

THREE NEW SPECIES OF RHYNCHOSIA LOUR. (FABACEAE) FROM INDIA

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In the course of our revisionary studies on the genus *Rhynchosia* Lour. (Fabaceae) the authors came across few specimens which on critical studies proved to represent new species. They are accordingly described with illustrations in this paper. These species are easily distinguished by the key given below.

Key to the species

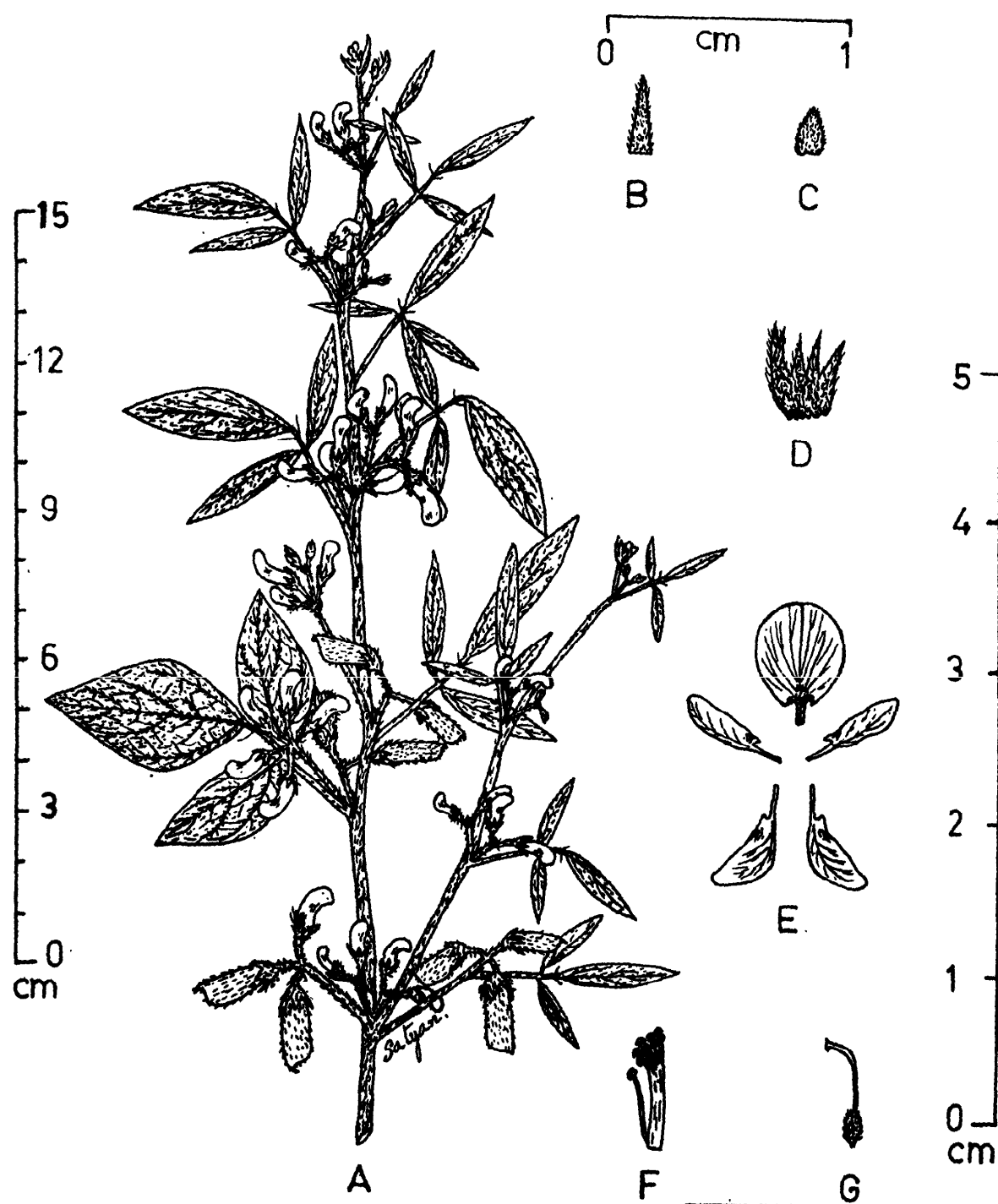
- 1a. Erect shrubs. Leaves \pm 10 cm long. Racemes less than 4 cm long. Flowers few; pedicels erectopatent. Pods puberulent or glabrescent. Seeds sub-strophiolate :
 - 2a. Leaflets dimorphic, entire, stipellate. Flowers 2-5. Pods puberulent *R. fischeri*
 - 2b. Leaflets monomorphic, with folded margins, exstipellate. Flowers strictly in pairs. Pods glabrescent *R. hainesiana*
- 1b. Twining shrubs. Leaves \pm 30 cm long. Racemes more than 30 cm long. Flowers many, pedicels recurved. Pods velvety. Seeds non-strophiolate *R. meeboldii*

Rhynchosia fischeri Satyan. et Thoth., sp. nov. (Fig. 1)

In habitu et in characteribus paucis ceteris *R. canae* DC. similis, sed differt pilis mollis sericeis, floribus 2-5, calycis dentibus inaequaliter divis, ovario pubescenti, seminibusque substrophiolatis.

Shrubby, branches erect, woody, terete, pubescent with white soft, silky hairs. Leaves trifoliolate, 4.5-9.5 cm long, petiolate; stipules 0.3-0.45 cm long, linear or lanceolate, acute or acuminate, longitudinally striated, pubescent on both sides;

petioles 1.5-3.3 cm long, erect, puberulous, resinous gland dotted, petiolule of the terminal leaflet 0.5-1.1 cm long; stipels 0.05-0.15 cm long, setiform, often caducous; leaflets diamorphic, 2.2-5.0 \times 0.8-2.8 cm, older leaflets broadly elliptic or ovate, mucronulate at apex, cuneate or rounded at base, entire, younger leaflets narrowly lanceolate-elliptic, acuminate at apex, cuneate at base, entire, puberulent above, downy below. Racemes axillary, 1.3-3.3 cm long; peduncles erect, 0.4-1.8 cm long, silky pubescent, resinous gland dotted. Flowers 2-5; bracts ovate-lanceolate, \pm 0.2 cm long, acuminate, pubescent on the outer surface, persistent; pedicels erect, 0.2-0.4 cm long, minutely pubescent. Calyx campanulate, 0.5-0.6 cm long, teeth unequally divided, linear or lanceolate, acuminate, densely pubescent with spreading silky hairs. Corolla exserted, 0.7-1.0 cm long; vexillum 0.8 \times 0.6 cm, ovate-orbicular, rounded at apex, claw \pm 0.2 cm long, auricle \pm 0.05 cm long; wings 0.5 \times 0.2 cm, narrowly obovate, rounded at apex, claw \pm 0.25 cm long, auricles minute; keels 0.8 \times 0.3 cm, boat-shaped rounded at apex, claw \pm 0.25 cm long. Stamens 10, diadelphous (9 + 1), staminal column \pm 0.65 cm long, anthers uniform. Ovary \pm 0.2 cm long, pubescent, style \pm 0.6 cm long, curved, broadened above, stigma capitate, ovules 2. Pods 1.2-1.7 \times 0.5-0.6 cm, oblong, puberulent, inflated,



Rhynchosia fischeri Satyan. et Thoth.

Fig1. A-G : A. Branch with flowers and pods. B: Stipule. C. Bract. D. Calyx. E. Vexillum, wings and keels spread. F. Staminal sheath. G. Pistil.

beak minute, incurved, 2-seeded; young seeds sub-reniform, sub-strophiolate (Mature seeds are not available for study).

Fls. & Frts. : November.

Type : India, Dimbam; \pm 1165 m, Coimbatore district, Tamil Nadu, 15th Nov. 1906, C.E.C. Fischer 1374 (Holotype, CAL).

Rhynchosia fischeri sp. nov. resembles *R. cana* DC. in habit and shares a few other characters, but differs in the soft silky hairs, 2-5 flowers, unequally divided calyx teeth, pubescent ovary and sub-strophiolate seeds.

The species is named after the collector, C.E.C. Fischer.

***Rhynchosia hainesiana* Satyan. et Thoth., sp. nov. (Fig. 2)**

In fructibus *R. canae* DC. et *R. fischeri* Satyan. et Thoth. similis, sed differt foliis exstipellatis, foliolis monomorphis, anguste lanceolatis, marginibus plicatis.

Shrubby, branches erect, resinous gland-dotted, softly or minutely hirsute, hairs stiff or bristly, spreading, white canescent. Leaves trifoliolate, 1.2-2.4 cm long, petiolate, exstipellate; stipules 0.1-0.15 cm long, linear, persistent, pubescent; petioles 0.4-0.7 cm long, angled, minutely pubescent, petiolule of the terminal leaflet 0.1-0.15 cm long; leaflets monomorphic, 0.6-1.5 \times 0.1-0.4 cm, narrowly lanceolate, acute at apex, cuneate at base, margins slightly folded towards lower surface, greenish with glandular hairs above, white silky with minute hairs below. Racemes axillary, \pm 1 cm long; peduncles 0.2-0.5 cm long, erect, grey pubescent. Flowers 2; bracts \pm 0.1 cm long, subulate, densely canescent, persistent; pedicels 0.2-0.3 cm long, erect, filiform, grey pubescent. Calyx campanulate, \pm 0.3 cm long, tube short \pm 0.1 cm long, teeth unequally divided, pubescent with glandular hairs. Corolla \pm 0.5 cm long, exserted; vexillum 0.5 \times 0.4 cm,

orbicular, rounded at apex, claw \pm 0.1 cm long, auricles very minute; wings 0.4 \times 0.1 cm, narrowly obovate, rounded at apex, claw \pm 0.1 cm long, auricle \pm 0.05 cm long; keels 0.45 \times 0.15 cm, falcate, rounded at apex; claw \pm 0.1 cm long. Stamens 10, diadelphous (9 + 1), staminal column \pm 0.5 cm long, anthers uniform. Ovary \pm 0.1 cm long, glabrescent, style \pm 0.5 cm long, slightly broadened above, much curved, stigma capitate, ovules 2. Pods 1.0 \times 0.5 cm, oblong, glabrescent, beak incurved, 2-seeded.

Fls. & Frts. : March.

Type : India, Angul forests, Orissa, Mar. 1917, H. H. Haines 3995 (Holotype, CAL).

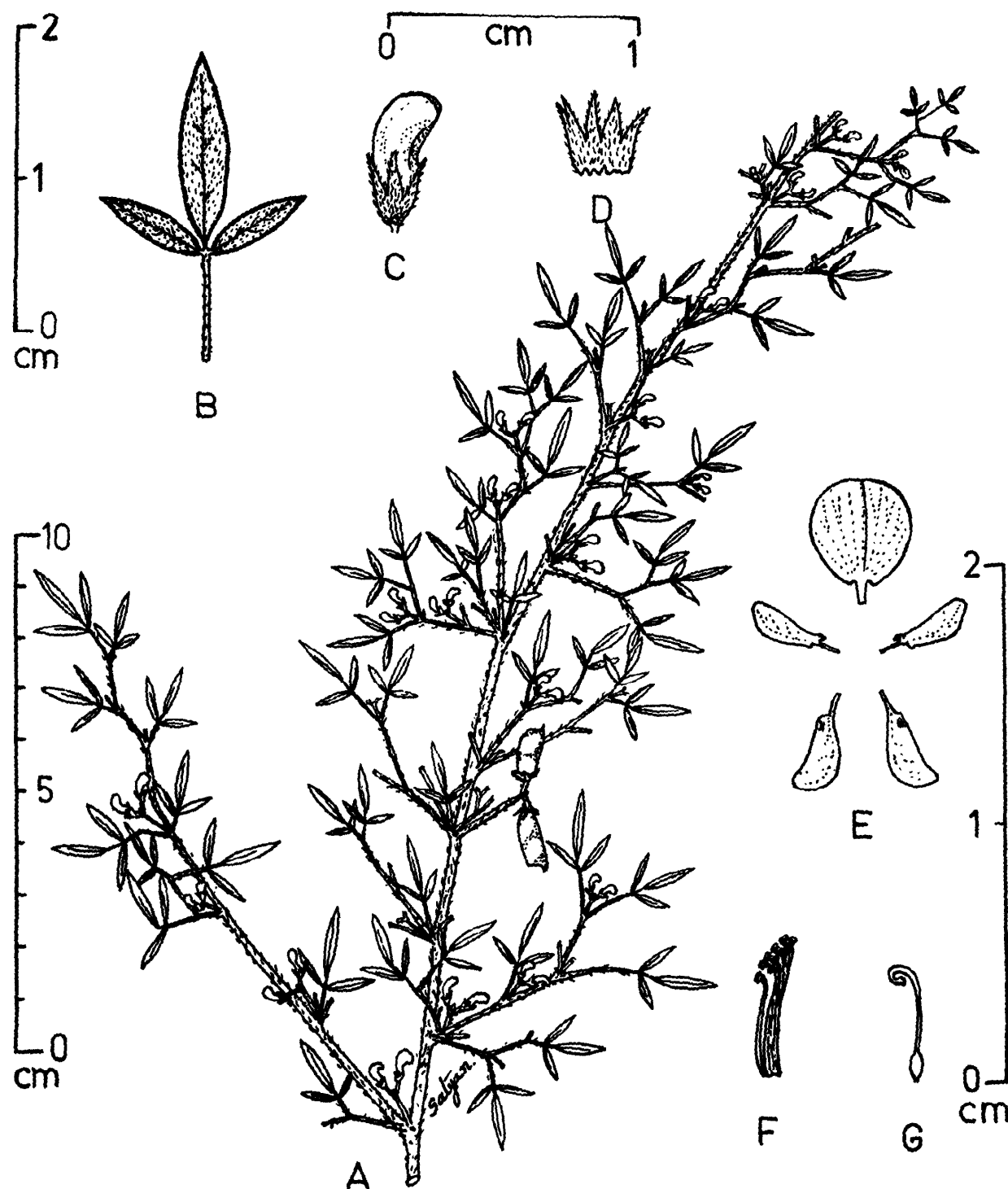
Rhynchosia hainesiana sp. nov. has pods similar to those of *R. cana* DC. and *R. fischeri* Satyan. et Thoth., but differs in having exstipellate leaves; monomorphic, narrowly lanceolate leaflets, with folded margins.

The specific epithet of this taxon is proposed in honour of H.H. Haines.

***Rhynchosia meeboldii* Satyan. et Thoth., sp. nov. (Fig. 3)**

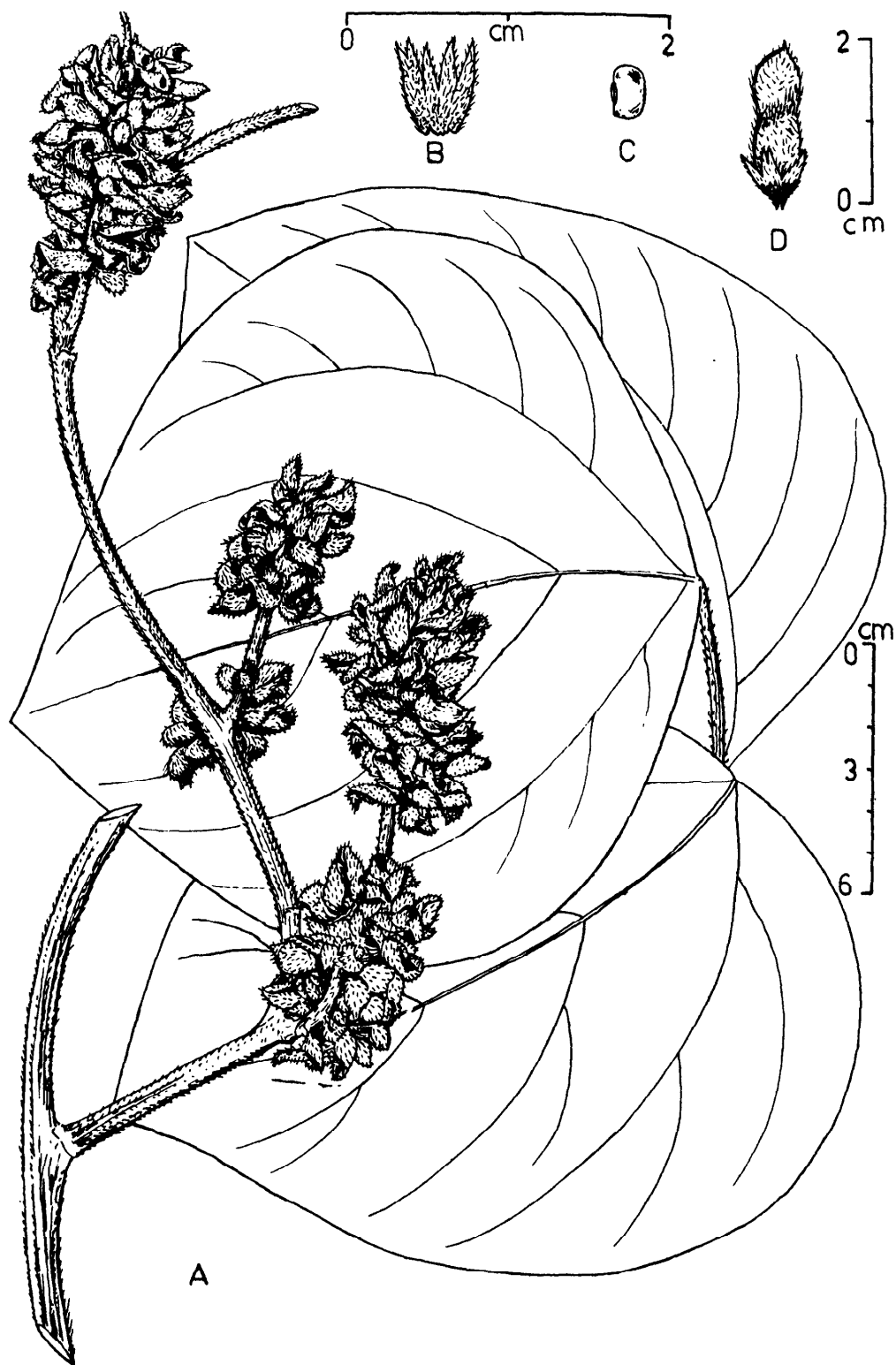
R. hirtae (Andrews) Meikle & Verdcourt similis in inflorescentiis, formisque leguminum, sed differt foliolis membranaceis, puberulis, acutis, calycis lobis anguste acuminatis, dentibus tubum plusminusve aequantibus, leguminibus calycem multo superantibus, seminibusque parvis, sub-reniformibus oblongisve.

Twining shrubs, branches woody, slender, terete, densely grey silky tomentose, hairs spreading. Leaves trifoliolate, \pm 33 cm long, membranous, puberulent, petiolate; stipules caducous; petioles \pm 10 cm long, grey silky tomentose, petiolule of the terminal leaflet \pm 5 cm long, pubescent; stipels narrow setaceous, \pm 0.5 cm long; leaflets 17.5-19.5 \times 16.5-17.5 cm, broadly ovate-orbicular, acute at apex, rounded at base, entire, puberulous on



Rhynchosia hainesiana Satyan. et Thoth.

Fig 2 A-G : A. Branch with flowers and pods. B. Leaf enlarged. C. Flower. D. Calyx. E. Vexillum, wings and keels spread. F. Staminal sheath. G. Pistil.



Rhynchosia meeboldii Satyan. et Thoth.

Fig 9. A-D : A. Branch with pods. B. Calyx. C. Seed. D. Pod.

both surfaces, nerves pubescent. Racemes axillary, more than 33 cm long, grey silky tomentose. Flowers many on lax peduncles; peduncles woody, erect, grey silky tomentose; bracts lanceolate, \pm 0.5 cm long, densely silky pubescent, caducous; pedicels 0.3-0.4 cm long, recurved, filiform; grey silky tomentose. Calyx campanulate, 0.5-0.8 cm long, tube 0.2-0.3 cm long, teeth 0.3-0.5 cm long, upper one slightly 2-cleft, narrow acuminate, grey pubescent. [Corolla, stamens and ovary are not available for study]. Pods 1.8-2.2 cm long, oblong, velvety, mixed with long silky, straight hairs; seeds 0.3-0.4 \times 0.2-0.3 cm, sub-reniform or oblong, dark, non-strophiolate.

Frts. : December.

Type : India, Naga hills, Shibong, \pm 1000 m, Dec. 1907, A. Meebold 7582 (Holotype, CAL).

Rhynchosia meeboldii sp. nov. resembles *R. hirta* (Andrews) Meikle & Verdcourt of the subgenus *Cyanospermum* Wight &

Arnott in inflorescence and shape of pods, but differs in membranous, puberulent, acute leaflets; narrow, acuminate calyx lobes; teeth \pm equalling the tube; pods much exceeding the calyx and small, sub-reniform or oblong seeds.

This species is a rather uniform entity that seems most closely related to the subgenus *Eurhynchosia* Wight & Arnott, especially with regard to larger, membranous leaflets, narrow, acuminate calyx teeth and pods much exceeding the calyx. It differs from *Eurhynchosia* in its inflorescence and pod characters. However it represents mixed characters of both the subgenera, namely *Gyanospermum* and *Eurhynchosia*.

The species is named after the collector, A. Meebold.

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