, (
i. 5602 G. ^lian H
chini n. 1594 ! Dt
 ■■m>i snberect reu<ji I feet high,
 5-6 in. k> with grey hairs.

EB pl<uat in habit and foli . in dow

UM LA¹
 Delete tli *nym D. virgat* H.
 BESMODII (Z
in D. "i Blnii

if. Griffith apparently include 1
 Btiker t All the ftiabmi B\
 trury to D.

32. 1

Add to I £:—JBC [■ MA; B
 « specimens are referable to VAK, U;ik., I
 as fr< SCHftHia Hills are so plentiful tli: rme
 be saiiiai'actority maintained.

J3. Dr DO*

tjletp tl-
 34. DBSM ODIUM CAPITATDM I>
Add -PV.P.M i, Tutu
 n. 45 ! Ti t.u ; *Heifer*,

35. D .IPPITM! BiA.
 Add to localities of *F. B. I.*—BUU.UA ; Chin 11 i 11 >

38. LODIUM¹0L. DC.
 Some of the f by Dr. "Wight and I'rof. Wnl! in tli
 at le&' which .a\A aro u*u".
 ate or ev^ ,te boat-

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objoot of the
 lat the reasons for adapting it »ro the reverse of thote
 '• tri group. There, all the Connd who-
 rouped together in spite of tit <ng somewhat
 nt Emit , a number of forms with

EUI to be rimilaT

rerj great and opp»-
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41. I
Those two species do not a the generic definition
of

:||y pla*- lalzell. iy referred to *Atya* iu which the/ wore

426. ubby, **auberecfc, leaflets**

3,

flowers a

!i long urn *Kurz In Jour* "ng. xlv. pt. 2. 226,

Br Pegu, rather frequent, Kurz n. It>77 bis -i!

iberect underahrub with wo

hr-r i with adressed silky hairs on bo us,

. iancescent bone: I in.

r; lateral almost eessilo L in. long. laxly 8

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A very Uist

i Mr. Kurz fit first apponxs to
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ioty of *D*,
Dr. Watt, wl
hn.9,

irda treated and issttodus *i*>. *o*<
i of the plan; in Herb. Onloutta,

as a B> panicles, very long pedicels and
very differently dehit'

:t.

m too nearly, related to thie is *D. ollat-cm* Bak.

UYLLtMDC.

This goems the representative in Indo-China and Malaya of I *i um*,
is rare, in S- India and Ceylon, while it is *exi* common, as aa
>ana nnd Nicobara, *T*

is so common in India ■ in Burma, nnd
in the Andamana and Ma!; ;rs only sparingly about tho various settlements,
all the fippearanco of boing a quite recent im [on from India.

TDES DC. Add to localities of *F. B. I.*:—PERAK;

Kinfca river. *Kunstler* n. ,• termi' -les

76

■ mii

j long as iu>erq suture ; joints 4-6, only
occasionally separating

8HI

M-

localities of *F. B. I.*:—
iisfei-! S

CA HILLS ;

Hn

D. Prain-

min! M; MA; PoneBhee, X A Forth Shan
States, Shan S; IiHs,
Brand is! Pegu, *Kurz!* TEN. ■; on Moolyet, .5000 feet, *GaUatly /*
Java (K*(« 1 i

he specimens from all these From tho. in the !
agree exactly.

VAR. : liak.; (S- ffla 'V. & A.) is hardly d as
caiy, even in Wight's original authentic exn , and the
leaflets, chongh elsew Wre glabrons, have all,
None of Simonn' Kimsia specimens ;..
ty; of sixteen dii* ■ni ■ od in II'

Culout ;i, every specimt•:

The two other varieties of the *F. B. I.* aro founded on plants
that
specifically qaite distinct from ■«

\h. S TA DENSIFLOBA *Benth.* in *PL Jungh.* 232. S.
vestita \
densiflora *Bak.* in *Flor. Br* 182.

GARUWAL ; KffJIAOHj NEPAL. 0. INDIA ; Pachmarlii, *Dnthle !*

This species is very distinct, from *fa*, to wliioh it li
the . It is busily recognised by its j^lubr is and by th
TO horizontal, early-forkii. rves of its <

2. SHUTKUIA Bofc. Amphicar]
H. /. *fy T, not of Benth,* Puei
8oe. Be»g. x\v. pt. 2. 253.

Substitute for localities of *F. B. I.*:—
SIKKIM ; very common, *Jl ton f Glarkc ! Gamble ' B*
TAN *ke!* KHASIA ; *fide B Q F. B. I. BUBMA ; Chin Hills,*
Call I near Bhamo, J. A, ! Shan Hills, I
ufs Collectors! Pegu, *Kurz!* Karen Hills, JM TKSA^ ;
at
Lathor^ee, 2500 feet, *GaUatly ! DISTRIB.* Sumatra (*Forbes n. 1240*
!)

Mr. Kurz tinguished two varieties which differ from eaoth other exact!
as *Shuteria vestita* propo a: ^E. *glab>*

•ing distinguished The writer iii confusion, here
the *F. B. L* in keepiTl^ tl ies iu *Shut*
of the a.v.'llary sfcataou lieinL: from the other.-- the ex
tbta single charnotor t iio plant is altogol >edwfi<
fuernria in the i its species exhibiting
no duobt ult be necessary to readopt the view held by Mr. Kurz.

•SIIUTEBU FERUUGINEA *Bak.*
han recently been collected again in Nepal by Dr. Scnlly, and an examir
on of hia and Dr. Wallich'B original specimena leads the writer fco think thai

Baker
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SiKKiM j CKurfce n. 13493 ! KHASIA ; I

kc n. 40

Both Mr. Brace and Clarke have independently noted their bel
his pi«»t is a species of *Sh* from any yet described, mid in this tliBy
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4:1. SHUTEBU I

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involu<' 'l- lx- 182.

NORTH W UALAYA and Nsi»Ai j common.

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GLYCINE JA\ Litin.

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Talbot,

ix. 70 (1873).

Soja J

,- DC. *Wrodr.ii.* 396. *Glycine Soja Be?i*

2G6 ; Bai, in *Flor. Brit. Ind.* ii. 1

' §■ j'?«cc. The SOY

B?AN.

Mr. Maximowicz in 1873 pointed out tha

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For this* ronson Sir. **Maxii**

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Maximov

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Mr. lv. <■

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Torii: tin's protftlfiss i of *Mucuiw* tliemee
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3, *Carpypog* & n ; inclnd -e species with aciroamt'eruntial hilnii; tthott
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 on *SUIolohium* was a. gennE
 bgenera. So he g
 irgh as the anthor * snbgenn» CAEPOPOGON ; the snma object .ms
 fiero. Tho citation of Uonrciro as tho **authority** TA iH however iarly
 ppy, far it is in tho highest degree probubla, fitJin n Etniiy of Lourttiro's
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tion

imbricate, which is the basis of AWPHIPTERA, is the Bpori i by

hi' spots, have recently NI mo

ite« lenfcincation of Loureiro's plant **with** * In any
 ao since Lourefro's plant had 3-seedod pods, it cannot possibly hi
 f. *monosperma* or *M.* }>urea, whioh oonetitnte the QITTA of tho *F. B*

Sul [. Zof' MUM. Perennial climbers j seeds large _._.,
 a large iillum extending lound the r portion of their ctrcum-
 terencc.

§. CITTA. *Pods* plailed ac r faces.

1. MLC'PNA IM6RICATA BO.

Add to localities of *F. B. I.*?—JfojetH-WEST HIMALAYA; *Vicanj!* A.

VIPITK; *Watt* rU, *Bmn&s!*

SHAW

"flov and purple," K"t </ A

bud similar to braets but many tiu^n am

UfS.

to thia is **perhaps ifwuna JunjAttAwtana [Si** nw»<m

^{MA_>■ 21} i (iiff_{ers} itl **being** hirsute

in having pods mth plaits extending part! ant refer

I r. Kurz has himself ma< xtion in Herb. Caloatt

MLCU., OC.

Adt to : ^B./.-ANDA<ANS; very common

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re ni the interior jpmgle, Jji^ Sumatra.

Bract* at bM.0, U small ?ar. **nmoh** sumller and much more oarly

duous than he Hj ilos ex, bjid (no , J

TMl ' ^3 iB 3; ^e other i, ,, mi]ftJ of j,

<<6rMi and Jf. pai thero << no AT.

""?• Ca! **uaIl* oon ^. B<<ker fin<!s that the plant repres,

is AT. nu/HWjMsrnfi; at Calcutta on tho other hand '

!UCUNA ATiioPDi: DC. Zoopbthalmuin

MSS. Delete from localities of *F. B. L*

:—MALACCA.

The Malacca plant referred to if. a\ ■ , -ea in tli_{fc} *F. B. I.*, belo
 inct species and proves to be *it. UpLicata* Teyptn. & Binucud.

3a *i myv* J- *Binnend. in Oat. Hort. Bon*
cts glabrous, racemes short-peduncled **izppcr calyx-U**

rea *Bale*, in *Flor. Br*

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feet further. This feature of {lowering from old wood has b<

Dnr !■ joiin- Vndmnans.it]

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.iiymg B. I. -.— Wall ^
u 8oc. Seng. x\v< pt. 2. 245.

Jonrn. I
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47; Zoophthalmum maoi'ocarpum i

?\ B. T. :- ■

Hills

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l> sue the writ" laaia hills, however,
actly as in those collected by Dr. J. Ai
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61. APIOS MCKNCII.

Aif-v A Bth.
Ad 3 of F. B. I.: — BURMA ; Chin Hi!
haii sCollx

62. KRYTHRINA LINN.

1. ERYTHBINA I Lamh,
T:
nloiv rring also ;

a it is ji

2. ERYTIIRINA STMCTA Roxh.
Add to localities of F. B.
I.:—ASSAM, BURMA, very common.
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In fcho F. D. L, E. spathact

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A. at Calcutta, which cuma from a trec grown apon H states, E. sriete^and i :. ! itlO
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5 ERYTHRINA BUBEROSA Unzb.
VAR. glabrescens ; loafl iti type, but glabrescent beneath .it
dy stage.

NOSTH-WERT HIMAI-AYA ; Kamaon, Blinkivorth! Bashahr, /
IM; King! \; Pegu, Ad
King's Collector* I

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1. 63. STB YLONDON V
Aci :—ANDA^CANS ; very common, *P?ai*

64. GHOKA L
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67. SPATHOLOBUS 1

: SPATHOLOB BGHU *B?*

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'oima appear to be equally common and to grow.

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Bin. **it** is at times \f **ie plants** b< **d tht**

plant. **1^** gPA! **OTBOLATUH** Pv Vorent parts uf

2 75. **snbcoi** :itons **beneath all ovate-lan&** wn. J!«. 5on. B«»£/. lxvi.

flowers sm !s shorter than flie narrow-lanceolate bracteoL
^fv, .. fc, on Gunong Batu Pat 100 feet *eh-*

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ttgty-puberuloosj leaflets ploaay bright
brown liaii's or beqtial nnd **snb**

In general ■'\$ most resembles S.
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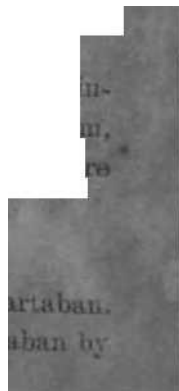
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DIOCLEA

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DIOCLEA JAYAKICA *Benth.*, *PI Jvngl.* 23G; leaflets beneath densely softly velvety, rays rather smaller. D. Fergusson *Thw. En* 412.

CHITTAGONO; Kodala Hill, *King's Collector!* CEYLON; *Fergusson* (*Tkwaites*, C. P. 3817) ! MALACCA; *Maingay* ! PERAK; common, *Kwist* *U Wray!*

at a for
•r, from the field-botanist's point of view, to keep them apart.
a in D. ■ if which, as Mr. Baker I 'it it seei

72. PUERARTA DC.

PUERARIA SIKKIMENSIS *Pr* calyx densely silky, teeth slender obtuse shorter than the tube, bracts as long as buds, lamina of)blique subsperulate.

SIKKIM; Tefai, *Anderson!* *Gamble!* *G. Gammie!* Teesta valley, height, 1000 feet elevation., *Clarke* n. 27263 !

ining, young branches densely-pubescent. *Zetjlett*
membranous,
broadly rhomboid lateral filaments long by 5 in. wide
and
panic!

»nd

unknown.

A a. but very interesting by
-ostj instead of silky pubescence-, larger bracts, and its much more flowers.

2. *Pueraria* A CANDOLLEI *Grah.*
Add to the list of *F. B. I.*:—AN DAMANS; Coco Group, *Pra*
4- DC. Add to the synonyms of

Add to the list:—N. AV. UIMALAYA; Hardwar, *Wallich* t

Dr. Walli ..- sonTM exist only oversight
nial specimen of D [r
has himself added the name of Pueraria in his description, i t-,at
is *Pueraria* V,

P
ita **Qrah.** Kurz even to the text <<
■;■.. t'a Burmese plant

PUERARTA THUI \NA *Benth* *rn.* *Lit* -c. ix.
122.

Pachyrhizus *Thunbergianus* *Sieh.* §• *Zucc. Fartu Nat. Fl. Japon.* ii.] ■
as *chinensis* *liedh. Fl. Em,* .. *Pue Thomsoni*
Journ. I *Bak.* in *Flur. Brit.* *bid.* ii.
1.

Dolichos grandifolius .. *iu Wall.* 5556. D. *typicus*

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73. PHASEOLUS LINN.

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lius Jacq.

10. PHASBOLTJS PA

Add to localities of F. B. I.—RAJPUTANA ; Mi. Abu. King I

This docs u > thf w; 'liter specifically from *P. calcaratus*, though it seems a fairly distinct variety.

11.

PHASEOLU6 KAPIATI.

Mr. Baker in
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The writer quite agrees with

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lib. PHASEOLI *GO Linn.

Of this ther i>*y distinct forms :

\> or subscandent, seeds black. P.

Cat. 60!

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i a pods and seeds like those of P.

of which the

3 a variety.

12. PHASEOLUS SCDLOBATUS Hoxb. Hort. Beng. 54; .Flor. I?ut

iii.

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both

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typiea; flowcra email, tomentmn on stoms and j<:

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{_ VAR^l 9

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issible, both on

I From Koxbnr-

Roxburgi

a« = P.

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MJeanybibli

set

led.

126- PHASJ RICCIARDIANTTS Ten, 2nd. 8em. Sort. Neap. (18

ms flexuose clothed with fine deciduous spreading hairs,
stipules large lanceolate, leaflets entire or faintly lobed, racemes usually
biverticillate



• • pod large, flat.
A HILLS; Koliim. f. n. 7343! CHIT lala, A'

ate-laii.

i

Japanes descri •

•%,

'8.

VS. PHISBOLffS CALCARATPa *Soxb.*

Very coramouly cultivated and very variable. Besides tho typical form, the followii '?tios may be noted :—

a. TAB. *majar*; foli meatam as in typo but fl
P. h *Wall. Cat.*

KHASIA. ; "Nunklow, *Clark t.*

on fcbe Salwe

ly differs from ordinary P,

a form •

b. 7AB. *glabra*; foliage and habit of VAK. *major* and of ti
ivesai! s almost glabrous; Howers VAB. n
ier *Hoxb. Hcrt.*

PAN JAR j at Paihankote, *Okirhe 2Y>* KKIM and B
uncommon. Sir; K. Cai. 5549 G. and 5589 H.) KHASIA

Ciarfce 14684! G. 5fan»38!

jurgl-

.vinins

glabrous

Hi

LS Brace J/S^'. in ii

KHASIA 1 P.

t(jrosufc

Pods tornlose when ripe, and is probably but another form of the varie
Roxburgh received it through Bnchaunn-Hamxlton from Nepal.

ia is the very puzzling crop

certainly not a form of i'. tho

'rues called *Khagia Hung*, but,
known iu tho

-the t." ,i not, buTv i
icies, tho (lowers an

maBlvos as

true *Mung*, ■ is<ita
the writer's .

d. VAR. ' *Soe. Reng.* lxvi. 2. 50; stems very the leaves; leaflets
usually re and pi

narrow r than ■ LA ; Pel ak, very common in
open grassy places

kr 990 ,7! *Wray* 1756! *S cart echini* 1176!

Pahang,

112 ' DISTBIB. Sumatra (*Forbes*

in *Wab*

id at by Mr. BaJ

happens in Herb. I

i< I\ cah

PUA.

/Z/.

This has a m; It> with
; fc does not * \

iot only is not »

15. PHASEOLDS

Thi^ i, placed in the sa-

ia oot at all Hourly

by fruit, or by inllt>re«
is 0:

■■■■ I wo are tin

flowers.
Loricj h

Mr. Kurz has filruady

out
; fOm

'3 to |.

resemble *Cana*

of a distinct gt aa

well.

3* DYSOLOBIUM PKAIN.

(*Fhaseolus* § *Dysolobium* *Beuth. PL Juv* :), footnote.)

Twint - woody, with 3-folioIato stipellate leaves. *Flow*

utillarynwemi oles incon leeiduous

; - theOfI t.h Ian- longer than the rex*

than the tube, tho two uppermost connate. *Corolla* much exsorted, keel

finies distinctly cnrved and laterally dcSexed *St*

■

anthers unilorn. 0^ 0 many^vuled, Btyle filiform
below the oblique stigma. *Pod* thick woody aubterete oblon

{. Si ly septate, with double .septa between the velvety ,
'-in.

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>*i* founded I

I). Prain—Some *add-i.* ijegummo-

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somewhat marred in the I¹
 tie inclusion of a spec red by Wallich - Beyg. xliiii. 2,
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 >). Knrz. v
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 it Beem:- irivpniLMit to ad07.1t Wallich's
ompromise; in

Fom ;. only
 p that has the Ion;- to its ki
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Plan or two ho has referred to *Yigna*, Thai Taubert
 ho h

hava so ■■

Tliat tho group ;:
 firm, soptato pi
 genera in tho whole oft:
 tion ■. ~ ■ y tliat
 ;:- t- mcjat convenient I
 forms it euvtra as a group apart aliko from <

7\ey to tlic Species.

Racemes lax long-pedu ^rge; pods close!v
 ;)-villoi, [s Bparsely velvoty; (pods keeled nfong
 sutr :—
■us, birr
 be?. in. long, keel v,
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 Leai rrowed to a point,
 it
 I in., long, Leak of keel not doi!
 nioUlate lla 2. D.
 Uacomesti- d; flowrrs small ('3 in. IOJ
 ta softly hit nth long hairs, Iy
 vcl keel not di !—

wing'

l
Gat. 5G02; Blh.

■'■■'

foot***

relatinus Gn 5615 ; Bah. in Flor. Brit. hid. ii. 2(
anavalia grandia [I MSS. i i. Cakwta] ; in Jo
ffoc. £ '85 and xl v. 2. 2-

i; at f: it, Hamilton (
/ BOBMA; TaougDoang
at Fort Stedman, , etc.,
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Koxz lias oniittetl ti _____ was
iy proposed by Dr. WaJlicli m a inanuacript n

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in P^, JVi

Prain. Phasoolus lucens . OaL &
Canavalia lucena K
lucens Buw. iii

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iai) I>ah he k
nothing cim bo added to Mr. iJakijr\s clear Jti.'

uaseolus dolichooides ?

Wall. Benth. in PZ. Jiwffft.

Dolichos dasycarpus Miq. Ftor.

ia doKehoidea £"«r^ in Jowm. 4s,

jrliu. (Uclloid ■. in Fl

Sn. II. o(J00 A) ! Hooker anil Thomson! A
OZorifee n. 8312! AKRA

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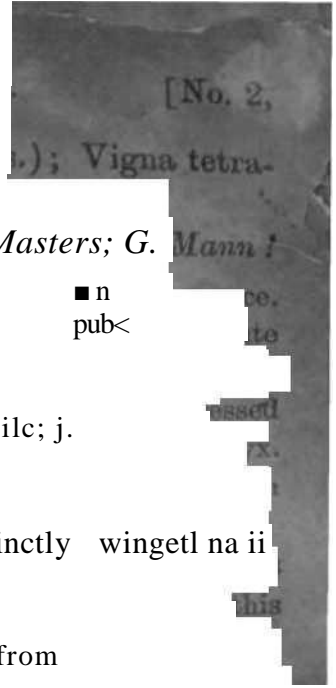
stems woody, brown-pul
ate prominently

copious ai ^{l>3)} racemes many-fid, sub-eeKsile or slio

peduncied, corolla middle-sized, pod stout i

angles vri densely clothed wit-h pe ofc firm B]
lin"- erevi* ~ V> k'n£. in

D. Piain — ^
!12. Ci
gona Kurz US8. (on ccn a Herb ■iia.
.TH BENGAL ; Alipur Duars. Heair



Masters; G. Mann i

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74. VIGNA SAVI.

2. VtHNA l.OTEi A.

Add to I of P. B. I.:— CEYLON ; 2 ' LA.

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its and seeds; th<ir leaves are however v .ry different, and

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o. VIGNA LUTEOLA Bentll.

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K VEXII

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 identical with For thi
 as a *Viy* WalP-

thjs ^ j Ann.), by one ao unfamiliar aii<
 n&m

6. *VIGNA -BEACIICARPA* 2T<rS.

nr ien in FTerb. Calcnr \s in ri,
 is known of Its flowers is from Mr. Kurz'a field-IKH re small nml
 were yellow. The fruits and leaves, howe "W tliat th< plai
Roxb. (

8. *YIGSA DOLICHOIUES* *Bali.*

UH species is not a *Yigna*. It is certainly congeneric with
 but it is at the same time equally certainly congeneric with *Plu* rah.,
 and the wri proposed to ruiae Mr. Benthaxn anj3
 the rank oi IB in order to aocom =
s,y « Ic one !

AXDAMANS; very common,

9b. \ *LEKJJI Prain;* stems slender, fineI3- pubescent with
 reflexed hairs, leaflets membranous narrowly l&nc mtAi
 a few adpresaed hairs on both surfaces, racemes few-Hd | corolla
 small, pod slonUur dotted, with dense adpressod rusty-pubes-.ce.

IOT OK A; Dftlkfljhar in the Sikk;
 ■ke a, 37032! Mahakaiguri in the Alipur Duars, W
 Branches slender but. tensely are petioles
 peduncles?. *Stij* noeioate,
 •5 in. or leus, on pedoncles 1-3 in. long j pedicels sparsely n >ul>escoiit 1 in.
 -. braotn and bractoollea mi note. *Calyx* 25 iu., tooth p t triangular us long
aboylind
 adp scent, 6-8-see(ii
-a with ripe pods mncli like those of
nBtead of spreading hairs.

77. *DOLICHOS* LINN.

SUBGEN. I. LABLAB, 1,

DOLTCHOS liABUB *Lh*

It would *ha* better to follow Roxburgh anil Wigli thorongUy
 acquainted with tlie two plants cultivated in India that are united under this name

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Roxbu:.

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Add to synonyi

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H. Dolichos icnaicaiii!

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ATYLOSIA W. & A.

.1. ATYLIA B

1. ATYLOSIA OANDOI I.

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ATYLOSI

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¹¹»\$ analysed -specimens of ten

■ssaf but hag fuilei] to **fin** .

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t also. A.

con

to **Himalayasfroxp** 2000 feet upwards; A. c ies not

proper though >ot uf tlmt ^{mn}U^ through

5a. ATYU>SU HOLHS *T>entl* in *Pl. Jvngh.* 243; *Bait*, in *Flo**
, ii. 213 *as to the synonym Collsea mollis only.* *Collfia raollis* *Grah.*
in) 5574.

NOUTH-WEST HIMALATA; Cbamba, *Clarke*
2428:: Cliajoorie, *Duthie* 530! Garhwal; below
Kinali, 1

idsanl NEPA *itinchi:* *T.*
Thomson! *T.* ,*m!* long, *Clarke* 13137! *Lingeham,*
Clarke
25485! *Namohi,*

5fo. ATYIOSIA CRASSA *Prain, Journ. A* .*ig.* lxvi. 2, 45.
A.

mollis 2fen1A. in *Pf. Junyh.* 343 *excluding the synonym Colieea mollis* *GVaA.;*
-f>r.B? *the tynon* *illsea mollis*

anus glandnl *S,' Oi/-s., anrf Aty'*
Dolichos reticulatus li *all. Cat.* *not of Ait.* t>.
crassua

Grah. in *JlrtZ/. Cn/.* 5553. *Bunbai-ia Horsfieldii* *Flor. Tnd. I*
¹ 179. *Collsea cincrn scene* *Or ah.* in *Wall. Gas*
of the N..W. HIMALAYA *war, 1* *vamaon*

Bliabar,

a Dun, King I NEPAL; *Temi at Koa* *llich 5i*
T. r/wuwon.' N. OUDH; A. TA *It..Malt,*

26977! *CnoTA >*

[^]iA.i *Puchtnarli'*

Rarapa, Gamble 16027! */agapntam, Qar* *ilia*
Beddome! COXOAN *t*.' Dahell!* ASSAM; *Erahma]*

Jenkins ! Garo Hills, at 300 feet, *Clarke* 43126 ! *Bu* *mmon evr*
whera from Pega and Bhai^o to the Sban Plateau and the
Karen Hills. ANDAMANS ; very common. t)16TBIB. *Javn, Philippines.*

The oitation of *Atyh&ia glandulosa* aa a *f the precedin*
plant is no doubt a ' . *his species aahavin*
ai fruit, pods *coding hairs bulbous*
bases, and a vcxiilui'- with 2 callositi< ■ *and A. eras**
els as fi< *a Ion*

hairs, and they do *result of tho slip has*
however, been thn *[escribed*

as A. gland *ibod in the F. B. I. na J* ; *hat spocios aa i*
happGns is, moreover, not an Atyiosia at all but a T>
oldest name for ^4. is

already an older Do'

lortu Keuensis.*

Aa that alBo happens to be an Atyh

irfl tl

.4. reticulate Benti

riter has appropriated the

lest synonym, *I*
"Baker, the wi seen no & \>- and the: : giving <
nym a place.

5c. ATYLOSU BCTIMANICA *Coll. & Bevil. in Journ. Linn. Sor,*
xxviii.

; brai id leaves beneath shortly denaely
grey-downy, stipr
minute caducous, pod toijieutose with long silky hairs.

BDBMAJ Shan Hills, 5000 feet, *ColletL 95!* Maymyo, *King's Coirs!*

Branch'.-a and stems as in *A. crassa* and *A. molli* ,:\$ exactly as i A. in A.

<er, .1-1-25 in. long, like those of .1 *mottts*, but rather

- in A. c lothed with long spreading

ia no dm t this is exceedingly nearly related to *A. crassa* and

foliage of the former with the Bowers of the latter but differs

equally From both by its ton; rids.

7. A A KOLNENMH *Bah.*

This ppecies has no existence, the plant on which it is baaed being simply *L Heynui* W, & A., from a different Iocali

8. ATTILOSIA 1FLORA *Benth.*

T

JE, B. /. would apply mthoul Benth.

SUBQEKIL CANTHAEOSPKRMDK. This h.ubgenusoupi. e writ, iion, to receive the generic rank postulated for it by Wight and Arm

11. ATYC08IA ET.ONGATA

along with' which it

what leu Bth,

14.

Add to synonyms of tylosia ^Rminiflora *Dais*, in *Joun hmn. Soc. xiii. 1* 12.

Add to localities :—BEHAB ; *Kurz ! C. INDIA ; Jubbulpur, Beddome ! r, Jerd<*

. 15. ilATA B

i^eUaa

', *molli**. It is uot an *AlyU* r_t *Dunbaria*.

inthe

F. B. I.

81. PUNBAETA W. & A.

DONBAIUA HSYNEI IF. \$■ J. Add to synonyms :_Atylosia kul-

2.

uensis i *Jourti. Linn. Soc. xiii. 186; Buk. m Flor. Brit. j.ua. u. 214. Cajauus kulnensia Dalz. in Kew Journ. ii. 264 ; Dalz fr Gibs Bomb. Flora, 72.*

A-ld I alities of *F. B. I.*:—COMCAN ; near Kolna

ontry, *Stocks ! DalzvU ! Gibson ! CANA.RA ; Waddo Ghaut, Tatimt I*

An examination of Dalzell's original specimens on the apacios *Cajanut*, led, show y belong to a *Dunbaria* differim

36. DuJSCAitiA GLAN^TD0LOSA *Prain.* Dunbaria Heynei Kurz *M*
in *iefb. CalaUla vix W. \$ A_t Atylosia rostrata Bak. in Flor, Bat. i*

ii. 216. *Atylosia glandulosa* Dalz. in *Journ. Linn. Soc.* xiii. 185. *Cajanus*

glai fl feus D.. *Gibs. tomb. Flora, 73.*

us ; 8t<

L; MJ

B>

BURMA; South

D State* at L

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Fuse A *Karz in Journ. As. Soc. B<*
I •"». *Phaseolus fuscus Wall Pi*

Bih.

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terns glabrescent, stipu
rtly hispid

od and distincti i, soft

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acuto **thi*ee**

a much e.\

; South' **ates a**
Qallath

:i*5 in. 1

narrowed at tip, • abruptly

uate. Pod linear, 3'5 in. long, ' curved at podicet, closely softly velvety.

A very distinct and handsome epei

QUN cmxii *Praia, Jovrn. As. Soc. Beng. Ixvi.*
2.

44 ; a slender climber, branches grey-velrc flets exsHpellate roun-
diah-rhomboidal cuspidate, eubcoriaceous, sparsely pabc. UIOUB
densely white-caneacont below, flowers in long-pedanclcd rather
racemes, calyx-teeth short, corolla exaerted, pod recurved densely gi
ey-■ sue nt, 6-8-seeded.

Pi i>'j'>ng, *Scortechini* n. 1841! *Kumtlern.* 908 ! Ula Bubong,
L0852!

nt slenrler firm slightly gulcato, 10-20 feet lontr. *Petiole* .
■oil caduc tflets 2*5 in. long, 2 in. wide, p< • Btipell
MO leaves, on pudun- ma;
; geminate - in. lonj! C""^ "3 in., lower tooth nearly as long i
ii. long, darfc-bi ally, pule-yellow **within**, stiuidord "6
wbiculai ^linear . "25 hi. wide,
brnptly recurred at **pedioel**, (^loaply softly groy
very distinct specios; distinguiahod from A
'<i arc, mainly by (he pods not beiiiv ^ud betv

84

f. :-

As* AM; ISrahmapufcra Valley, common, *Simons ! Jenkins ! Mann*
' BURMA; Katha, *J. Anderson / Hiagyin Hilts, Fraz*

EHTNCHOSIA AUHEA DC.

In B made .do B. <■■ DC; Fi
i plants
cannot —
[Q sliorlur than the leavea, nakod ;
My with purjii it,
standard m.
Hacemos many-flowi'red, p
Blender leafless ol t springing from ■ :j;
atantlard yellow without pi: ipes
li we follow I*< md Wi
rvod tfa >IIIQ "a
We to thi not truly belong, than to the other.

RHTTCHOSIA SUAVEOLEKS DC.

Add to localities of *F. B. L* :—

UPPEI Kyaukse, Sagaing¹, Collen, etc., everywhere common,

BHYHCHOSIA WENSIS Benth.

This is said to be the same species as *Atylosia candicans* Kurz, in *Journ. As. Soc. Beng.* xliii. pt. 2. 186. Had such been really the case, the publication of a different specific name for the plant as a *Rhynchosia* was obviously unnecessary. And as there are some well-meaning but injudicious bibliographers who will hasten, if they read this note, to change the name, it is necessary to protect them against themselves and explain how matters stand.

Dr. Wallich issued two separate plants as *Dolichos candicans* Wall. *Cat.* 5567 and *Cajanus? candicans* Wall. *Cat.* 5576 respectively. These two plants resemble each other in that both have leaves woolly beneath; they differ totally in shape of leaflets. Mr. Kurz has however considered them conspecific and has based his "*Atylosia candicans*" on both. It is true that his description of *A. candicans* must apply mainly to *Cajanus? candicans*, for Mr. Kurz, in disposing of *Dolichos candicans*, ventured to do so although only one specimen was available to him for study and that specimen has neither flowers nor fruit.

s of a

plying with epithet "*candicans*," granted always go to *Wall. Cat.* 5567 as the earlier

to 1.

"

Add to synonyms of *IF. o. 1.*:—HI' >i&
 niuliHsiiM
 ■n. Xwft. S . 186.

l. xlv. pt.
 nsis with

locality in
 ably like

Dalz. in

re
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Terai at Bamanpokri,

Gamble! ASSAM; Brahm

22. RHYNCHOSIA DE

Add to localities

King's Collectors! Shan

I 1.:—Plateau,

common cvoryv.

E!

SUBGEN 1. OSTRYO

Mr. Baker has reduced all the forms of this section, except *F. Chappari*, to *F. strobilifera* R. Br.; the impossibility of adopting this course is obvious to those

Pra

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bracta

Lateral aervea all subdual it-10 pai

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1. f

than the rest] bracta i£ i°-
s h long lttirn asually all gligrly

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—£ in. long;—

'ite or obtuse with subconlato b
rsely hirsute on the nerves with
I hairs; habit trailing

loi

Leav
long,

; bracts g in.

proading white hairs

j. [ISGIA BTROBiLtFi J5r.: Bak. in Flor. Brit. J
7 (an to mhj).
Tbi cies has never been collected in the Him .
The

which specimens in Hcr1)- Calci

; Oooke! Balaji N<
a! CEYLON; Beckett! CII

i 'amble! BEHAI;; Ball! Hooker } ASSAM; th!
<i I Jenkins! U! SILH ; Wallich

JAIN TEA j Mita! NAGA J . Masters! Oollett! LUSHAI; Pru
Clarke! Qa allector! CHI HQ'S

I

As

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Sr

AM; A
Man I King*s

Etdleti

K'Uch! Scott! MA LAC
KurZ!

son / (

.-.lay! SUM; Schomburgk

inti-od., (no collector's name) ! JAMAICA ; introd., /

16. y
bracteata I

EATA TTt^ Zc. t. 268. F. e
Brit. Ind. ii, 227.

jig are the localities from which specimens of

fcl

species have been reported to Herb. Calcutta ; it ia by no means

con

Lt'S.

IS¹.

limited to the Eastern Himalaya and Burma; not a single Himalayan specimen has been sent from so high up as 1000 feet though it occurs all along the foot of the Himalayas on the Kumaon-Bliabar tract

J.: ; Terai, R

son ! Kiv
Anderson! S

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7.

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as will be seen it is not

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N.-W. HIMALI mla, d
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iear Owra, G-7000 f<
collected by Dr. T. Thomsun, ;
led in i id. Or
fit 1000

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tDRMA ; Hnkon^
Plateau at Makboy>
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3- Fi ANICULATA

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Mil.

AR. glv

all Bi lelybee y glandu!
on fi B. Shan States a
0 feet, Gallatly !

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is wiU probably rt- i bo reoogn>

57>. FLKMfNOrA fBjKCDX *C B. Glarl* .". ; branches terote, i<
 trge acnmi exceeding ibe
 buds, calyx-tnbt- ^ ^eth thinly silky ; Chanda, *Duthie*

I

Biibtriquatrous stoms qnite glabrous.
 !- full in- ply suJcate, ft i; .vitigod,
 iceoufl, 4-10 in. long, oblong narrowed to s ■ iabroufl on both
 Hurfacos except for titly ijuberalous prominonf- midrib and 12-34 pairs of
 allel obi; *mes* denso, nan
 ingest only '2fi in. long, margins siliy
 ->? ghibrnus ; pedicels vary short. *Calyx* "25 ir ie lowest twioo
 ns long
 . r disi inci ly diffnrenl. brae similar \ **but with**

G. FJ. rA GRAHAM: '. 8f A. Add to
 localities of *F. B. I.* :—BDRM *Oaltytt* an Hillf? at Tanngji,
 Makbjye, etc., *King's Colled* •

This is the plant alluded to under *Flemingia congest*
 n?ley {*Joum. Li*

id <<*■ i nxunt tinct
 if these are
 hier of these varieties,
 ;<laaiR themselves.
 ma:—

Gal cosdensod shto
 Gal oneath:— *F. c*
 itky
 v adrossed tawny-pubescent ...
 Calyx I be, leaves maty
 flov *F. ferruginea.*

Ea< jea ■—
 uniformly roaty-tomentoe beneath, petioles nol
 only on tho nerve? L, potioteg sli
 -•oly brown-e sparsely grey-ailky, racemes *F. latifolia.*
 rather lax as •*lain.*

: woody *sob--* :—
 ice *F. TI*

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 not with *F. t*

* « united by Mr. Baker with



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latifolia Bak. in

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■ ire two marked —
th;in

o, Beny. xiv. 2. 261.

Ku ASiA; *Ho*

nd Tho mm ti!

Boi

lor!] ;va.

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tie nerv-.

cit.; bracts broader than calyx, racemes

n Hill:

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VTA *Roxh. Hart. Be,*

*Tu*l iii. 340 ;*

il. TV

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*IBak** in i'Yor. *Bn*

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DALBERC

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embrace **that** Mr. Baker is **perhaps justified in**

m **DAM**

B. L as *l*

RIB. B *' . ILL* : —MALAY PENINSULA; very

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11. DALBERGIA COHFEKTWLO *nth*, *D. rubiginosa* £"ur^,
Journ.

As *f. xlv. pt. 2. 281 not of Roxb.*

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led tip *O'* e-lanceolate ivitii blunt tip, puberulous alio\

beneath, **flowers** minute in ample t*

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I long **naiTOH**

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ap. *C JlemsL Journ. Linn. Sac, xxviii. 50.*

Auierimnon

Es at 4000-5000 ft.; Twaugen

leefc high, I

tly rat firm, reticul

a. long, 1

ralar

½ in. Pod firm, reticulate-veined, 2-3 in. long, 5 in. wide, 1-2-seeded, stalk ½ in. long, point narrowed to on tip.

A very distinct species with flowers as in *D. Junghuhnii*, fruits rather like those of *D. lanceolaria*, and leaves a little like those of *D. velutina* with which Sir H. Collett and Mr. Hemsley have compared it. It has, however, very much smaller and very different flowers and stipules. The collectors of the Calcutta Herbarium have recently brought in an abundant supply of fruiting specimens so that a description of the species can now be given. The specimen in young fruit mentioned

II

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tip , distiit.

Amt:

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D. Pratin — 8c

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Flor_

D. polyphylla Benth. PI Jungh.

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17. DAI*
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Bnig. xW. pt.'

/?. J.:—D. panicnlafca Kurz, Journ. As. Soc,
BriL B^{nr}TM> i- 345.

i and Mr. Baker 1m out, iave y nearl; I to
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r. Baker in lii- omits t ;. The 3
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Wail. Co HJ9, but hia number Dr. Walll
• tj»i hurry of distribui y diatin*

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nd iLr. Bakor point out. from D. trio,
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Add to syuonyms of F, B. L:— D, uigreseen Rep. Au
A 48 a.ud Ap ■' ; Joum. As. Soc. Beruj. xlv. pt. 2. 279.
Add I of F. B. I.:—13* OII

ad Bhamo (./ n!)
to

u (A* the Kiir< Hills
(King's
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;A Benth.

Add to **■ ^- J:-W. robasta PTiii?. Ca
(%). t). Bteno i«- 5oc. .fie?w/. xlv.

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DALB \ Box6.
Mr. Baker describes this as

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Meitaphum, 5000 fe

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site.
25c. [A. Oi,r .'awBfe MSS.; a tree;
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obtuse emn. (acute when young) glabrous, Bow
areading terminai panicles with raemosfl pubescent brand
t. as lung as calyx with eonapieuotls bvacta ai
bmcteoios, calyx-teetli short, the two npper-
ite, the lo [est, all glabrous i the ciliate i
to a slem i]k, acute at tip, |
nentlyveii '1 thickened opposite the seed. Ameriiaimm I

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Marsupium *Roxb. COT.*

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UTANA; Aba, *Stocks*

n. 237! **CONCAN**; G

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sanu\ For this reason

Pi

88. PONGAMIA VENT.

POIWAMU CLABSA Vent.

VAR. *typica*; leaflets usually 5, occasionally 7, oblong or ovate, 2.5-3.5 in. wide, quite glabrous beneath; racemes always solitary simple, pedicels .35 in. long, their bracteoles only subopposed and situated slightly above the middle. (Synonyms as in *F. B. I.* with in addition

Bat. i. 147.
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Add to localities of *F. B. I.*:—As very common,
luent.

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Add to localities of *F. B. L.*:—CIHTT.A ommon. PEGU;
;B. South-West Yunnan {*)

Assam :■.:■! Si
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are reported m v. having white F opinion that bis specimens must belong to

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in Herl -ia, belongs to tlda Sjspeci

106. DARIUS MALACCENSIS Pr<i?i, Journ. As. Soc. Bmg. lxvi. 2. 1' aflets 5-7, rathev large, elliptic, abruptly long-acuminate, ria- a,i 3 shorter thau the leaves, standard glahroas, pod win.

i ripe. Doguelia ma-lacconsifl MSS.

»d uistinctly winged, (J true Denis) along

or ono

bot

ia / it.

Linn. SOL. iv I. 112.

ENiSSBRiM ; Moulmein, Falconer! PERAK ; Scortechim 110 ! 7v"

[4504*!

Cu

IB. Borm

, including many VA.K. r^l aptera; pod quite wingless -when ripe (as in MALF* 'aingatfy 613! P;

also specimens from Perak (Kilnstkr 3190 ! l^ray 2025 !) almost exactly ate, as to fruit, between typical D. malaccensis and the vari

rrt.

but dehiscing when i

VAJ

PBRAK;

10696! VAJ.: ? *milk*

-

Lmber 4Q.

* in all

like those ■

J. 11.

i —Some a

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11. D):

3 all tli

3 of *F, B. L* -. — CHITTAI

King's Collect'.

1"

bcvi. 2. 10

oblong

fc b pubescent b

bo caly

.Ha

j-e, pod

.aently silky, \vi<

h sutui:

Coco

Prain!

S. Audaman, *King's I*

'-sllkj' I

14. DEBRIS E.

D.

t) as : ■

erbed

11 Wa

group.

Aria i

•iii]gomaj'

PL Jungh. 252; I

rate-acute, racomes laxly paucled, with

tl. .!<

iL in /OK-

. iv. *Suppl. 10*

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puberuloug;

rolia small.

Brn

Pi

fong,

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rhof(still

unknown.

19. us MAI Bah

In consequence of the **oammnical**

of D. fJ ■

21, **DERHIS CANAKENSIS** Bak.

orated l>

I

Mr. **Bentham** hi D.

he imits of tno

froB re in flower only-

i ATA 2

Add to localities of -F. ^. I* :—BEKCAL ; **Sundribuns**, very common

AK ; *Kunstle-r!* *ScoHechini!*

. DEI^ ORA Be;

Delete from **loc**

7.:

TIIMALATA aivi

fes "has novpr bi

iinland ; it **is found**

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ia very

,iist.ion h Dr. WallicL

But

.vhieli Dr. Buchan^i

WILttCHII !

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leaflets acnte **two** and halJ

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..• flS or

tliau the calyx, pod **broad i**

down.

both **sutnres**

;bum¹ us *Wall*

tHBT;

izer! K

[Kew Disc.] !

D. *nai* Leguminc

is. bafeBailo, ■■<■> b«oador pod*, 10-45 in. io
, imana IK. '-» the Assa

SS find
ly distil
illifchiar.

■ of Mr. Clarke ;ia ./■

be genus Dfrris.

DOUBTFUL STPJ

:tBis ACDMiNATA Benf

~»)01; 1! ur at Calcutta h
■ their flowers/i callof Landardj they
aro
Btfai Wall. nted m lmt
the plant colle* !<kim is > no as D.
or, to bo more precis flowering part of the plant iv
frni; .Bra. Wlnr !ant
cannot say,
pecimen here. But of very similar species thai
amd wtl
with its Tn .

as in 3J

DERBI . Bale.

This is based on Wall- Oat. 5890 which unfortunately is not at
Calcutta. Bat a plant I aetly agrees with Mr. Baker's very clear
leecriptiou >wing localities :—

DA mpufcu r / KHASIA HILLS ; 5-6000
feet. Nattoung Mts., Kurz,

To . :ITO BS often 9 aa 7
md that in one It. TL '1 by Capfc, 13:

long, '8 in. wii winged down the upper, very
owly down I This, as has abroady been remarked,
ia thj by Mr. ihua proves to be a

mst in all I

Add to description of *F. B. I.*:— [n

3:tf liffulut C'-obionff_T
labrott?, flexible, fii 3-4 in. H-1*5 in. wide, the upper
in, the lower narrow

Add to localities:—B^ ,s Coll SIKKIM ; J. Ande,

The pod is t, but is
so pule i toubtfiii sj

n

line

Dr

Eft.

DEP.RTI

Bentlu

SSTLKftlA PJBA

Climbing shrub **with** unequally pin

liolate

stipules small deciduous. *Flo*

rm-

rsoid panicles extending in'

'la of the upper l<

Ltoels solitary, nodes not

>xcam]

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/ thin flat,

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oblong, radicle inHoxed.

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tR. *f-ji;*

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• two upper **connate**.

VAL.

the nppcr ono qi

mdard-claw; a

D. Pram—*Som**

tiosse,

iolules donselly softly **rusty-pubescent** as ar is and **brace**
the la-xer more 6pn

PA] Tulloh Sora, *Cm-* ;2!

ate base

-12 in. 1.

rain, Journ. As. Soc. Seng 2. lit

^ on both **pod thin** flat densely bix>i

PERAK ; Larut, *Kttns* ! 6935 !

12 in. i

leiloas fciin *tan*

Ixvi2. 1]

rigidl; >u.s stibsoabri-i above, densely
femivinous

tli, shtu-ily

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DISTRIB. Sumatra j (at Bi^ui

!

lake-red,

P^LP<V

;V1. 2. III ;

luu

-pubescent, 2-3-;, 6395!

(ihap Tebung¹ road, *Berry* 1006 !

imbor with p¹¹^ r lot
1-3 in. long, *75^1"5 in. wide, bases nervos ascending 6-7 pairs
slightly prominent beneath, petioles 2'5-3
;hed. P ehis
branches softly pale-rnsty. CaZy i Lriangn i±pt nppi
notch iark-pn: . in. long. Pod not

92. SOPHORA Li: SOPHOitA BAKEIU C. B.

Clarke MS8.'> leaflets 11-15 obi

obtuse sparsely pubescent at length glabrou
pubescent beneath, pedicels shorter than the finely silky calyx ; co:
middle-sized, pod silky. Sophora sp. *Bale*, in *Flor. Brit. Ind.* ii.
251.

I BariALi; Parasnath, *Thomson I Kurzl Clarke!* Manbhmn, Oa?<
Branrhlets sparsely puberulous. L- -S in.]
25 in., Biibilabia; about twice as lonj? as calyx. Po<i 2-3
in., Bubdehiscont; junta obi rions between them *!<?• but, as y
6c. SOPUORA, DDKII I
jnucronulate, glabrous above oven when young, sof-

S

Pely-p-
TCre the leaf-rachiaos, pediuelrf half tbe length of *d*
tomentose calyx. BURMA ; Chin IS

Branchilofcs densely-pnbop' papery 1-i
•35-'4i3 in. u-i<]<\ *Racemes*'4 in. Ion 12 in* (.
upper li] -oblong-
length of tnlio. *Corolla* one-half longer tk^cai.vx. keel aud wings v
i jilish-brown (in dri< .s). *Pixtto-*
A very distim'i. species, only once re]> It mncli (Iia
oviile
mi- lied to, *S. Bdkeri* Clarke, ba
ing quite glabrous abov ver calyx-teeih

76. SOPHOKA PuAZEItl *Prai*, 9-13, ol
acute obscurely silky beneath, pedic- long >i finely si
calyx, corolla white medium-sized.

I BURMA ; beyond Meiktila, growing near streams, *T*
A snmi' about 20 {• . branchlets bmwn-pui
muoiiia 1-2 in. I
finely s

!

A-v l nearly allii
i.ionship that 5. *Bdkeri* doc^ to

ipe set

oeils 2- *K* **bright** BI (-35 in.

itiotis of the tawny suberous lining in whit
bout any trace of arillus.

. 0);:;■;<■

■■ *fourn. As.* , . lxvi

7-9, ovate-lai

i, flow ;nal

than ■ pod **rather** BD

arly

in. Ion; n. wide. *Seed* nsu; , oblong,

v *Tra-:* *3or. Bang.* 1

lets 7.

or elliptic very dark-green, sir

panicle . ; ■■ *tliaa* o;'

7. xlii.

. 71, *hardly*

Mr

Bssed brigh.t-1 ;

Go,

Hot

9. sroLLis
 wiugle
 eet, *Duthie* 1601
 : form, titly in no way frou¹
 -. fts *e*
 ues mad as a g¹
 bich the sp
 . SOPEIORA (JBIKPITHH *Stocks* in Hfwife.
Jt r, developed before the leaves iu slioi'fc
c

Juke! JJace! Du&hie !^s i fcta, etc
Throughout Beluchi \ s R.\: 'orfc Monjo, *Sandt*
 juiuiatan.
 A low t pin > pabesci
 -2 in. long, pedici
 ■ly eilk\
 in. long. joints w tit loug
 it *i-i*
 racemeB *vri*
 ti Boistsi
 uri- il<l point out that. Fain

 '. OR^EOSIA JACK
 26, I *As. Soc. Deng- Ixvi. 2. 1*
 odent,
 green, racemes crowded in lal panicles, pedicels short
 PBRAK : Larat, i!
 A I' labroafl
 termir amnl :■.. long,

Wall.
 -**SIKB** Jills, 2500

1897.1

teaftits 7-9 (">< short-stalked, veinlets beneath
i calyx, pod subcompn thin

As. S

nsu, // ' DISTBFB. .Sumai

ill. lilt:



- . Bah.

Add to 1.

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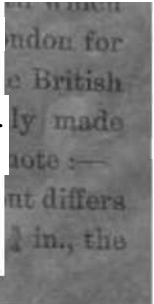
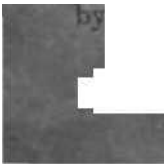
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AK ; at low eferatio'
■ *pnlaris* Prain

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Ac or soi

Wulh in *Wlor, Bi*
cuclidocarpi* *Bah.*

pa in *ihr* I ttiqnel in having fl

■ ■; wiiij identical, bl ir
namo should K'iv*.> pla

:ira and Western JBhut..

10, CJKSALPINU TOBTUOSA J2ar6.

alitiea of *F. B. I.*:—I

jra Bukifc, 700 feet

Mr. Kin"/ [<ru]

a varid
atra ; an exms i

•n of Dr. ttiqnel's pi

Prain. M. giabrum *Bah.* in J

M. enneaphyllum 2'A«fc #i

, *Fl. C*
Wall.

><<oi 0/ *W. 8f A,* Coesalpima furEuracea

Ca

1; ; Muklioyo

Hill, .

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■ith flu 'int.

, hills *m* ■! Litjin, R. Bav.

tem 7 feet in oi

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f, ii. 259 n

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which it boars^L
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214'. j resemble thosi
. too, ;:

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=ling the calyx.

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OfEURON : i M P), .. As. SOC. B'

131. (A I. v. 60

S StMA

Add to li
Simp.

a of F. £.' /.:—!■

Tbaipens-, *Srortechini K*

M B.. I. for

additional I

1 PTEROI INDTCUM A. Hick- by]* nei,,

Be,

■ isly collect.

PK SSIFLOBUU *Praiv* <■"??• *x\

.cemea with thick **rachis** and very close set pedicels not exceeding
Iyx, in **fastigate** paniclcB. P. inicrophj Hum *Kun, Joutn*
Beng. xlii. 2. 71 not of Mi\$. P. iudicutn VAB. **microphyllam B**
LL cZ. ii. 259 a(/«as; **in par**

•2500 feet, *Gurtu* 3093! MAIXACCA; 'jay
Lo *BaJcer*).

I, Bomewhat -10 pair j in.

long, **raw** •

■« ZTui -■«. *As. Soc. B*

hin rachia and lax pedicels ranch <lyx,
ik. in i

ts-; very common.

.rickly, othi ! in.

7--S ii

ia are • larger and Grmer i

irz, not

much !■

,vcra as

103. CASSIA LINN.

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Legtin;

MI of *Amali*

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• /. ii. 2)

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surprise.

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7. CA- Linn.

As d the F. B. I. this name covers two very di
:;__ i_m CII . with leaves glancous or glaneeeeut bom
very foetid- with short pedicels and smaller flowers, th- ;;els in
fmifc not exceeding '35 in.; and with two glands on the leaP-rac
E the I pairs of leaflets.

2. CASSIA FOLIA Linn. (G. toroi'les Itoxb.) with lea^s gn
teatli, not ith lo> leels and much larger fli
ticels even in flower reaching 1 in.; and with one gland only on
feaf-rachis, si tun bween the leaflets of the lower p

C. common everyv n; it ia a ni
ay, as is aoi;

; fill tli-
com Am«rii
ie parts of our area, notably in \\
Caoara oorthx jab and
as from I .iruDiin; tl also e-
i Burma on iu Si adia,
k it ■ => an American species comparatively

■n, distil
Less prononontly i.-
very much lax IWDIS—TC >Livays assefc-
goea back to Liunu3U3 wh<

lands. But Lin pro-
babi ibed as C.

[/Iniiioua has ■ DilleninF
ii£lirecl without glanda, and sincu in tho
species Linn its all allusion to clam Is, one is tempt i ;ipose that tlie name
llenian liprm-o. But this cannoi
seen a ;
he
i with a singi ,n ^
all, and r that so far
'i Linn. that was later on more fully d I and n
.xburgli tlian it had been by Linnaeus, and-

3 have agreed that the figure of OaUinaria
by Limiaius as his < irhout a doubt C.
ignre in Dillenius (t. t>2, f. 72), by its yi
iimced n md by il i would apj . difer [
to be < h()vm 7m
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oni J. if.

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IB. Westward to Abys

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•3. F. B.

F.:—C. xantli
:—WESTERN J> . L, Tal
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Prodr. ii. 498; I I rucliii
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tor. T

; N. Canara, *Stocks ! '■ w!*

hwib or *siirub* somptimea 5 f

■iih an o e mncronatc lee •jnail '2&-'85

in. across, solitary or 2-5

axillurv p : lq> outel'
erect nearly straight, flat, dehiscent, shortly pubescent, **7-1]-:**

ut, '15 in. Long*

I Palbofcta ■mmon in Nort.ii '

'tslargi;

hlu u i ■ ■ ; >eded pi-

D.

104. CYXOM:

I. SA RAMIFLORA LVtt<<
genuina; leaflets 1-juji ■

A. AKL:HD> iiboina, 1
ram, 7' n /
Tlii ti India;
■ strict the namf 3 and recognise

Scmsp. *bijuga*; leaflets 2-jugate. C. *bijuga* *Span.* 1 xv. 201.
wfs Bak.; the end-] irdly larger than
the basal pair. C. *miruosoides* TFAm. Cai. 5b 17. h
31.

AL; Sandriiuri, common,
1/
ic) ! N; at Trine ■, *Rott*
BURMA; Arracan, *IU&h* 5817 A! *Kurz* tira,
ic/(5817 ?re
the cortsts.

2. *het&rophylla* Thw., Enn the end leaflets acute mnc
m the b; ir. C. *bijug*: C.
. t. 31o 1. C. *polyandra* *Inal*
But, 1ml. i. 11, *not of lloxb*,
(aasb, *Wo* ; and
S

An , very rare. MALAY PENINSULA; Job ore. *King*:
13* Singapore, *Bidley* 5891. I

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■lie name C) to d
irieties tich.

>ra L.

STIR =C. *caulitirir*

Madras=C. *pniyandra* I

flora (0. *bijuga*) VAB. 1

>V'ight =C. *ramitiora* L. VAR. n

Ira ftoal;. VAB. K

2£». r , flow lax

olitary axillary rac.

3. Kanar:^

Wynaad, at Tambacbei

00 feet, *Beddovie!*

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f,ra n. -• : at tab. 810, rV.
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Mr. lies.

!-. OZVOUBTU CAULIFLORA J

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It, i-s a :-den sp. right to
a India.

5. OYNOMETRA FOLYANPltA Roxb.

VAR ? *Kurzii* Prain, Jbitrtt. As\ 8oc. Beng, lxvi. 2. 200 ;
leaflo! re, pods very rugose. C. caulifiora Wall. Oat. 581G (E onl
'all Cat. 581G I n GoVi

LS90^d) ^nd li

ia of typical C itBvery
ssai-y to recognise in
af specimens of th
and Sco li, .Mrith a aolitary fruiting specimen >
from Penang or Erom Uuiou

Calcu

STNBORA Mr

•<fniifl has brx.'n lonpr known bu.l ntly *asxii*
imphina under the name *'

■ ■ ' ■ ^Bmk. (Euci,
hoi Pungnin" of J

Kame (/ ■
Lamarck in 1797 i error of
his identification of. 1786, has not, for some reason, linen

WiUdeiiow (*Sp. K. iii. 0C>2* [1799]) in pointing out that **his**
it *describ* itrmrck ns ' udp
Kuniphiftn synom id Buchanan-Hamilton, one of
t.ho affinity of Hum lant wii
ihd ceedingl 'v allied. Bat in oppogitiun to the soiuid judgme
Willdenow **and** in spite of the v ppy snggestiou -

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•1S4); Mr, Beinlstim e a preseuume.
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Wallk-hian Herbaxinm, \

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in., leaflets pubescent beneath,

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■Lfl of pod) :

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1. S i cm ANA *Benth. ex Pr*
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and Ung b. 1017) ; JJafc. in F7or. Iiri7. Z?«2 ii
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lina irViiUicLiaua K.) Kchiuucalyx . PL i.
. Walliehii TAR. ovalifolia *Maingay MS8.* GuJ , \.
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a this plant am 8.
it differs, howevei 7.
ritor.believes, mi 8.

Si MKNSIS *Teysm. ex Miq,*
Ann. M«s. Bat; Lttgd.-BaL
• *Kdfz, Fur. Flor. Brit. Burm. i. 413.* 8. Wallirhii YAI;
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Bawean, where it ia grown in >vt. B<

Mr. Teysmann nt)LCB the
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.Is. Soc, £t;/ij. Ixvi. 2. 20i. lora Walliclii
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7. SiNDOBA V: v *Bale, in F/o/. Brit. I* !opa
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Botanic

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fijai/ 3f5S. Galeduga ooviac-'

CA; *Maingay! u* l\$. Pi I

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 the calyx, pod not vei j/Flor.
 Ind. Bat. i. 79; Pm . Ixvi. 2. 1

PAHANG ; Pijai, Ridley 2627 ! PKNANO ; Ayer Etam,
 Arclii;

A, tree 60-70 Feoc high, Icaflota ultcmate, charta< 'iabrous on both BWI
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 o. Sepal* ovate-obi
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I. : — PiiltAK ;

/*'.* *B. I.* :—^v

ICrangi

of *F.* *B. I.* :—PERAK ;
Lan Borneo.

not th

ir description of fruit at d ia *F. B. I.* r—F
 compressed, ;tpex not apiculate, fragiL
 pub In- bug, '35 in. wide, 3 in.
 regularly oblo s rounded, *3 in. loi , 15 ii
 thick, dark Ly shining, neither "al 'eul
 .ATYSSPLUM *Bak. ilitifia* of F. JB. J. :-t-PERAK;
 Lamt, *Wray!* .1
 rtgfa /

D> 5<*ic. *Bang, h:*
 7 opposite or subopposEtu, rounded at base, faintly pnberuloi

-ing, *h* !MALA *ry!*
.iu\$ mtUer abru oaudate-aeu tt
 brij

I hi bntl, segments subaqual

ilots ii ly

<>. Di WALUCHH *Praia, Jmtrn. As. See. Brng.* Ixvi. 2. J7
 L). plates lliclni -Saik. in *Flor. Brii.*

'Dr.ujuir KINGII *I*
 : subobtusos or obtuse, bx*ai y largo
 pru >tent, pi iy.
 PEBAK ; Larnt, *Kwustl* 7 ! 8187!

htni
 or rounded, !■; nnd H^Rgabovc, rnpty-pnVioscont b«»neatli. *Panicle**
 terminal andaxiHavj

BillWLjuiU broadly ovate-obtuae; externally densely browa-pubesco] maUy ■.
 wjiil iy pabem Ions, Pod irregularly spherical, '9 in 5 in. acn
 gxibquad ritadiually suriate, -4 in.
 a. wide, '2 i.'r

L06.* KOOMPASSIA MATWGAT.

Very tall erect trees- *Leaves* odd-pinnate with alternate leaf'
FL jopious small obscure, in aui }»le terminal pimicles, bracts
 small

un —

■' Legumim

voiy sho-yvy slightly
imbricated. *Petals* 5 euben

i laments short or v equal
iseing by two apical por e, sabglohose or
I, 1-ovuled; style a]

^liout its circumference, narrowec

I somewhat twisted e, ind

Iddle of the pod, compressed, exalbtn
!e short straigit. *Species* 4, Malayan.

1. Ki *ALaing* in *Ifooh*

Leaflets 7-9 green? fainily rnsty
-pubescent; ; tier larger i¹ ipals and mi
anthej rusty-pubescent. *Taubert*

in *Eiujl. Naliirl.*

ik, Jls. Soc. Bt'ng, Ixvi. 2. h

Kunstler ! Wray I Scrcrtechini ! MALJ

! *Goodenough! Si y/ PB -Dts*
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1. CIUDIA ZEYLANICA JB(l.

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Prain, *Journ. As. Son. Beng.* Ixvi 21; leaflets
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C. I is known in Ma

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4. CRUDIA SPEI
222;

g. Ixvi. 2.

f 3, quite gl on both sorfaces, petiolales
at. Touct \$.

PUNGAH; " grov. the Rajah's Ciarde^

>r tranc

,ort, acuteh
*

. 2-2'j . 1-1*5 in. wide, mu¹

die. *Calyx -lobes very Bpai*

lous externally,

∴ p

nJ C. ylauru, b i

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papery, 11-13, uniformly tawny-puberalou
and innovations tawny- , pod rusty -tome > Toncuairo
Scortecliitiii /

6. !A CAUDATA l Soc. Beigt. 1
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pubescent

Borne

A 6mui 1 in.
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An ox.

1. (A WRAYI Praia, Journ As. Soc. B#nfj. Ixvi. 2. 222 ; leaflets
small 3, thinly papery, oblanceolato
flowei oiled. Touchiroa V 5-
PERAK ; Sangei, Larufc, Wray

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8. CRI

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109. SAJJACA Li

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tip, 0-8 ia. long, 1"5-2 in. 1

Corymbs deusq ^-3 in.

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pom

SARACA MINOR ^fi^ 2-

84 ; leaflets 2-6; petiolules

short, bracteoles persistent

spreading, sepals halt as long as

calyx-tube, stamens S.

>les acuminate.

JAVA.

Ty oft

'iracteolea obtx

5. bijuga F

Bemj. Ixvi. 2. 2[

nmon.

<) feet high. /

10 in.

ore mucl

!^ vvry slend«r gla

,ig, obtose bractool^

4)long.

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long, 2-5 in

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(usually 14), petiolu

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long, 7 in. across

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5<H,; Poueline, *J. Anders*

■n CTppei

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; leaflets ctmeate at base, coi

3-4 in. long a

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leaflets trnr.

I base, corymlis denso,, 1 in.

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Iti-M

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B. Snmatra.

bracts iK-i^jsu-nt. BI 11.

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Bale, description of *F*.

B, L:—Peduncul

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s 12, *stipellate*, sliort-jiL'tioIuled, brncteolc:- ding ample
persistent, staim - vs large, foliaceous, only connate at ti
between the petiole and the stem.

PBBAK

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'15 in.,

as long as tho subulate firm porRiBi

ily *cori*

i ur acttminatc,

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dark-green dul! ^1-

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■ntr, each with bold *m*

margin of each anricuiate, I

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rud on war!

(Uy "75 in. long; pedicels puberulous5 hracts pen puberaloua. *Sepals* under dar

*25 in. long. *Film/tents* 0.) oblong, 2 in. \on<r, "8 1J

Hervca

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112. HUMBOLDTIA VAKL,

Id. ex Olic, in Ji

xlv.

Lcheahi

'onstricted, spur of stipule la 1

leaves distinctly petioled, *nichix tvinyed*, leallots 8-

iiio-

0; petals 5.

S. - Trav

B

>nie, Bourdillon!

A tree 40-50 feet high, trunk 1 foot in diam., *hn*>

»ae. *Stipules* obliquely lanceolate 01

the

: **reniform**,

elox.

::> in"

iower ;

,■, apex acuiiii

J short axillary, so:

tea and sepals dowuy on the ba

tblauceolate ur ovaij as long as the

,nee distinguisbecl from other ^je

AA. LINN.

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/?. f. :—*Petals* white, '35 in. Ion

Shan Hfla.

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y with Decafene'a

i to B. ita

rai R. *Kurzii* Praia ; loaves larger, 6 in. long, S oss ; poil»
(3'5 in.) and \> ("a in.) ; seeds about 10.

Kurz I7b;i bis I

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[JHISIA TO¹

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Bhn

-scandent, leaves 7-9-nerved, slightly co
sntail dense

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2. BAUHINIA

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 i broiully I ilar lobes; style vei
 UPPKR 1< nyo, *King¹** *Collector!* SUan
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 iman, *Khxg^t*» *Coll*
 nirtlt treo. shortly petioled, s»1

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11. W
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 ;io I PflitAK ; *Kumtler* 35S9 ! £<

,in!l **blac** 'ft 2 in. long, <i jit,
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 and foliage, however, are quite unlike thost-

A *Wall. Cat.* 577 with
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 II)"
 i description, baa more nerves (7-9) thjvn I
 has 5-7 onlj and hai
 be *Surn&i* present om

t;s (B. emarginata ifiii. *Diet, ed.* vn' dosenption

WSB
 Mr. Baker
 •f, for s] thiit B. Hj [u(u;
 ■. But Hoxburgh'a deacripj p8
 identify bis plant, is sufficient to exclude atom
 tfl 1)0uig smooth in every pa

! 3/J. B.xvHi,\ik WK\vi j'ra in, *Jov m, .4^.* 5oc. JB<3<f/. 1 x vi. 2.
 itely pointed, calyx v
 j aa tube, petals broadly oblauceolate margin i
 i wed.

nul;;
Kwistler I Scorteckinii Wray I SELANG<3BJ \&fI
 imber 15-30 .B
 ■<-(> in. long.

l-l^j in
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 icli flatt I'll. long BB,
 anecting the
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 any other Indian
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J4.

ies of F . $U. T. :— >$
common, $T. Tli$

. B. $I. ;— I$
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limb

ealyx-i

■5 in., densely eylmdrfc

Peta

distinct.

Verv nearly related to *B. Incitlv* Wall., but at once di^ bifid leaves which are tomentoso beneath, and by its shorter,

jy p (B. rosea A- Add to localities ;— T; an ; on Tao]»-

W. . Kurz published his description of *ii* it Dr. Hignet had already given the unnie a unite il from Du ma.

39. BAUHINIA BCFA *Grah.*

Add to synonyms of *F. J3. I.*:—*B. Valilii Kurz, Journ. An teng. xlv. 2. 299; j?br. JSVor. Brit. Burma, i. 401, iud of*

Add to localities:—PKGIT; Hill fc of Tounghoo, at 2000 feet . TKSASSSRIM; near Moulwein, *J. Anderson!*

Calcutta Garden Collectors have also quite recently obtained it ii the Assam valley, as well as in Silhet. Sir Dietrich Braiidis has noted that the flowers are " white, fragrant."

Mr. Kurz red i rufa to B. I unusual step to duke sj leeific, JB, rabh naiuy. But as Mr. Bat us are ; md in Burma hkh the »t.in a ^otieral i toret r:i reposit of the more widely distributed and inm.*h commoner B.

21. BAUHINIA **BBMIBIFIDA** *Ron*

Add to synonyms of *F. B. I.*: — *Bauhinia ferrnginea VAIL ?afc. in Flor. Brit. ID nut Phanera excelsa Bl. Phi*

sum ut ran a *Miq. . Bat. i. 1078.*

Add to loc; RE: very common. Di Samat Jori:

be noted that tli amploB of *B. se* Ecom Suiua- ■ it is usually much confused in herbari; species is not ecirrhose; the fli hen the plant is prawnno fav as Cal.

ht) will t-li-tw. an 0 WaiUch's specimens or to Bosbm filler than when I ,vuiii Singapore, Sumatra or Borneo.

22. BAUHINIA W *til.*

Add to localities :—PEJIAK ; very common. KFDAH ; R

this name is considerably older than the name *B. elvi^ata* Kortli, one or

■ priority-huntcre will bo certain on* HO days to propose its adoption

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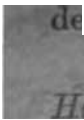
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Galley, common, King! Kxvrz! ejtc.

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A woody climber, branchlets hoary-pubescent. *Leaves* broadly cordate, 5-7-nerved, 2.5-4 in. long, 2-3 in. broad, upper leaves often entire, the others divided at the tip into two broad obtuse or deltoid lobes. *Racemes* paniculate at end of branches, rarely simple; bracts minute linear; pedicels .35 in. *Calyx-tube* very short, lobes quite similar oblanceolate, .25 in. long, sparsely

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8. ACACIA SUMA *Buch.-Ham. in Wall. Cat. 5227 C.; Voigt, Hort. Suburb. 260; Kurz ex Brand. For. Fl. 187.*

Why Kurz should be quoted as the authority for this species is not clear; he himself (see *For. Flor. Brit. Berm. i. 421*) attributes the authorship to Buchanan-Hamilton. The *Index Kewensis* gives the citation in such a manner as to make it appear that *A. Suma* Ham. and *A. Suma* Kurz are different plants; it permits the latter to stand and reduces the former to *A. Sundra*. However, the citation in the *Index* shows that it is "*A. Sundra* Wall.," not *A. Sundra* DC. to which *A. Suma* Ham. is equivalent, and as it immediately afterwards reduces "*A. Sundra* Wall." to *A. Suma*, the *Index* corrects itself. Obviously, however, the authority to be cited is

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18. ACACIA P

1. VAR. *canescen*

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VAR. *macrocarpa* according to the vi

Typical *A. canescens* is common

India from Canar

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2. VAR. *arro*

stipular gland is, however, quite the same a

some specimens regarding which it is not eas

they should be referred to VAR. *typica* or to VA

diagnostic characters seem to be the pubescent

A. pennata) and the glabrous rachis prickly ben

times the rachis in *A. arrophula* is *pubescent*

unarmed. No one could possibly confound the

3. VAR. *pluricapitata* would also certai

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species. The petiolar gland is totally unlike that of typical *A. pennata* or that of *A. arrophula*

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6-8 on the proximal pinne, in all cases decreasing downwards, apex acute, base cuneate from the middle, 75-2.25 in. long, 4-1 in. wide, pale-green above, glaucous beneath, sparsely adpressed-puberulous on both surfaces; stipules minute. Ultimate branches of panicle umbellate. Calyx 1 in. long, puberulous externally, teeth minute, pedicels .05 in. Corolla twice the calyx, teeth lanceolate. Pod 6-8 in. long, 1-1.25 in. diam., rather firm, strap-shaped, the base narrow-cuneate, the tip blunt; pale straw-coloured, very faintly reticulate; seeds 8-10.

This distinct species bears no very close affinity to either of the species to which it has been referred. It agrees with *A. Lebbek* for which Mr. Gamble has taken it, in colour of pod and in having pedicelled flowers, but its leaves and leaflets are totally different. With *A. procera*, to which Mr. Clarke has referred it, it agrees in having the secondary rachises glandular as well as the main-rachis but the leaflets are quite different in shape and in colour, while its flowers and its pods in no way resemble those of *A. procera*.

The nearest Indian ally of the species is *A. lucida* from which, however, it differs markedly in size of leaves and leaflets and in having shortly pedicelled florets. Its nearest ally in the genus is *A. tomentella* Miq. (*Flor. Ind. Bat.* i. 20) which has leaflets similar in shape, size and disposition, but which differs in having the leaflets densely pubescent beneath and not glaucous, in having several glands (instead of one only) on the secondary rachises, and in having a broader, brown pod with a very different reticulation.

6. ALBIZZIA GLOMERIFLORA Kurz.

This species must be deleted. When Mr. Kurz published it as an *Albizzia* he was treating *Pithecolobium*, to which the tree really belongs, as a section of *Albizzia*. The true name of the species is *Pithecolobium glomeriflorum* Kurz (*For. Flor. Brit. Burm.* i. 430).

7. ALBIZZIA JULIBRISSIN Durazz.

This species must also be deleted. There has always been some doubt as to the occurrence of this tree in India. In the *Flora of British India* two varieties are indicated, viz., typical *Julibrissin* said to extend from Hazara to Sikkim and var. *mollis* (*Acacia mollis* Wall.; *Albizzia mollis* Boiv.) extending from Simla to Nepal.

There seems, however, to be no such thing as *A. Julibrissin* in India, in a wild state, and the writer doubts if it be even cultivated. Certainly no one has ever sent specimens of *A. Julibrissin* to Calcutta; all the specimens received with this name prove on examination to be either *A. mollis* or, much more frequently, misidentified *A. stipulata*.

(7) ALBIZZIA MOLLIS Boiv. *Encyclop. Sixième* ii. 33. *A. Julibrissin* var. *mollis* Benth.; *Bak.* in *Flor. Brit. Ind.* ii. 300.

This is quite entitled to specific rank. Add to localities:—

ASSAM; *Simons!* MANIPUR; *Watt!*

Though recurring again to the east of the Brahmaputra without having been reported from anywhere between Nepal and the Assam Range, the tree shows no more tendency to resemble specimens of *A. Julibrissin* from China and Japan than does the North-West Himalayan form to resemble specimens of *A. Julibrissin* from the Oriental region.

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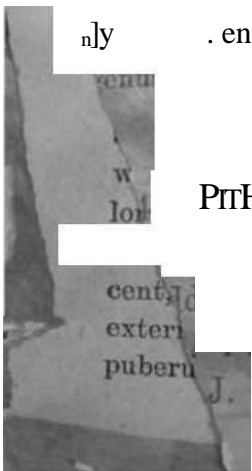
131. PTTFIBCOLOBIUM MAB

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in *Flora* xx. 2. *Beibt* 115

■.POUE ; *Ridley!* DiSTjWB. Borneo,



The pod is given as \ in. wide in **the F. B. I.** This is probably a misprint for' in. wide which is about the true size; Bentham in originally describin fl that it is as large AH that., of J\ fat ■■>», whidi is abort 1', - 1

6. PITFIECOLOBICM CONFKKTl.M *Smth.*

Add to synonyms of *F. B. I.*:—*Albizzia splendens* *Miq. Flor. Tn<t Bat. 8ti 18&*. Add :—DISTHIR. Sumatra (*Teysmann 422S !*)

Mr. Kmz has already pointed out (*Journ. As. Soc. Baig. xlv. 2. 1^* ■ribed by Mr. Bentham as *Pitltecholohium co;*< in 1H74, had i **Bribed** by Dr. Miquaclas-dfhuiut t rs **before**. It is therefore **pr** that Mr. **Bentham** never wwPr. **Hiquel's plant**, ttoidentity of which. **Trith P.**

■ in undoubted. But as Miquel drew up his **description** from leaf **Bpeoin only**, it seems **neither** to bo necessary nor **propose**, according t to **b** il rules of bibliography, to rename tho Bpecies *Pithecotot splendent*.

6/2. PITHECOLOBIUM NICOBARICCH *Train, Journ. As. Soc. Seng. lxvi. 2. 267*; branchlets glabrous, pinna? 2, leaflets 4, rarely with a gland near the middle oE main-mehis only, calyx campajauli pod not lobed. *Albizzia bnbalina* (Pit.liecolobinm bubal inn m) **K**

n. A. Sac. Beng. xlv. 2. 129 not of Benth.* *P. oppositum Kurz I. c. not of Miq,*

NICOBARS ; Nanoowry, *Jelinek* ; Kamorta, *Kurz !*

LeafleU papery rather rigid, ovate-lamvolmp, ^ifilirmiH, acute, ili- I by 1-4-1-8 in., proximal 1-2'5 by '5-1-2B in., **petioltdes dW** 1 iti. lanj. *li* ■H<<SP. *Calyx* *05 ih., pubescent, teeth deltoid. *Corolla* and *filament** not s *Pod* dehiscent along upper suture, 5-6 in. long, "75 in. wide, spirally **twisted**, valves i;ly **coriaceous**, glabrous, dull purplish-red. *Seeds* 8*10, orbicular-oviite, somewhat t-ompresed, '4 in. long, '5 in. wide, '25 in. thick, testa thin crustaceons, durk-pnrple, smooth, **shining**; arillos 0.

The Xicobarose name is " *Kaivas*." Mr, Kurz does not seem to have ae- •inien of *P. bubatinum* when he referred this tree to that species, or **whon** li<? 'nrluit *P. opposition* *Miq.* This is :U **OQCQ** distinguished **from** /'.

buba v its ilifferent fruits, nnd from *P. ojipositum* by its leaf-rnr **glabrous** not pubernlons and by its pini j 1-jugate not 2-jngate.

8. FITHECOLOBIDM MKHOCAltPl'M *Ht-nth.* Add to lociilities of *F. B. I.*:—POAK, very common. *B T. Anderson! Kurz! Ridley!* DISTBIfi. Sumatra (*fid** *Miquel*); Bomeij

-P- *oppofUvm* *Miq.* is very no:ir thin. Its* leaflets are not **distinguishable** "" **differs in having pubernlotui** petiolules and 2-jugnti¹ pimw, so that *iA* tliitt it :

u *MiqoeVs*, thoc **nsed**, Btnce tltat author **descdribe** -nens **on**

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D. Pi*ain — *Some additional LeguminoKre.*

It is not absolutely certain that *I'*, *fasdculatwm* Benth. is the same as *P. etUpti* a k , though it is probable that the two are one species. If this be HO, **however**, it is preferable, even then, to use HasskarFs **name because** Bentham's description does not so **well accord** with the characters of the plant and because Hasakar'l'a namo

he advantage of preserving the oldest specific epithet.

By a kip*" (!!! *Inlex* Kewen/sis gives *Inga elliptica* BI. as the **name, an** *Pithecolobium elUpticum* Haask. as a synonym for this species; the reverse is tl actual state of affairs.

Mr. Kurz identifies with this a species issued from Buitenzorg as *Pi: M'trfophyllum* Teysm. & Binnend., of **which** **Kurz*s** notice appears to be the earliest mention. The identification proposed, cannot, however, be **sustained**

though the loaves of *P. macrophyllwn* resemble those of I'

Mr.#Kurz
datum

, tHe

are altogether different, and are deeply lobed as in *P. lobatum*. mention dates from 1876 and as an American *P. macrophyUtum* Spruce, was published in 1875, it is necessary to rename Teysmann'B plant *P. Teysmanni*.

10. PITHECOLOBIUM LOBATOM *Benth.*

Add to synonyms of *F. B. I.*:—*Inga Jiringa* Jack, *Mai. Misce*
ii.7.78. *Acacia Kieringa* Royle, *III. Him. Pl.* 183. **Mimosa**
Djiriuga *Ro.cb. Sort. Beng.* 93.

Add to localities:—PENANG ; common. PEEAK ; common.
SINGAPORE : *Kunstler ! Hullett!*

It is not quite clear that *Him-ona Kaeringa* Roxb. and *M. Djiringa* Roxb. are the same. **Roxborgfa** describes the former as having seeds enveloped in an **edible** pulp; Jack says the latter has seeds without arillusj Reorders and Valeton say the seeds themselves are eaten.

10/2. PITHECOLOMCM GLOMKUifLORUM *Kurz, For. Flor. Brit.*
Burnt 430. *AAbizzia glomeriflora* *Kurz ex Bah. in Flor. Brit. Ind.* ii.
;i0

Being a *Pithecolobtinu* and not an *Albizzia* this epecica must be transferred **present** position.

10/8. PITHECOLOBIUM KUNSTLEEI *Train, Jouru, As. Soc. Beng.* lxvi.
I ; branclilets **eliffly pubescent**, pinnae 2-4, leaflets 6, leaves with
s on the radii a below the bases of pinnee and leaflets, caljx tubu-,
pod not lobed.

B **BBAK; KunsUer! Scortechini!** JOHORE ; *Lake \$• Kelsall!* DISTKIB.
ornoo.

A low spreading tree with stem 8-12 in. thick; bark brown. **'Leaflets** paleish-green, glabrous above, puberulous beneath, ovate with rounded bases and caudate-acuminate tips, **diatai** 3-4'5 in. long, 1-2 in. wide; lowest 1-2 in. long, '5-1 in. wide ■ racliis of terminal pinnae 4 in. long, of small basal pair, when

present, ' "t long only. *Heads* 4-8-fid., -5-75 in. wide, pedicels short **puberulous**, nrranged in lax terminal panicles. *Calyx* with spatulate pubescent braotoole, **tubular**, densely pubescent, "15 in. long, teeth short triangular. *Corolla* white, "5 in. lung, densely silky externally, tube narrowly funnel-shaped, teeth lanceolate 12 in. long. *Pod* with a puberuloiis stipe '75 in. long, spirally twisted, dehiscent nlonjr lower **suture**, 8-10 hi.

in. 1'

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— ANDAMANS; common, King's Col-

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7. ORTHOSIPHON BENTH.

* *lyx-throat naked; stamens included.*

6. ORTHOSIPHON RUBICUNDUS Benth.

V. *macrocarpa* VAR. *nov.*; leaves petioled, lamina very large
25-30 **OK** long, 12-16 cm. across, calyx in fruit 15 mm. long, 7 mm.
wide; petioles 5-7 cm. long.

BURMA; Attaran, Brandis 856!

This* is almost certainly specifically distinct, though it is evidently most nearly
the flowers in the specimens seen are not

[ami!

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leaves 8-10 cm., laminae 45 cm. long, 30 cm. across, of other pairs much smaller; stem between leaves and flowers 20-25 cm. long; racemes simple terminal 6-10 cm. long or with 1-2 pairs of similar lateral racemes in axils of larger bracts at intervals of 1-3 cm. below base of terminal raceme; whorls 6-fld., only .05 cm. apart, bracts 7 mm. long, 8.5 mm. wide, puberulous externally, glabrous above, margins not ciliate, pedicels 1 mm. long; calyx 5 mm. long; corolla tube 7-9 mm. long uniformly pubescent externally as are the lips, filaments inserted below apex of tube, 25 mm. long, stigma clavate subcapitate slightly notched.

Dr. Watt, who originally collected this very fine species, has again met with it in the Naga Hills and has presented an excellent flowering specimen to the Calcutta Herbarium from which it has been possible at last to make a complete description of the plant.

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On some noteworthy Indian Birds.—By F. FINN, B.A., F.Z.S., Deputy Superintendent of the Indian Museum.

[Received April 1st, Read April 7th, 1897.]

In the present paper I deal with a few occurrences of Indian birds noteworthy either on account of the rarity of the species, or by reason of their presence outside their usual ~ limits. Most of the specimens alluded to are in the collection of the Indian Museum.

I follow the nomenclature and arrangement of the British Museum Catalogue of Birds.

Bhytidoceros narcondami.

When at the Andamans in April, 1896, I obtained, through the kindness of Majors Temple and Graham, and Lieutenant E. C. Doughty, four specimens of this rare species, which had been recently obtained on Narcondam. The skins had been only roughly prepared, and not sexed, but the plumage and dimensions show them to be those of two males and two females. They are all moulting.

The colouring corresponds well with that given by Mr. Blanford (*Fauna of British India*, Birds, Vol. iii, p. 149), and Mr. W. R. Ogilvie Grant (*Cat. Birds Brit. Mus.*, Vol. xviii, p. 386). The tails are dirty, this no doubt being the grey stain noted in the British Museum catalogue description.

I take this opportunity of expressing my obligation to the Andaman residents for the kind hospitality and assistance afforded me on my visit to the Islands.

JPhasianus humise.

In December last Lieutenant-Colonel H. St. P. Maxwell, of the Indian Staff Corps, very kindly presented to the Museum a skin of this rare Pheasant, which he had obtained in the preceding month at Kairong in Manipnr.

The specimen, which is in the plumage of the adult male, agrees very well with the description in the British Museum Catalogue of Birds, Yol. xxii, p. 336, and with Mr. Hume's original description (*Stray Feathers*, Yol. ix, p. 461), except in that the longer upper tail-coverts are not plain grey, but are crossed by narrow dull chestnut bars.

Colonel Maxwell's specimen differs much more from a fine male from the Ruby Mines, the only other example of this species which the Museum possesses, being that mentioned by Mr. W. L. Sclater (see *Ibis*, 1891, p. 152).

In this latter the white fringing of the lower back and rump feathers is so extended that the general appearance of these parts is silver-white, irregularly mottled with black where the more basal colouring of the feathers appears, whereas the other bird's plumage shows here a beautiful scaled effect. Moreover the webs of these feathers in the Ruby Mines specimen are looser, and they are squarer at the tip. The difference in the individual feathers is shown in the accompanying woodcut, (which, however, much exaggerates the slight black terminal fringe in that of the Manipur bird.)



Manipur specimen.



Ruby Mines

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Merganser comatus.

A specimen of a Goosander, in very bad condition, sent to me in March of the present year by the Editor of the *Asian*, with the information that it was shot at Myitkiyana, Burmah, appears to me to be referable to the Eastern form. It is a female or young male.

Merganser serrator.

There is in the Museum collection an excellent specimen of this bird, not sexed, but by plumage a female or young male, obtained in the Calcutta Provision Bazaar on December 17th, 1889.

Contributions to the Theory of Warning Colours and Mimicry. No. III.
Experiments with a Tupaiā and a Frog.—By F. FINN, B.A., F.Z.S.,
 Deputy Superintendent in the Indian Museum.

[Received April 29th, Read May 5th, 1897.]

The only other animals, besides birds and *Calotes* lizards, with which I have systematically experimented, are a Tupaiā or Tree-Shrew (*Tupaia ferruginea*), and a Bull-frog (*Rana tigrina*); in each case a single individual only being used.

This being the case I have thought it as well to give the experiments on this Mammal and Amphibian together in one short paper, before dealing with the rest of the birds, my notes upon which much exceed in bulk all those I have hitherto published taken together.

EXPERIMENTS WITH A TUPAIĀ.

The Tupaiā used in these experiments was bought in the Bird Bazaar, in July, 1895, and kept for most of the time in the aviary which I had used for birds; it was fed on boiled rice, fruit (plantain) and cooked meat. It used its fore-paws to hold the insects it ate, after the manner of a squirrel, and from its tameness and keenness after insects was a very satisfactory subject to observe. With it I made the following experiments, in 1895, about the time at which some of my experiments with *Calotes* (*J. A. S. B.*, 1896, *Part II*, p. 42) were made.

July 15th. The animal being hungry, I offered it a *Danaus genutia*, which it took, but refused, apparently disliking the taste. I then gave it three non-warningly-coloured butterflies, which it was even less inclined to eat. All these insects were dead and rather dry however.

The animal had an hour or so before eaten cockroaches (*Periplaneta americana*) and plantain with relish.

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July 17th. I put in the Tupaiā's aviary, where there was still meat and fruit left over from yesterday, disabled specimens of *Danais genutia* and *limniace*, and *Euploea*, the last-named being that which I had removed on the preceding night. The animal smelt at, but did not take them, and an hour or so after they were still alive. I took out the *Euploea* and *Danais*, using the former again for lizards (see *Experiments with a Lizard*, under this date *loc. cit.*) and returning the two latter later, after the Tupaiā had had a fresh allowance of meat. They were both now dead; the *D. limniace* had been wounded and the *D. genutia* had lost two legs, but my notes do not state what had done this. At all events I now took them away finally.

July 18th. I gave the Tupaiā in the morning a *Neptis kamarupa* (uninjured) which it readily seized and ate. Some of the meat given the animal yesterday was still at hand.

July 20th. Being unwell to-day, I was indebted to Mr. R. D. Oldham, of the Geological Survey, for making some observations. He gave the Tupaiā (which was eager for insects, at any rate) a *Papilio aristolochiæ*, which the animal attacked and killed, eating its head. However, it was not eager for it, and left it to greedily devour a non-warningly-coloured specimen.

In the evening, though there was still some meat, Mr. Oldham found the Tupaiā had apparently eaten the body of the *P. aristolochiæ*; it then greedily ate a non-mimetic specimen of *P. polites*, and another non-warningly-coloured specimen.

Two *Danais genutia* were then hunted by the animal; one was killed, but not eaten, and the other not even killed.

On the 22nd I found a *D. genutia* dead and uneaten, but being attacked by ants, in the Tupaiā's cage, where there was also some meat and rice.

July 24th. I gave the Tupaiā a disabled *Danais genutia*, which it smelt at and pawed, but left unhurt.

I then put in a disabled *Papilio demoleus*, which it ate, leaving most of the wings.

A large *Catopilia* was then eaten more eagerly and entire. The animal had some meat left from yesterday.

The Tupaiā then ate two or three other non-warningly-coloured butterflies (one of which had been offered to *Calotes* (see *Experiments with a Lizard*, under this date, *loc. cit.* line 30).

In the evening I gave the Tupaiā (which had now only rice available) a larva of *Polytela gloriosæ*. This it did not seem to relish, as I saw it once flung aside and once dropped; but all, or nearly all, of it was eaten. These larvae are conspicuously coloured red, black and white, feed exposed, and do not appear to be touched by wild birds.

Another specimen was taken and dropped two or three times, and then left, still alive.

The Tupaiid shortly vomited freely, and then ate a *Papilio eurypylus* I had just put in. I saw it vomit when being brought from the Bazaar in a "gharry" however, probably from fear.

Soon after I gave it a *Papilio demoleus*, which it ate greedily. I gave disabled specimens of *Danaïis genutia* and a non-warningly-coloured species, previously offered to Lizards (*Experiments with a Lizard*, under this date, *loc. cit.*, line 32) to the Tupaiid, which ate the latter and smelt and left the *D. genutia*, which I used again for a Lizard (*loc. cit.*, line 36). The *Polytela* larva which it had tried, and which had been crawling about the cage, was now not to be seen.

July 25th. In the evening I gave the Tupaiid another *Polytela gloriosæ* larva, which it ate with less signs of dislike. It was seemingly hungry, and it did not vomit afterwards, but then I did not watch for this.

July 26th. I enticed the Tupaiid, which was hungry, into its small cage with a living *Catopsilia*, which it ate.

I then put in two dead *Catopsilia*, and a *Danaïis genutia* and *D. limniace* alive. One *Catopsilia* was soon eaten, and the animal then smelt attentively at the *D. limniace*, but did not touch it. It then found and seized the other *Catopsilia*, but only ate the head, if anything.

I then put in a living *Euploea*, which the Tupaiid smelt at and left.

Shortly afterwards, I found this and the two *Danaïis* still unhurt, while the *Catopsilia* left before had apparently been eaten, and another, put in alive, was also devoured.

About an hour afterwards the two *Danaïis* and the *Euploea* were still unhurt, though the Tupaiid had had no food, and readily ate a cockroach.

After this I sent the animal to the Zoological Gardens at Alipore, where it was placed in a netted cage with another. Here I made a few more experiments with it a few days later.

August 3rd. I offered to the Tupaiid (there was food, hard-boiled egg, in the cage) a *Papilio demoleus*, which it took and partly ate.

Then I put in a non-mimetic *Papilio polites*, which it ate all but the fore-wings and a piece of the hind-wings; it then ate all the rest of the *P. demoleus* except the fore-wings.

P. aristolochiæ was then taken, killed, and left. Then the head was eaten, and the body again left.

Three specimens of *P. demoleus* were then readily eaten in succession.

The body and hind-wings of the *P. aristolochiæ* soon disappeared, but I think I saw it under the sleeping-box in the cage, where no doubt

it had been taken by the other *Tupaia*. This was in fear of my animal, and had had none of the butterflies.

I put in another *P. aristolochiæ*, which was smelt at by both the *Tupaia*s, but not killed, though my animal then ate a *Catopsilia* given it.

Some time later I found this *P. aristolochiæ* dead, and slightly bitten, but quite whole, having evidently been rejected.

It is obvious that this animal has a very strong objection to the "protected" *Danaïas* and *Papilio aristolochiæ*, as it so constantly refused them, and that in the case of the former absolutely, unlike the Babblers dealt with in my first paper (*J. A. S. B.* 1895, Pt. II, p. 344), which birds, caged under much the same conditions, generally showed their dislike of the *Danaïas* merely by preferring other species.

EXPERIMENTS ON A BULL-FROG.

My experiments on this amphibian, which Dr. Alcock had been keeping for a little time for use in the Museum, and which he kindly allowed me to test upon this subject, were few and not long continued. But such as they are, I have thought well to insert them, if only for completeness. The experiments were made soon after I came to India, in 1894.

November 2nd. Offered a *Danaïa chrysippus* to the frog, which was being regularly fed on cockroaches; the butterfly was not touched.

November 10th. I put into the cage of the frog, instead of its usual meal of about a dozen and a half of cockroaches (*Pocipplaneta americana*), one cockroach only, and a *Delias eucharis*. Before long both insects had disappeared.

I then put in another *D. eucharis*, a *Danaïa chrysippus*, and a smaller non-warsingly-coloured butterfly. Later on I found the *Danaïa* was gone. The others apparently remained.

November 11th. No butterflies left in the frog's cage.

November 12th. I put in the frog's cage a *Terias*, three *Delias eucharis*, and three cockroaches.

November 13th. To-day there were no insects in the cage, and about five cockroaches were put in by Dr. Alcock, and a *Danaïa chrysippus* by myself.

November 14th. The *Danaïa chrysippus* given to the frog yesterday was still there, alive; I saw none of the cockroaches, but did not specially look for them. I took out the *Danaïa*.

November 15th. To-day I put a female *Hypolimnas misippus* and a cockroach in the frog's cage; there were also two or three more cockroaches. I did not note what happened next day.

November 17th. No insects left in the frog's cage. I now put in

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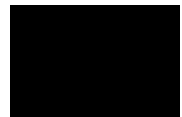
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 shaped, black, white-centered spots on the band twice as large
 and very conspicuous; the marginal line much more prominent.

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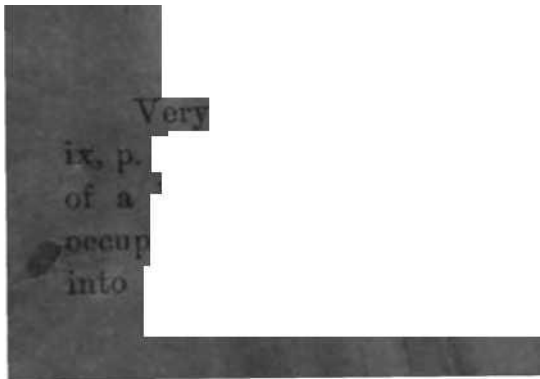
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the normal hyaline markings present and large, in *P. xenocles* they are smaller, and those in the discoidal cell and the four rounded spots immediately beyond it are sometimes nearly obliterated, though in some specimens they are all, or nearly all, fully developed; moreover in *P. xenocles* the ground-colour is browner, less fuscous, than in *P. phrontis*, and usually has a bluish tint or gloss which it never has in the latter. *Hindwing* differs in having the ground-colour of a more castaneous, less fuscous, colour, the anal chrome-yellow spot about four times as large, with all the hyaline markings more extensive, the one in the discoidal cell usually entire instead of being prominently divided into two markings. **UNDERSIDE**, both wings have the ground-colour paler, and the hyaline markings larger, and all more fully developed, instead of being more or less obliterated as they are in *P. xenocles*. *Hindwing* has the anal chrome-yellow spot many times larger.

Mr. Rothschild in Nov. Zool., vol. ii, p. 458, n. 203 (1895) notes that "If the Assam [and Burma] females are all of the dark colour, and the Sikkim and Bhutan females of the light colour, *P. xenocles* must be divided into two local races, of which the Assamese [and Burmese] one would be typical." I possess three females from Sikkim of *P. phrontis*, and eight females from the Khasi Hills and Tenasserim of *P. xenocles*, all of which appear to be quite constant to their respective regions, so that I am of opinion that they represent two distinct species or local races, rather than that the females are dimorphic, of which latter view of the facts there appears to be no evidence, though Mr. Rothschild says that the female of *P. xenocles* "is dimorphic."

Family HESPERIIDÆ.

2. *ODINA ORTYGIA*, de Nicéville, Plate II, Fig. 15, ♂.

O. ortygia, de Nicéville, Journ. A. S. B., pl. lxiv, pt. 2, p. 531 (1896).

HABITAT: Daung Range, Tenasserim, Burma.

EXPANSE: ♂, 1.45 inches.

DESCRIPTION: **MALE**. **UPPERSIDE**, both wings rich orange with black markings. *Forewing* with most of the veins outlined in black; the costa narrowly black, the apex widely black, the outer margin narrowly black; the inner margin still more narrowly black; the rest of the wing broken up by narrow black lines into spots of the ground-colour of various sizes and shapes. *Hindwing* with the costal, outer and abdominal margins all narrowly black, the rest of the surface broken up into irregular tessellations by intervening black lines. **UNDERSIDE**, both wings marked precisely as on the upperside. *Antennæ* black, the club (all except the whip-like point) almost entirely shining white beneath. *Palpi* black above; orange beneath. *Head* orange, but with a

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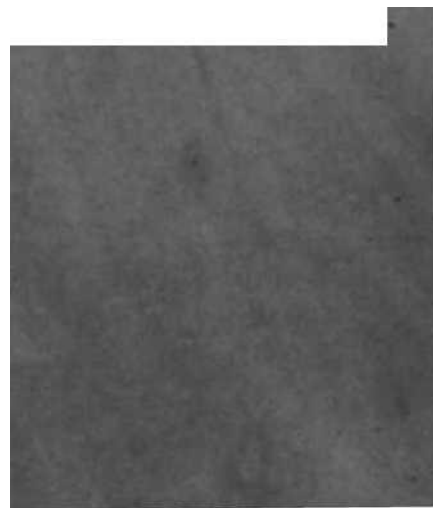
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was represented by a single specimen and is probably rare. The most interesting satyrid was the *Ypthima* which I have recently named *Y. cerealis*; this was the only species of the genus met with, and it occurred in great numbers but only within very restricted areas, owing no doubt to the unequal distribution of its food-plant; one of its favourite haunts was among the low bushes which grow on the bunds of the paddy-fields at the bend of the river, but it also occurred some miles away from these fields on high bare ground where the bushes were few and scattered.

Among the *Nymphalinae* there is not much of interest to record, the only species met with being *Ergolis ariadne*, Linnæus, *A. phalantha*, Drury, *Junonia lemonias*, Linnæus, *J. almana*, Linnæus, *J. hierta*, Fabricius, and *J. orithyia*, Linnæus; *Neptis leucothoe*, Cramer (form *eurymena*, Butler); *Hypolimnas bolina*, Linnæus, and *H. misippus*, Linnæus, of these the last species is rare in Burma, and to the best of my knowledge is only found in the more arid tracts, and I have no record of its occurrence south of Mambu on the Irrawaddy.

Some sixteen species of *Lycaenidae* were met with; the dry-season form of *Chilodes leius*, Cramer, occurred commonly, also *C. trochilus*, Freyer; *Zizera lysimon*, Hübner, was fairly common, and did not appear to differ from Indian specimens; *Z. otis*, Fabricius, of which *Z. sangra*, Moore, is a synonym, occurred in great numbers, this species in all its forms is quite distinct from *Z. indica*, Murray, originally described from Allahabad, which occurs commonly in Southern India. The difference between the two species does not lie in the shade of blue or extent of the black margins on the upperside as some writers have tried to make out, since these characters vary seasonally, there is, however, a well-marked and constant difference in the discal row of spots on the underside of the forewing, in *Z. indica* these spots are invariably prominent and black, encircled with white, in *Z. otis* they are brown, hardly darker than the ground-colour of the wing, and are encircled with gray, so that they do not stand out at all conspicuously, this difference will be found to be absolutely constant in all the seasonal forms, and can be readily recognised if Burmese and Southern Indian specimens be compared, though I am unable to say if the two species meet and occur together in any localities; if good series are compared other slight differences will be noticed in the marginal markings and disposition of the spots on the underside of the hindwing. *Azanius jesus*, Guérin, (the oldest name for *A. gamra*, Lederer), occurred rarely among *Acacia* bushes; Burmese specimens do not differ perceptibly from Indian ones. This is a rare species in Burma, and is only found in the arid tracts. A single specimen only of *Lycaenesthes lycæmina*,

T. callinara is a quite distinct species from one I have in my collection from the Deccan, the latter being the *T. extricatus* of Butler, which has the markings on the underside much more linear and run together than in *T. callinara*, in which they are rounded and well separated. The correct synonymy of the species of this genus is doubtful as neither *T. nara*, Kollar, nor *T. theophrastus*, Fabricius, can be identified with any certainty without an examination of the type specimens. *T. callinara* is I think without doubt identical with *T. theophrastus* as identified in "Butterflies of India," though not with the *T. theophrastus* of the British Museum, which includes several distinct species, and Mr. Butler informs me he does not now consider his *T. extricatus* to be distinct from *T. nara* as identified by him. *T. callinara* within Burmese limits is strictly confined to the dry tracts of Central Burma. *T. alteratus*, Moore, and *T. venosus*, Moore, both appear to be perfectly distinct species. I therefore recognise five species of this genus as occurring within Indian limits: *T. plinius*, which is found throughout the Indian region from Ceylon all over Peninsula India to Assam and Burma; *T. callinara*, which probably sinks to *T. theophrastus*, and is as widely distributed as *T. plinius* but affects drier localities; *T. extricatus*, which probably sinks to *T. nara*, and is confined to the dry regions of Western and North-Western India and the Western Himalayas; *T. alteratus*, confined to the North-West Himalayas; and *T. venosus*, confined to the North-West Himalayas and the plains of North-West India. *Castaneus rasimon*, Fabricius, and *Polygonatus horticus*, Linnæus, occurred commonly, and a single specimen of *Amblypodia anita*, Hewitson, was obtained. I have recently been able to examine the types of most of the described species of *Amblypodia*, and find that the common purple species which occurs in Burma is certainly the *A. anita* of Hewitson described from Siam, and that *A. darana*, Moore, and *A. naradoides*, Moore, are also synonymous with it, the males of the three named forms appear quite inseparable, while the females in Southern India and Ceylon are dimorphic, *i.e.*, either blue or purple on the upperside, one form being almost as common as the other; in Burma, however, the purple female is the prevailing form and the blue female is excessively rare. This species occurs in Siam, the Andamans and throughout the greater part of India. *A. narada*, Horsfield, the type of which is in the British Museum and which was originally described from Java, is a quite distinct species, the male is much more blue than *A. anita*, and the female, which is purple, has a large extent of purple on the upperside of the hindwing. *A. andersonii*, Moore, is, as stated in the "Butterflies of India," almost without doubt identical with *A. narada*. A third species of the genus is the *A. erichsonii* of

Felder, the male of which is very brilliant blue with a broad black border to the forewing narrowing to the outer angle, this species is in the British Museum from the Philippines and Borneo. *A. taouana*, Moore, of which the type is in the British Museum, appears to be identical with *A. erichsonii*. *A. arracana*, Grose Smith, is also probably referable to the same species. *Aploneus tjama*, Horsfield, occurred rather rarely, and a second species which I identify as *A. schistaceus*, Moore, was slightly more common. This latter species belongs to the *vulcanus* group of the genus, and is the only one of the group recorded from Burma.

Among the *Pierinae*—*Catopsilia catilla*, Cramer, *C. crocale*, Cramer, and *C. gnoma*, Fabricius, were common, this last is probably the dry-season form of *C. pyranthe*, Linnaeus, and has many other names, but I am unable to say which is the oldest. *Nychitona xiphia*, Fabricius, and *Nepheronia hippia*, Fabricius, (= *grea*, Felder), occurred commonly, and *Delias descombeni*, Boisduval, and *D. hierte*, Hübner, rather rarely. A single male of *Appias vacans*, Butler (the dry-season form of *A. hippo*, Cramer) was obtained in December. *Appias zelmira*, Cramer, and *Huphina dapha*, Moore, were exceedingly common; the extreme rainy-season race was not met with, all the specimens obtained from November to March being either of the typical dry-season race or forms intermediate between the two races. *Terias hecabe*, Linnaeus, occurred commonly in its typical form during November and December, but almost invariably in bad condition, the dry-season form, *T. excavata*, Moore, occurred commonly from November to January, and was replaced during February and March by the extreme dry-season form, *T. swinhoei*, Butler. Yellow forms of *Irias* occurred in the utmost profusion, and showed the usual seasonal variation in the breadth of the dark margins on the upperside, and in the tone and markings of the underside; most of the specimens caught were typical *I. moulmeinensis*, Moore, though several were typical *I. pyrene*, Linnaeus, and a few typical *I. pircnassa*, Wallace, while there were many intermediates between the three forms.

The only *Papilio* noticed was *P. demoleus*, Linnaeus (= *P. erithonius*, Cramer), which was excessively common.

Among the *Hesperiidae* no species could be said to occur commonly, but a few specimens were obtained of *Baoris (Chapra) mathias*, Fabricius, *Baoris (Parnara) bada*, Moore, *Telicota augias*, Linnaeus, and *Hesperia galba*, Fabricius. A single sex was obtained of *Taractrocera zicla*, Plötz, a species recently found to occur in Burma; also a few specimens of a *Padraona* which I identify as *P. miosoides*, Butler, as well as of a second species which I believe is undescribed.

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JOURNAL ASIATIC SOCIETY OF BENGAL.

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Vol. LXVI. Part II.—[^]NATURAL SCIENCE.

No. IV.—1897.

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e. The former was taken by a *Liothrix*,
choice.

chrysippus, *D. limniace*, and a *P. polites*; none
Liothrix found and took a non-warningly-
was taken.

chrysippus, with a *P. demoleus* and a *P. polites*,
specimen, which was picked out by a

ly from a *D. chrysippus* and ate the
mentioned above, and I suppose dropped
w a *Liothrix* eat an *Euploea*; and soon
ce, and another take a *D. chrysippus*
utton-Quail. The *Papilio*s were still

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also one *D. limniace*, one *Euploea*, and several *D. chrysippus*.

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When I put in the butterflies I had reserved, the *Danais* was first attacked, then the *P. polites*; the *P. demoleus* was left a little time, then it disappeared, as the other two species had done.

III. I put in two *Danais chrysippus* and one *D. genutia* and three non-warningly coloured butterflies. The Liothrix took the latter first; then one took the *D. genutia*. The female Button-Quail appeared and ate the two *D. chrysippus*, but she had no fair chance at the others.

A *Papilio aristolochiae* put in was not touched by any of the birds. But a few hours after only a wing was left.

I put in one *D. chrysippus* and *Euploea* and two or three non-warningly coloured ones. These were taken first.

I put in a female of *N. hippia*, which was eaten by a Button-Quail.

I put in some *Danais* with *Huphina phryne* and other non-warningly coloured specimens where the Button-Quails could have a choice; they did not seem eager for any, and certainly did not pick out the non-warningly coloured ones. A Liothrix went on tearing a *Euploea* even among these, and I think ate it.

Soon the Button-Quail ate a greyish butterfly, and a Liothrix took one of the *H. phryne*, while two *D. chrysippus* were still left.

An *Elymnias undularis* ♂ was in a corner, so I put it between the two *D. chrysippus*, whence a Liothrix took it.

In the evening I put in one each of *D. chrysippus*, *D. genutia*, *D. limniaca*, and *Euploea*, with a similar number of non-warningly coloured butterflies. The Liothrix deliberately picked out three of these; I did not see whether they got the fourth. The Button-Quail swallowed the *D. chrysippus*. Then a Liothrix took the *Euploea*.

IV. Next day, the *Danais limniaca* put in yesterday had been eaten. I put in an *Euploea* with two *Nepheronia hippia* ♂. A Liothrix took the *Euploea* first, before I was fairly out of the aviary. *Only the undersides of the *N. hippia* were visible.

When all these were eaten, I put in two *Papilio demoleus*, two *P. polites* (not much like *P. aristolochiae*), and two *D. chrysippus*. A *P. demoleus* was first taken, by a Liothrix. *P. polites* seemed to be looked at by these birds with some suspicion; yet one was soon taken, and another seized, pecked, and left, by them. This specimen, however, and both the *P. demoleus* (one of which I think was swallowed by the female Button-Quail) disappeared before one *Danais* did. This, however, afterwards disappeared.

V. Next day, I put in one each *Danais chrysippus*, *D. genutia* and *Euploea*, with three non-warningly coloured butterflies. The Liothrix took at the first attack the *Euploea* and two of the non-warn-

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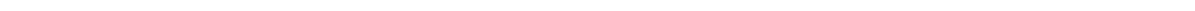
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ed Bulbul soon after attacked another *Catopsilia*, but allowed the Chloropsis (which had previously been attacking these) to take it. The Red-whiskered Bulbul then attacked a male *Hypolimnas*, and ate it with less trouble than the *Catopsilia*. It then attacked another *Catopsilia*, which a *Liothrix* somehow got, and the Common Bulbul also wanted it. The *Liothrix* did not seem eager, and another of these birds got the insect, and afterwards the Chloropsis had it.

Then the Common Bulbul ate a bit of a *Catopsilia*. It then made two or three flights to where the *D. limniace* and *Euploea* were sitting uninjured on the wire-netting, but did not take either. However, it took and ate whole the *D. chrysippus*, the first "protected" butterfly eaten on this occasion. But the *Catopsilia* in the possession of the Chloropsis was now the only non-warningly-coloured butterfly visible.

The *Neptis* and *Acræa* had also disappeared, but I saw no wings about, nor did I see them eaten; probably they got through the netting. The Chloropsis now succeeded, apparently, in eating the body of the *Catopsilia*. There were plenty of maggots.

About an hour afterwards the remaining butterflies (*Euploea*, *D. genutia*, and *limniace*) were gone, some wings only of the *D. limniace* remaining.

In the evening I put into the aviary (where there was plenty of fruit, but no maggots, these having been taken out) one specimen each of *Neptis*, *Euploea*, *D. genutia* and *limniace*, and several non-warningly-coloured butterflies.

The Chloropsis soon took a *Catopsilia*, which it ultimately ate, I think. A *Liothrix* took the *Neptis* (the wings only of which I found afterwards), and the Red-whiskered Bulbul a *Catopsilia*, which it apparently swallowed. The Common Bulbul took a male *Hypolimnas*, which escaped, but the bird caught it again and with difficulty swallowed it. A *Liothrix* took and picked a *Catopsilia*, which I think it ate; I found no body.

While one *Catopsilia*, the two *Danais* and the *Euploea* were still left, I put in another *Neptis*, which a *Liothrix* took at once.

The Yellow-vented Bulbul seized a *Catopsilia*, which escaped; this was the first butterfly touched by it to-day. Ultimately a *Liothrix* ate nearly the whole of this specimen. Before this also the second *Neptis* had apparently been eaten.

When the birds had roosted the *D. genutia*, *D. limniace*, and *Euploea* still clung uninjured to the netting.

XVIII. Next morning, only the *Danais limniace* was uneaten, of the butterflies left over-night, and this was headless; later on the body also had apparently been devoured.

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tried carefully and rejected. *Danaüs chrysippus* was also tried and rejected, and *Delias eucharis* barely touched even, while *Junonia*, *Atella phalanta*, and another non-warningly-coloured species were readily eaten as also was a *Catopsilia*. The bird tried to catch a *D. limniace* and one or two *D. chrysippus*, which escaped. The sweeper removed the *D. chrysippus* and *D. eucharis*.

In the evening the bird ate, with persuasion, two *Junonias*, but would not eat *Papilio polites* (non-mimetic) nor *Euploea*. Finally just at dusk it ate with persuasion a *Huphina phryne*. It had food with it on both occasions, but the meat was stale in the morning.

November 25th.—In the morning the *Papilio polites* left overnight was gone, the *Euploea* being left. There was food in the cage.

I gave the bird two more *P. polites* on the floor of the cage, one mimetic, and one not. It took the non-mimetic specimen first, and ate it, then the mimic, but showed no great eagerness in either case. I then put in a *P. aristolochiæ*, which was tried and rejected. Then I put in four *Junonias* and one specimen each of *Delias eucharis*, *Danaüs genutia* and *chrysippus*; the *Euploea* and *P. aristolochiæ* still remained there. One *Junonia* was eaten at once; then the *D. eucharis* was picked up and dropped; then two more *Junonias* were eaten, and the fourth taken up and dropped. This action the bird apparently repeated once or twice (judging from the insect's varying position in the cage), but it finally ate it when offered by hand.

To-day it seemed not very eager for any butterflies.

In the evening, when the bird was hungry, I gave it (having transferred it to the aviary) dead specimens of both the mimetic and ordinary forms of *P. polites*. It took the non-mimetic form first and ate it, and then took and ate the mimic. I then put in one specimen each of *Euploea*, *Danaüs chrysippus*, *D. genutia*, and three *Papilio demoleus*, all alive.

The bird took and dropped the *Euploea*, and took and mauled, but did not kill, a *P. demoleus*. Later, when the bird had gone to roost, I missed this specimen, but found all the rest untouched, and removed them. From appearances next morning I think ants ate the *P. demoleus*.

November 26th.—The bird was not hungry when I gave it, in the afternoon, two *Catopsilias*, and one each of *Papilio demoleus*, *Euploea*, and *Danaüs chrysippus*, all dead, the *Euploea* and *P. demoleus* being the specimens I had taken out last night. One *Catopsilia* first disappeared; I saw the bird attacking these. Then the bird ate some meat and left the other butterflies. It would not eat the other *Catopsilia*, even when pressed, nor the *D. chrysippus*, which I also pressed on it. I then again pressed it to eat the *Catopsilia*, which this time it consented to do. I

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I had taken out last night, with two more *D. chrysippus*. Soon after one of the *P. polites* had disappeared, although the other, with the three *D. chrysippus* and the *P. aristalochis* were left. This I observed after I had let the bird out, unfortunately to meet the fate above described.

About this time I also experimented with a Shama (*Kittacinsla macrura*) one of the smaller or Robin-like members of the great Thrush group. These birds, as every observer knows, peck their prey to pieces, and do not use their feet to hold it, thus differing widely from their relatives the Babblers, which are a more tropical group. The Shama, however, and many other Thrush-like birds inhabit the Oriental region. This bird was hand-reared and very tame, and I experimented with it in a cage, feeding it on maggots, meal-paste, and small green (dried) insects.

With regard to the probability of birds of this group attacking butterflies, I may say I have seen a Redstart (*Ruticilla sp. l.*), in nature, at Dehra Dun, seize a very large *Catopsilia* I put out for it, decapitated, and apparently ~~it~~ satisfactorily disposed of it.

EXPERIMENTS WITH SHAMA.

November 26th.—I put in the Shama's cage a *Catopsilia*, and afterwards another non-warningly-coloured butterfly, a small greyish species. Both disappeared and were doubtless eaten by the bird.

November 27th.—I put in the cage of the Shama (which was not hungry) a *Catopsilia* and a *Danais chrysippus*. The bird was soon pecking at the former, which shortly disappeared; the *Danais* had also been pecked. A moment after the bird was attacking this, but the body remained uneaten, though most of the wings were picked off. I soon after put in a *Delias eucharis* and a *Junonia*, the latter of which was immediately pecked about and eaten, while the *Delias* was pecked once or twice and left. I then put in another *D. chrysippus*, which the bird pecked to pieces, but did not eat; it then pecked about and ate a male *Nepheronia hippia* which I put in. A little time after this, I found that the abdomen of the second *Danais* given had disappeared; I put in a third specimen and two *Catopsilias*, both of which latter the bird pecked, and then started to attack one, disregarding the *Danais*, and soon ate it. Then it began upon the other, which soon disappeared. The (body of the) first *Danais* given, and the third, with the *D. eucharis* remained uneaten. However the bird soon attacked this third *Danais*, but did not eat it. I then put in four *Catopsilias*, which were immediately attacked, and soon disappeared, the three "protected" specimens being still left. I then put in two *Papilio demoleus*. These were attacked, but less eagerly, but ultimately part of one was apparently eaten, and most of the wings stripped from the

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EXPERIMENTS WITH STARLING.

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there was no food in tho cage, I put in one speci <

lUtf Eitthalla, Pa The *Euthalia*

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Later on I pu i in again, ml a *Gatopsilia*.

The *Catopiilia* out i, and I left the rest, pattii

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and the *Junonia* lay oataide ; none had been eaten. I put back

those found outside, and added another *D. euchar*

After tho bird had ro= i the cage and found none of
ies eaten.

\Uh.—Although there i 3 in the Starling's cage,

i butterflies! left overnight (two each *AteUa phaldnllia* and *D.*
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Delais cuckaris, a wing or BO of th* 7). *Hmniace*, and the
 head of one *P. demoleiis*. Tli ired, all but a
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 At night, though at one ; in the afternoon I font
 the cage, when I gave the bird so insects, this *D. chrysippus* and
Vfc were still nneatj
D Vtth.—The two butteriiiieti left overnight, and sonic gi
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 and a *P. demolens*. Immediately the bit him and
 greedily swallowed it. wliole, and very soi *P. deinoleu*,
 I then put in a *Danais* ■-e and three *P. d* ts. The
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 attacking the *JJanai*^ he audit apparently .
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 The *D.* een so long in the cagff was also
 ken up, but the *D. eucharis* remained. I now had the cage
 cleaned, and the butterflies romoved. *December 18th.*—I gave
 the Starling, which had foot! *Papilio aristolochiie*, together
 with, a *P. deinohus*. The the *P. a.ristolocliim* and took and
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 I then put in a fresh *P. arisloloclnm* and an *Atclla pkalat* The
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 I then offered a *Neptis* and a *P. demoletts*. The
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T, Red-ved species of Bulbuls in bengalensk and sa emeria) when they *~ould eat bi at all (some wer.

little discrimination, and often devou

as readily as other k Theco in this r- d Liothrix, when kept under the same conditio

■ilow-vc-nten spec hucotis) though the only

ird bj whic vr Acr;> ■•x moro discriminating o 'inae, and all thr id Pu'f ftolochiss.

ted Bulbul the experiments were too few i : f mnch use, bi; »ua not o be very The Bntton-Qmiil (Tumix taigoor) was also very ready to eat th

But I do not consider the tastes of this little ground-bird of any im- ice, and in id not keep it for experiment.

The Bulbuls offer a more serious difficulty, as they are very com- birds, and undoubtedly do ea- ,u a wild state. I have

myself seen a wild indivi me of the -Red-vented forma eat a hita butterfly. Experim d bo made by those who have the pportunity with wild Bulbuls getting their own food.

Mynahs (Acrzdotheres tristis) in the few experiments made, cared for butterflies, or d no great discrimination when takin

them, though at libe.

Though most birds which ar ill insectivorous with which I or wild, showed more or less desire for butterflies omo we i at all, Crows (Oorvus splendens) for instance.

T conclude from these experiments—

1. That there is a general appetite for butterflies among inse us birds, even though they are rarely seen when wild to attac them.

2. That many,, probably most species, dislike, if not intensely

(,t any rate in comparison with other butterflies, the " of the warningly

3-olmred " Danainss, Acr&a vioUe^ Deliaseztcluzris, and Papilio

aristolochite;

■most distasteful, and the *Danainm* the least of these are at any rafe relatively palatable and that the mimicry is commonly effectual under natural conditions.

4, That each bird has to separately acquire its experience, and well remembers what it has learned.

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toNieoville, who has so identified tb< urnon but with g.

It has *tho* sexual
margini es of wit on the tipper-bide of the hi are
ite and prom; .inly distinct from the two species wh
follow. It wJI mally described from J;

25. aoa) PiNWiLLi, Sutler.

LO species last named,
TficeVi the
ininsula and Sumatra.

A (Penoa)

roFei the
: rom:n'k t]iat

Java.

27.
Saml- Air. Elw< ibawa
ttter n:i
ly fi-om Peralfc specimens in h the
him]wing shorter and whiter. JHo
?cen from Bali. P< Lwes'
specimens are wliaf-
Feldor.

2B, *I. . (Crastia enstechi
Lombok (*Fruhttorfer* ibawa (*Parjt*

We are unable to identify this spSciea from the description and figure
iu Jahx. ties Nass. Ver. fiir Natur., vol. xlix, pi. iii
ma- "'>) w^11 anything in oui p. Fruhstorfer tr,
i the subgi

2;- r Vadebr;

Recorded by Dr. Pt,

Samba (*lhi*

33, 1

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,]. xiv. (1891)3
1. IX, pt 2, p, 1 L).

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ginllv

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Suraba (D

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■ty. aba (*Dohertif* and
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I. EUPL(EA (Salpinx) w imelin.
Bali (*Doha'ty*).

Sambaw. f). Mi .leseril
wa." pee malt- tale
of this :f> is ai . Guc'iiin, but as a
description is required Cor eai cimen owing- to the lity
▶ t nauiu it ou fcbis material. Sec

13. tIREi, Moore-

EIS *hwml*. mbawa (Di
Doheily, but he iuf
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"Lale fl Nicevi

Ei rty.

i Recorded by 1
in botli hia p; -There is *one* un.
collection.

Bah), **Lombok** (!'\uhstorfer), **Sambawa**, Sumba
abricina.

• rty).

47. i WAVEWA, Doherty.

Lombok (*Frithsi-* rabawa, Sumba (*Doherty*). The ITyi
Smitb, Miiv. Zool., vol. ii, 11(1895),
Smith, Sambn by Dr. PRJ
bombokbi almost certainly mymo
Smith duscib from Samban^ra, Adi *md*

M

■ on.

Bali (/).

50. LETHB I

li *iDolwrty*), Lombo:

61. L ir.

Bali {*J*}o' heer P. C. 1* Sntllen m Tijtl, TOO;
xxxv, p. 4, n. 4 (1892), says that If-

re; but this is iucon ire abund*
in the female sex, o le the ground ;h wings
in

is ferruginous, in *I*), *vumtkara* it is dull ochreous;
he diseal inacular band of the fort nd highly
Ejled, iv i tb a d n pile a ted snbapioal iv vth ile *D. man tkura* has tl
discal baud inconspicuous, curved (instead of angli
with no si il white spot; while on the luiulwin, snb-
.1 black spots are mn in *D, r*,
The m , though *D. manth*
mac

LET

Bnli (*Dah?rhp*, Lombok (*Fritl* -:i, Sunaba (D<

LETHE DYBTA, Felder.

Bali (*Dokerty*), Lombok (*F* ;>a\va (*Doherty*).

YPTHIMA LEUcn, Doberty.

nbok (*Fruistorftr*), Sambawa, Samba *i* y). Mr, T)olt
tribea tlio eei-mark of the male of this species as " whitish," l)iu
is in this species, as in all the species of olt it ia nfc,
more or lesa black. Thin is the species from Floras given by
Mynheer
P. C. T. Snellen in Tijd. voor Ent., vol. xxxiv, p. . 12, pi. sv, iig. 1,
•>ah (1891), as *Y. baldus*, Fabricius.

55. IMAHOI -re.

Bat Origin scribed from Jav

TPTHIMA PHJLOMELA, Johanssen.

(*Doherty* and *Fvu.* \, Lombdfc
lfeagenstecher as *l&us*, \ s). This in
£jlwes^l monograph of the genus (Tnt P'

pi. J, figs. 15,

! lat<

Oapt. fcj. I. Watson's remark on these species in Journ. Bomb. Nat. Hist. Soc. vol. x, p. 60, n. 40 (1897), with which de Niceville agrees.

07. *YPTHEMA HUBBNERI*, Kirby.

Sumba (*Pagenstecher*). This record requires confirmation we think, as the species has never before been obtained out of the continent of Asia except in Borneo. Dr. Pagenstecher gives *Y. philomela* of Hübner from Java as a synonym, species with six ocelli in pairs, while *Y. huebneri* has only four ocelli, arranged one and three. He also gives the *T. florensis* of Snellen, from Flores, as another synonym, but this surely is an absolutely distinct species from either of the others, as it has only two very large ocelli on the underside of the hindwing, as figured in Tijds. voor. Ent., vol. xxxiv, p. 235, n. 11, pi. xiv, fig. 3, *wile* (1891). Dr. Pagenstecher makes three mistakes in the reference to this species, the page is 235 not 225, the plate is 14 not 4, and the figure is 3 not 3a. In de Niceville's opinion *Y. florensis* is a synonym of *Y. asterope* Klug.

18. *YPTHEMA ASTEROPE*, King.

Sumba *CDoh*

59. *ELUTES MEDURA*,

Horsfield. Bali (*Doherty*).

60. *MELANITIS ISMENE* f, Cramer.

Bali, Lombok, Sambawa, Sumba (*Doherty*). Mr. Doherty and Dr. Pagenstecher record this species under the name of *M. leda*, Linnaeus, but according to Dr. A. G. Butler, that species is confined to Amboina (Ent. Month. Mag., vol. xxi, p. 246 (1885)). Mr. Fruhstorfer records both *M. ismene* and *M. leda* from Lombok. This is probably a mistake. The species is markedly affected by dry and wet weather, probably Mr. Fruhstorfer keeps distinct the ocellated and non-ocellated forms, which de Niceville has bred the one from eggs laid by the other.

61. *MELANITIS CRUENTULA*, Fruhstorfer.

Lombok (*Fruhstorfer*). From the figure of this species in Berl. Ent. Zeitsch., vol. xli, p. 386, pi. ix, fig. 5, *female* (1897) it appears to be quite a distinct species from *M. ismene*. Mr. Fruhstorfer says it is a local race of *M. belinda*, Grose Smith, Nov. Zool., vol. ii, p. 79, n. 10 (1895), from Adonara. It is more than probable in de Niceville's opinion that Grose Smith's name will stand for the species.

Sr . Samba t

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as ■ *tidiensis*, Fruhstorfy).
Sambawa a known from
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lularte) or Timor : de NV
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same sex of *B.grotogmiay*. Craftier, the¹
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Bali {*Boh* from I!
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priority. Mr. Moore in Lep. 1
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been compared toget They are probably one and

ELTJINIAS (HeljBtas) PRSTIIXTATA, I
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jombok (*Fruhstorfer*). Originally describ Tin

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IAS (Melynioides) E^v. lie, n. sp.

JITAT ; Bali, 2 000 feet, March, 1891

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I bat species.

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pupoi' le Niceville nnd Elwt

AMATHUSIA paini! u.

Bali (*Doherty*), Lombok (D

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Bali (I ')•

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Lom"bok (*JPrui*)

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72.
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(T)

73. ZEDXIDU I. Jliibuer.
Bali (DoJierty).

74. CsiRotfE ARCRSILAU, Fab
Bali

Snbfamily A.

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Sumba [

^PARK_{ilA} VESTAL-

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78. #EHOUSMEB Cramer.

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! tA, Drury.

•ATELI

d.fferent from , . de Nic|¥il1<; has ft from Uw K^ lala,

1897.] L. de Nicéville—*List of the Butterflies of Bali, &c.* 683
and Cairns in Northern Australia. *A. propinqua*, Miskin, described
from Australia, is a synonym of *A. egista*.

CETHOSIA PENU: ., Cramer.

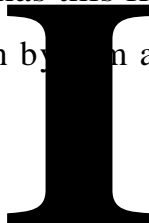
Fruhstorfer, *Barl. Eat. Zoit*_{sch}, vol. *];, p. m2 (1897)

Bali, Sambawa, Sumba (*Doherty*), *hombok* (*Fruh**)

\r

lie has this from Bali, Lombok and Sumba ,

taken by n at K



collections.

84. CETHOSU NARMADA, Fruhstorfer.

in our

G warmoa., Prnhscorfer, Eerl

p. 38

Lombok, Sam

S, de Nic n.

i (*Doherty*).

Ex <?, 2-9 and 13*2 indies.

DESCIUPI fALB. UITEK 7, i-a-

si

...a, Fruhstorfer, from
marginal black areas much narrower, thus leaving the discal and
red areas much larger, occupying the whole of the discoidal cell in the
forewing instead of the posterior half only; and in the hindwing leaving
quite free the outer discal series of round black spots, instead of extending
right up to and more or less including them. *Forewing* has the sub-
apical oblique reddish-ochreous instead of whitish,
much larger s in *O. narmada*, in the latter the an-
te is widely separated from the two
ones. *UNDERSIDE, both wings* have the ground-colour much
narmada it is heavily suffused with black; the discal pale
series of mafkiaga and ^ nnmol,ou ^ species. FEMALE RU-

rior of the throe subapical spota

<< band ia mnch broader in the present

The figure of *Gnar, nada* does not agree with the specimens 3 m dR
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and on diving¹ fche enter series o
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while Lombok has only one sp

from Sumba, is ver*

ofti ,e-rfimed species. I have : ii-om Kala«

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ler, p. 137.

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species: "A single male, Samba, in: niunon in

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•liana) ..., Moore.

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ix, pi. N

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Jimba (! 7).

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kerty), Lombok (*FVuh&torfer*), Sai . Suml

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Doherty

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probably also the Lombok

ONIA VILIDA, Fabricius.

Sumba (Ifcft,

QaKy described

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NewGumeaand the Solomon Isles. Mr. Do!
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VTaJl*

to him by Mr.

Dohex-tj. *JCKORIA OCYALE,

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Dht

a, Snmba
the abo *Li«na*u, the
the above-named islands is mwe 1 race;
Pag- her also record*
no ftom Sumba in both I :ipers.

NEPTIS (*liahinda*) HORDONIA, Stoll.

h

Lombok

Sumba

)1. NEPTIS BATAEA, Moore.
Bali (1>

102. NEPTIS vth

Bali (Do?



103.

Bali, Lombok, Sambawa (*Dotterhf*), Lombok (*Fruhstorfer*).

104. NBPTIS SDMBA, Doherty.

Lombok (*Fruhstorfer*), Sarabawa, Snraba (*Doherty*). We have one male from Sambawa and both sexes from Lombok which we identify

fh this species, described by Doherty as *N. nandina* [=w>m<i], \ mmba. He says that a somewhat different form froit Jumba one occurs in Sambawa.

105. NEPTIS SUSRUTA, Moore.*

Bali ! y). Bali specimens absolutely with Sutnafer* specimens.

106- *NEPI Lepertiin

Bali (*Frnhstorfer*), Sumba (Pag MTr. Fruhstorfer credit this species to Esper. It is probable tliat our A", *susi-uta*, Moore, is same species as Frohsfcorfer's *N. aceris*. The latter is usually li ^cted to, Europe, Central and Northern Asia and Japan,

Dr.

jjjiens also are probably *N. «as»*

107. NEPTIS (Phffidyra) *ihhk*, Cramer.

Bali (*Doherty*), Lombok (*Frnhstorfer*), Sambawa, Sumba (*Dohe* It is a little remarkable we think that no species of *Gisrhochroa* appear • occur in any of the islands treated in this paper, as &t least foi species are found in Java.

108. *HYPOUMNAS MISTPPOB, Limire

Lombok (*Frthsturfer*), Sambawa, Sumba (*Doherti*)

109. HYPOLIMNA MA, Linnaeus.

Bali (*Dokerty*), Lombok (*FruJistorfer*)f Sarabawa, Sumba (*Doheri*)

110. *HTPOHMNAS SAUNDEEST, Wallace.

Samba? (*Doherty*). It was originally described from Timor.

111. HYPOUMNAS ANO.MA.LA, Wallace.

Bali (*Doherty*), Lombok (*Frnjistarfer*), Sambawa ? (*Dohsrty*)

112.. LEIU y). ETA, Fabrici US.

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129

Bali (*Doherty*), Lombok (*Fru* I, Sambava
form of the female is f is not known
yellow form also occurs in tbafe isl or what
i'o Bali; both forms fly together in Jav.

130. SYMOIESTHIA HTISELTS, Godart.
Bali (: ,). Agrees exactly with Jav; (

131. RHINOPALI , Fein
Bali (

<Ii {*Doherty*}; Lombok |

133. Crrr 3iaken-Somm<r.
Bali, Sambawa (*DoJier-*

134. CYRESTIS H
Lombok (*Frttlistorfer*)^ Sambawa %r 8

135. CVRBSTI^ FEUHSTOUIPERI, Rtiber.
C. fruh Bober, Ent. Nach., vol. xxii, p. 300 (If
Lombok (*Fruhstorfer*).

136. Ci'BESTiti LOTEA, Ziuker-Soniiner.
Bali (/)

137. CYKESTI3 t'ERUNDE; 18.
Bali, Sambawa (*Doherty*).

138. CYRESTIS (Cheri-
Bali (*DoJierty*).

139. CYRESTIS (Cl

Bali, Lombok

uore are

om Lombok. It has mid-colour of Hie uppers
 ith wings much paler than in V hreous areas
 fore wing are larger, co ntly the black band 1 of
 lial cell is uai r, with only one suWpical white dot.

141.

Lombok (*Frvhetorfer*). In do E le's col n there is a single
 female of this ape It has the ground-colour of the uj.-
 le.of

>uch deeper ferruginous than in *D. hisnltidn*. Or th«
 black band «t the eud of the discoid&l cell of the fore wing broader, the
 tawny band beyond narrower, with four snbtipiejil white dots ; the wing is
 also much more falcate, and the apex more prodneed than in *Z*). *bisaltidc*
 The hindvHng is very deep ferruginous {castaneons) coloured instead of
 fulvous. VVe possess no males of either species from Lombok.

142. AXES (Eulepiri) ATUAIAS, Drury.

Tubawa, Suniba(*Doherty*). Mr. Fruh-
O. phrtxuS) Rober, from Lomb »ecies considered by
 Dr. A, 0. Bn a of *O. oil* 5oc. Lond.,

6).

143. *CUAUAXES CEnlepis) BATAVIAKBB, Fribetorfer.

ok (*JPruhttorfer*). Mr. Frnbstorfer writes to de
 NicevilJc
 that he intent <lescribe this local race of *O. athn* I
 ory,
 in Ent. Nach., vol. xxiv (1808), from West Java and Lombok.

144. *CHARAXBS (Enlepis) ALi'Hius, Staudinger.

Lorabok (.FW/w/or/er), Sambawa (*Butler*). Mr. Fruhstotfer records
 this species from Lombok na I *mas alpkins* Dr. Butler gives
 it
 full specific rank.

145 ?AIUXEK (Eulepis) FALLAX, Rober.

Loinbok (*Frukstorfer*). Mr. Friihstorfer rec- species froi
 Lorabok as *C attains*, Felder%aud places *O.failax*, Rober, as a synonym
 of it. Dr. Butler gives *O.'fallax* full specific rank (1. cM p. 385, n. 95),
 and places *O. attains** Felder, as var. 5 of *G. atJtamas*, Drury. Mr. Kruh-
 storfer writes to dc Niceville that be intends to describe in Eift. Nach.,
 vol. xxiv (1898) th iea he records as *O.* as *G> attains* '

bokianus, that he has seen the type of *C. attains*, and that *C. fallax h*

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Butler (1. a, p

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Xatur., vol. xlix, p. 1 ■>

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But tu Timor, the male of which is

151.

li (*Dohertif*).

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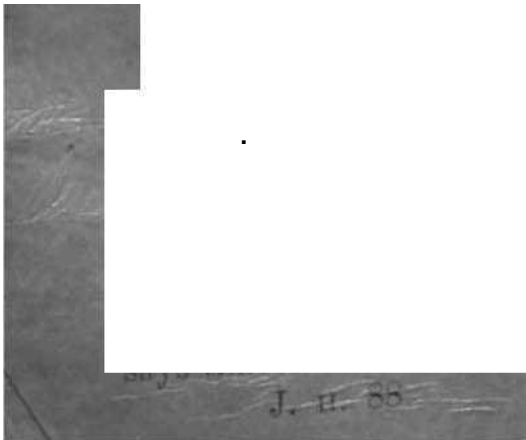
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J. H. 88

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pi. xxxi, figs

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Bali (/

168. SPA

j.

Bali, Sambawa, Sumba (*Doherty*).

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L*0, Curr.A tr.ne, Freyer.
Bali, Sambawa, Sumba(2)<

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17 . Snollei
bok (F f^{er})- Identical

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176. *Zi; i, Lvimen.
•.va, Sumba Mr. DoKerl

177.. ZiZERi OTIS, Pabricin
B^ imbok (i r), Sai Dokerty). Mr,
tea unt!

Hubuer.

Suruba ? (DoJierty) Doherty records ft third f il
OB from Sumba, wliicU can only be Mils we U I i <

ENESTHEI 1

Lombok (Frnhstorfer).

N PHAMDA I.ATA,
Mr.

Pallas.

'nijiniorfer), Si a, SumHa (Dohery). Mr.
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ji/), Lonibok (Fruhslvrfer).

iba (Di

Bali,. Sam bawa,

209. Pot ntBiis.

Bali, Lombok, Sa'mbawa, Sumba

■•). Mr. 11 • this name "

210. *A \, Horaileld.

aba (J echer).

211. *IRAOTA ; i Stoll.

Saiub;

!. *A ARAXES, Felder.

Sutnb ter in his second paper n

We inust awaift Mr !I.

Bakar's monograph of thi allied geui fore arriving at a final
identificatiou Sumba form.

215. Ai , Hewitson.

Bf.' y\ ilr. Elwes notes that the blue coloration on I
upperaide of mdwing extends more nearly margin
than in typical Indian specimens, thereby reducing the width
of outer black border.

210 V-

jmbok (Fruhistorfer).

217- AKRHOPALA APIDANUS, Cramer.

hstorf< .wa {!>•

)oherty i'l-

212.

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d of the Bitttt

or.

Samba (Deherty). T! ien
in Lombok.

Li (*Doherty*), Lombok (*Fruhstorfer*), Sambawa, Samba
(i'a\$<

227. • IAs*

Bali (*Doherty*), A single male specimen received. Mr. **Blwee**
tl, tha blue coloration on tUe apjper^ide o£ the forewinj
d comes nearer to **the a**
ter species of the gonus possessed by him, and **that** it is perimp-
hona, B iott

228.

ZBI. Bali

PabriciuB.

230.\, Frukstorfer.

H , itadu, , p. H3 (1897).
, Lombok (*Fruhstor/er*).

[ORAGA BBLULLA, FraKstorfer.

Sambawa [*Doherty* and *Fnihstotf*

232. MABMESSUS RAVINDHA, Horsfield.

Bali (*Doherty*).

233. LOXDBA ATYMNUB, Cramer.

Bali (*Doherty*), **Lombok** (*Fruhstorfer*)> Sarabawa, Sumba (*Doherty*),

234. ^ARAOTES LAPITHIS, Moore.

Bali (*Doherty*).

2S5. DBUDOWX. EPIJABBAS,-Moor

Bali (*Doherty*), Lombok (*Fruhstorfer*). Mr. Fruhstorfer apella

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1. *Podiceps cristatus*. The Great Crested Grebe.

In January 1896 I procured from the Calcutta Bazaar a fine specimen of this species, which, however, had its legs broken or dislocated at the hock. In consequence of this, though the feet retained their normal position, it was quite helpless on land, and could only paddle very feebly in the water.

I nevertheless kept it for some days closely confined in a small cage, in the hope that the injured limbs might recover, but although the bird after a day or two fed well upon fish, and seemed strong and lively, its feet got no better, and when I ultimately turned it out on the Museum compound tank it soon disappeared, having probably drifted ashore and been stolen, or fallen a prey to some jackal.

When confined, though as above noted, it took ordinary fish readily (I have seen it eat a dozen as long as large sprats and thicker, and then want more) it did not seem to like prawns, nor would it eat a small siluroid fish which I offered.

On two occasions I saw it deliberately eat one of its own feathers which came out while it was pluming itself, an operation in which, like Grebes generally, it was exceedingly assiduous.

It did not, however, reproduce either feathers or fish-bones in the form of "castings," as suspected by Yarrell (*British Birds*, Vol. IV, p. 121, Fourth Edition); I am certain of this, having had the bird under such close observation. I did, however, notice that its excrement was gritty, as if containing particles of comminuted bone; and I think that anyone who reads the evidence given on this point by Thompson in his "*Birds of Ireland*," Vol. III, pp. 173-189 (reference given by Yarrell *loc. cit.*) will agree with me that there is every reason to believe that this points to the conclusion that no castings are formed, and that feathers and bones are either actually digested or passed out in a comminuted condition.

This bird was of course in winter plumage, but kept its short ruff and ear-tufts expanded when in the cage. It had the bill pink except the upper chap at the tip along the ridge and down to the nostrils where it was dark lead-colour. The iris was brilliant red.

Owing to the crippled condition of the bird I was unable to make any observations as to the power of walking in this species; but this deficiency I was able to supply when at home on leave last October, a young bird having been acquired by the London Zoological Gardens. This specimen, as my own had been, was very savage, drawing blood freely from my hands when I attempted to make it move. Although inclined merely to squat and shove itself along, it could and did walk, but with reluctance, and for a short distance only, standing up on its toes

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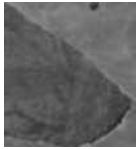
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