

## NEW TAXA IN CAPPARACEAE

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### ABSTRACT

During a revision of Capparaceae for the Flora of India Project, three new taxa were observed which are described below. Two species viz. *Capparis srilankensis* and *Stixis nayarii* do not occur in India proper whereas *Cleome viscosa* var. *nagarjunakondensis*, as it presently known, is confined to Andhra Pradesh in India.

***Capparis srilankensis* Sundararaghavan  
*sp. nov.***

Differt a *C. l. nilgiriensis* Subbarao *et al.* ovario ovoides non rostrato, baccis globosis vel subglobosis, rubellis ubi vivis, atris ubi exsiccatus; pericarpio laevigato, nec irregulariter corrugato nec verrucosa et seminibus 20-32.

Closely allied to *C. nilgiriensis* Subbarao *et al.* but differs in the ovoid, non-beaked ovary, berries globose to subglobose, reddish when fresh but drying black, pericarp smooth, neither irregularly corrugated nor warty and seeds varying from 20-32.

Shrubs or trees, 3-15 m tall, diameter 10-18 cm at base; bark grey fissured; branchlets terete, flexuosus, unarmed, sparsely pubescent but early glabrescent; cataphylls few, linear, 2-3 mm long. Leaves drooping from branchlets, drying greenish-yellow, puberulous when young, at length glabrous; lamina ovate to elliptic-oblong, 6-9 × 2.2-4.0 cm, subcoriaceous, base tapering, margins entire, top obtuse or retuse, lateral nerves 5-7 pairs, reticulation not conspicuous; petiole 0.9-1.4 cm long, canaliculate. Flowers axillary solitary or

2-3 clustered, white, showy, 2.0-2.5 cm long, brown-pubescent. Sepals 4, subequal, concave, densely pubescent; outer pair ovate, 5-6 × 2-3 mm, obtuse, inner pair ovate-elliptic, 6.5-3.5 mm. Petals 4, unequal, white with maroon blotches, obovate, 1.5-1.8 × 0.5-0.6 cm, pubescent, base attenuate, clawed, tip rounded to obtuse. Stamens 14-18, exerted; filaments glabrous, 1.8-2.6 cm long; anthers basifixed. Gynophore 2.4-2.8 cm long, exceeding stamens, glabrous, slightly incrassate but not much elongating in fruits; ovary ovoid, faintly ridged, brown pubescent, 3.0-3.5 × 2.2-2.5 mm, tip rounded, not beaked; stigma sessile; placentae 4, ovules many. Berries bright red, drying black, globose to subglobose, 3.5-4.5 × 3.0-3.5 cm borne on a slender stalk 2.8-3.0 × 0.15-0.18 cm; pericarp smooth, thin with scurfy white tomentum becoming glabrous on rubbing, mesocarp white, soft; seeds 16-24, reniform, 8-11 × 6-8 mm, aril creamy, slimy [Plates I & II figs. 3 a, b].

SRI LANKA : Rahuna National Park, 23rd April, 1969, Mueller — Dombois 69042201

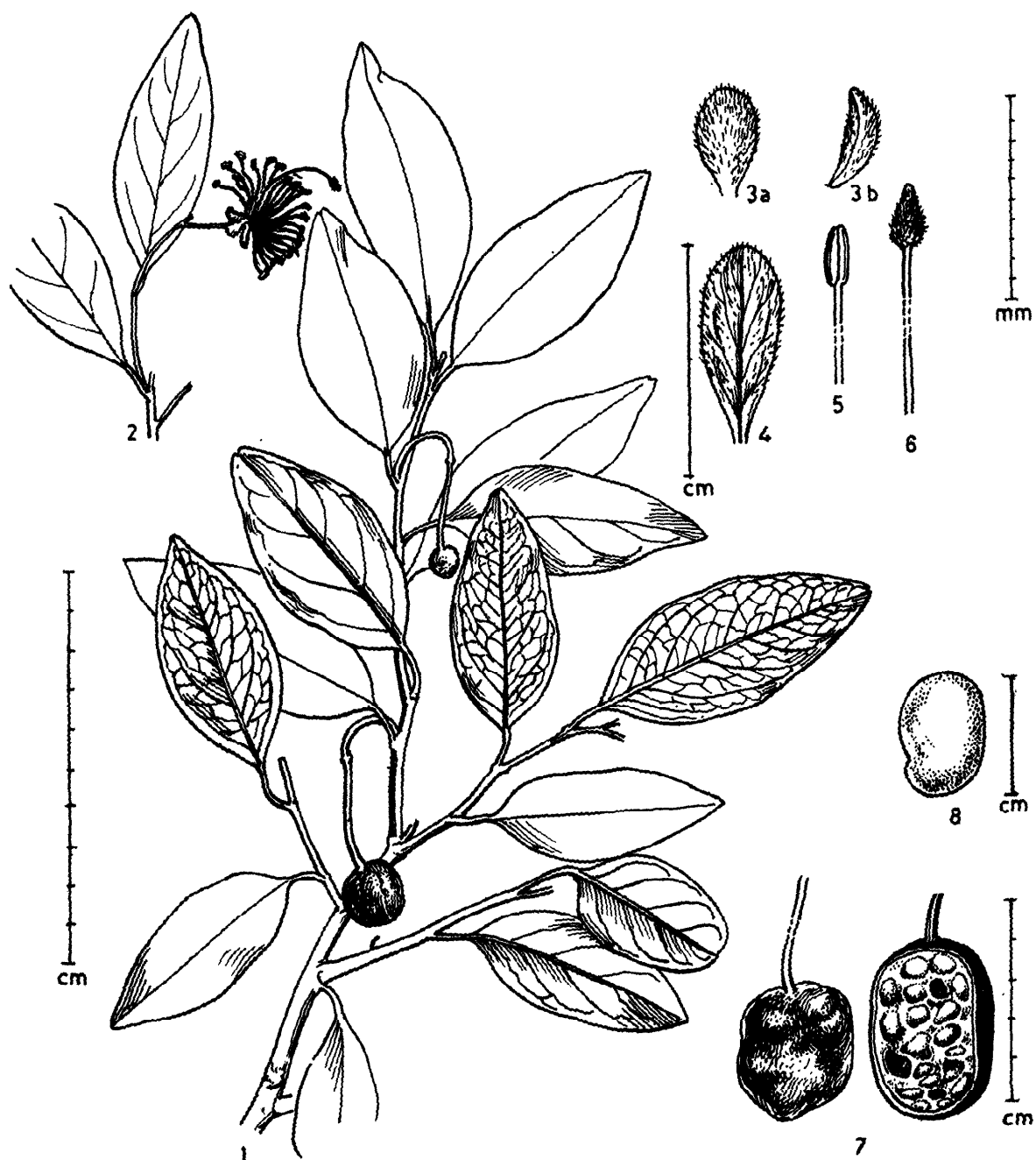


Plate 1. *Capparis srilankensis* Sundararaghavan sp. nov.

Figs. 1—7 1. Twig with young fruits. 2. Part of flowering twig. 3a. b. Inner and outer sepals. 4. Petal. 5. Stamen. 6. Pistil. 7. Entire and longitudinally cut berry. 8. Fruit.

(*Holotype* MO, *Isotype* K); Natile district, Central Province, 29th Oct. 1974, G. Davidse 8077 (*Paratypes* MO and K); Ruhuna National Park, 18th Oct. 1978, N. Wirawan 1265 (*Paratype*, NY).

This species as presently known is endemic to Srilanka and named after the country. Though closely allied to *C. nilgiriensis* and sharing similar habit and habitat it differs from the latter in flowering and fruiting characters. Fruiting is profuse and the berries considerably differ in size, colour, shape and nature of pericarp. The two species differ in the following characters.

*C. srilankensis* sp. nov.

1. Unarmed; bark fissured; girth under 20 cm
2. Flowers solitary axillary, rarely 2-3
3. Sepals densely pubescent. Stamens shorter than gynophore and ovary
4. Sterility not pronounced. Fruit setting profuse
5. Ovary ovoid, 3.0-3.5 × 2.2-2.5 mm
6. Berries reddish, globose or subglobose; pericarp smooth, white scurfy pubescent which is easily rubbed off, seeds 6-8 × 4-6 mm, arillate (Plate 11, figs. 3a, b.)

The berries superficially resemble those of *C. zeylanica* L. and *C. brevispina* DC. However, *C. zeylanica* has woody, much thickened fruiting stalks and *C. brevispina* (Plate 11, figs. 1a, b) has ovoid beaked fruits.

*Cleome viscosa* L. var. *nagarjunakondensis* Sundararaghavan var. nov.

Affinis var. *viscosa* sed stylo conspicuo longiore, (in flore 5-8 mm, in capsulam

12-20 mm); floribus generatim multo magnioribus, staminibus 36-40, vice 12-18 in var. *viscosum* statim diagnoscenda.

Allied to var. *viscosa* but differing in the conspicuous longer style admeasuring 5-8 mm in flowers and elongating upto 20 mm in capsules. The flowers are much larger than in var. *viscosa* and the number of stamens vary from 36-40 as against 12-18 in the latter.

Herbs, erect, upto 1.2 m tall, woody and sparsely branched from base, foetid, viscid pubescent, clothed with glandular and eglandular hairs. Leaves 3-5(7)-foliolate

*C. nilgiriensis* Subbarao et al.

Stipular thorns sparse in flowering twigs and mostly confined to old wood; bark not fissured, girth at base upto 1.3 m

Flowers mostly 2-4 conferted in lateral axes, occasionally solitary. Flowers produced in huge masses weighing down the branchlets

Sepals sparsely puberulous, almost glabrescent when old except for tomentose margins. Stamens nearly equalling or longer than gynophore

Sterility much pronounced, most of the flowers falling off or aborting after fertilisation, hardly producing 1-2 fruits in spite of profuse flowering

Ovary oblong, 3.5-5.0 × 1.4-1.8 mm

Berries greenish or greenish-yellow; ovoid to oblong, pericarp warty corrugated, uneven and glabrous. Seeds 10 × 6 mm, non arillate. (Plate 11, figs. 2a, b)

with petiole upto 4.5 cm long; leaflets obovate, rhomboid or elliptic-oblong, variable in size and shape, 0.6-3.0 × 0.2-1.5 cm, middle one largest, base cuneate) margins ciliate, apex acute, lateral nerves 5-7 pairs; petiolule 0.5-2.5 mm. Inflorescence lax, few flowered elongated racemes or terminal corymbs, flowers often solitary axillary lower down; bracts foliaceous. Flowers creamy, 2-2.5 cm across; pedicels

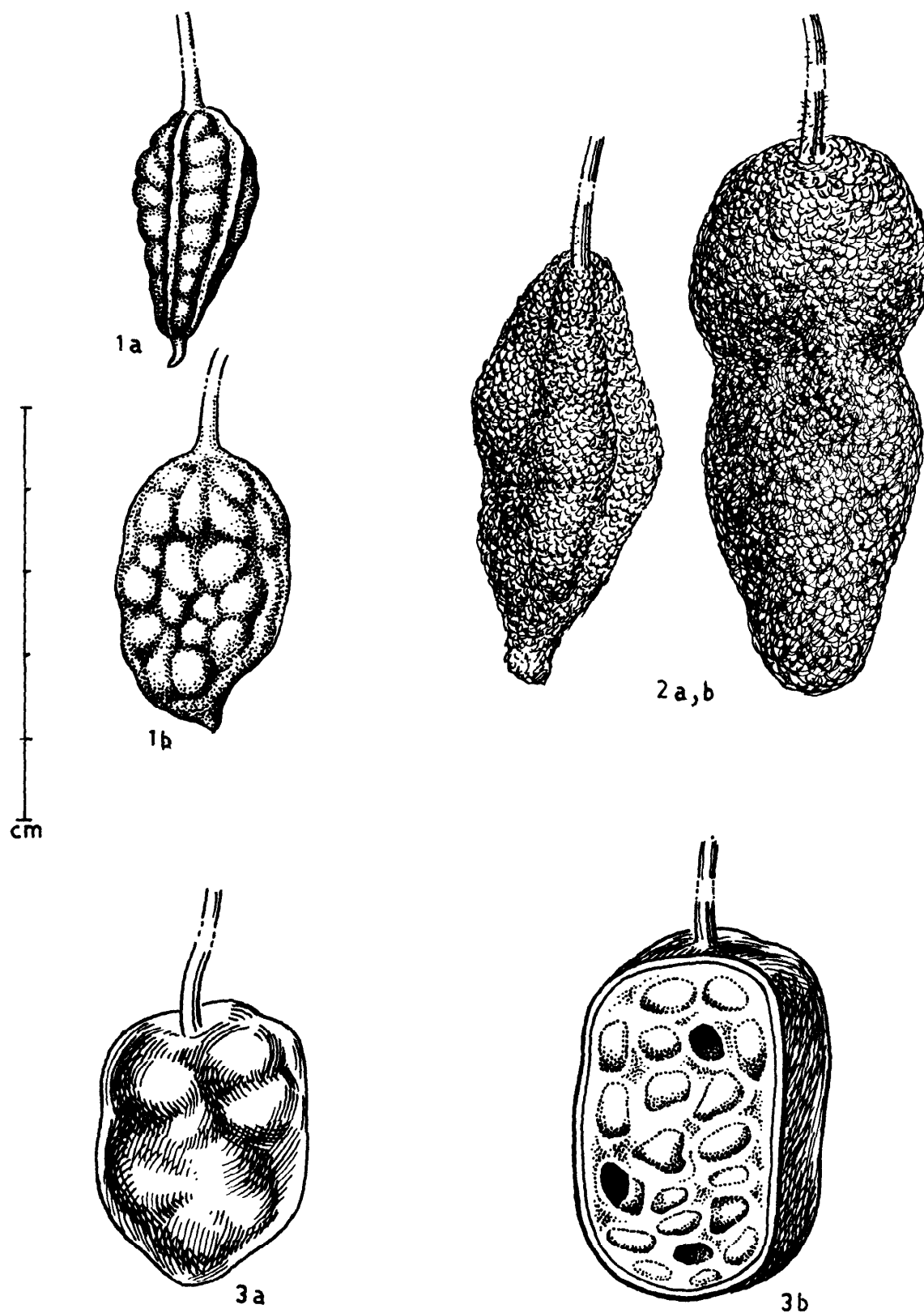


Plate II. Berries in three closely allied species of *Capparis* L.

Figs. 1—3 1a, b. *Capparis brevispina* DC. 2a, b. *C. nilgiriensis* Subbarao et al.  
3a b *C. srilankensis* Sundararaghavan.

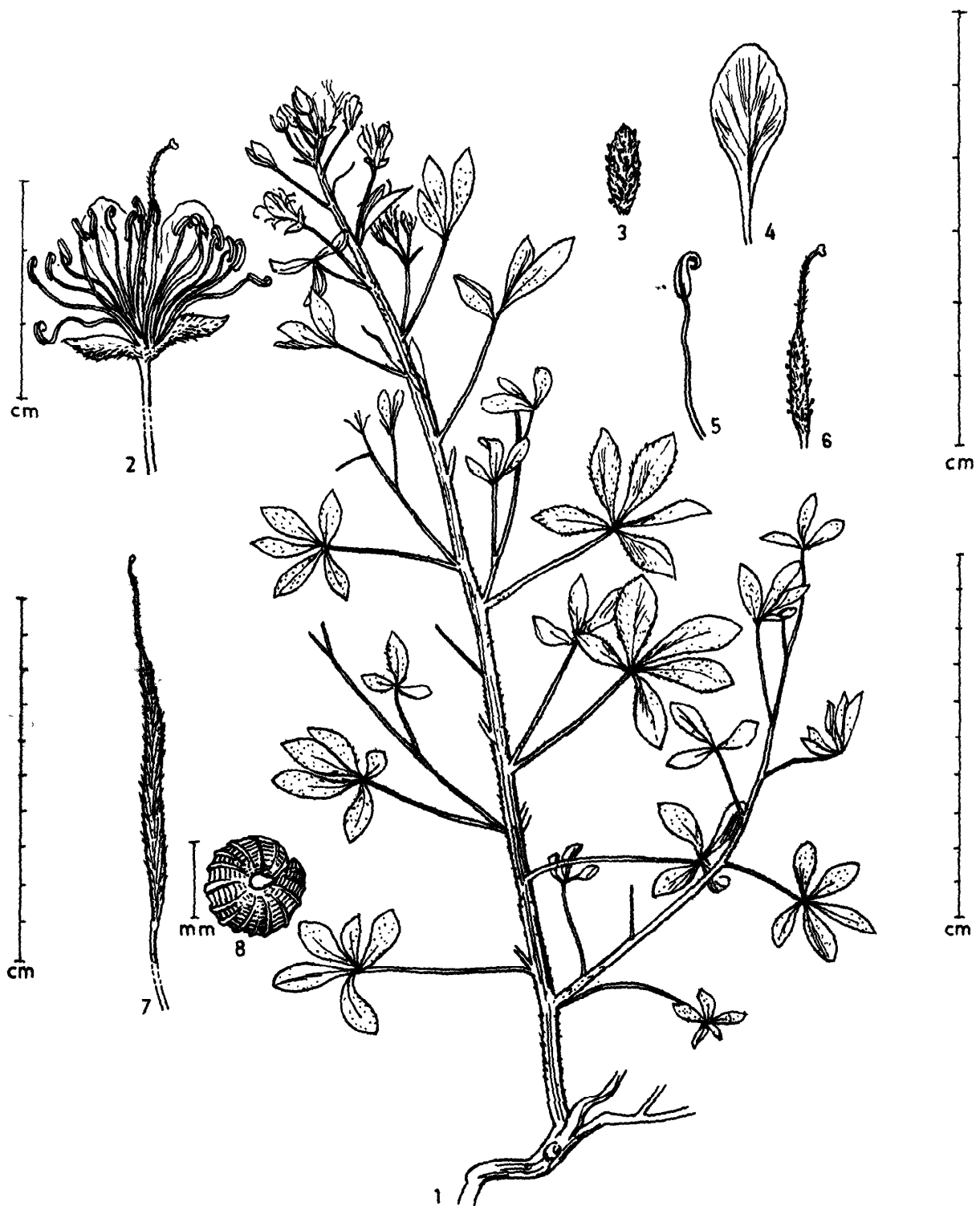


Plate III. *Cleome viscosa* L. var. *nagarjunakondensis* Sundararaghavan var. nov.

Figs. 1—8 : 1. Flowering plant. 2. Flower. 3. Sepal. 4. Petal. 5. Stamen. 6. Pistil 7. Capsule showing persistent style. 8. Seed.



Plate IV. *Stixis nayanii* Sundararaghavan sp. nov.

Figs. 1—4 1 Flowering twig. 2. Flower showing androgynophore, stamens and pistil. 3. Sepals. 4. Petal like appendages.

upto 2.8 cm, elongating upto 4 cm in fruits. Sepals 4, glandular pubescent, elliptic-lanceolate,  $8-12 \times 2.5-4.0$  mm, tip acute. Petals 4, subequal, prominently veined, oblong to obovate, base cuneate, top rounded, outer pair  $2.0-2.5 \times 0.8-1.0$  cm, inner  $1.8-2.0 \times 0.6-0.8$  cm (including 5-6 mm long claw). Stamens 36-40 intermixed with staminodes; filaments 1.5-2.0 cm long, shorter than gynoecium; anthers 2.0-2.8 mm. Ovary sessile, linear-oblong, 1.0-1.4 cm, glandular hairy; style slender, puberulous, 0.8-1.0 cm long, elongating upto 2 cm in capsules; stigma capitate. Capsule linear-oblong,  $6.0-8.5 \times 0.4-0.5$  cm (including persistent style), terete, tapering at both ends, obliquely striate, ribs glandular; seeds many, 1.5-1.6 mm across, dark brown, glabrous, with fine longitudinal striations, concentric ribs faint, cleft closed or with very narrow opening (Plate III).

ANDHRA PRADESH : Nagarjunakonda hills, Nalgonda district, 200 m alt., 13th July, 1961, *K. Thoathathi* 6616 (*Holotype* 6616 A, CAL *Isotypes* 6616 B — D, CAL), Madinad reserve forest, Guntur district, 7th Sept. 1924, Madras Herbarium 17458 (*Paratypes* 17458 A — B, MH).

The specimen is named after the type locality, Nagarjunakonda hills in Andhra.

*Stixis nayarii* Sundararaghavan sp. nov.

A speciebus nobis notis foliis 3 foliolatis presentia 6 organorum petalinorum intersepalinorum bene distincta. Ad *S. hookeri* natura androgynophori et pistilli accedit sed sepalis subanthesis effusis et non reflexis differt.

Distinguished from all other species of *Stixis* in the 3-foliolate leaves and the presence of six petal like structures between the sepals. It resembles *S. hookeri* Pierre in the length of the androgynophore and nature of pistil but the sepals are spreading and not reflexed in anthesis.

Straggler; branchlets terete, brown

puberulous, late glabrescent. Leaves 3-foliolate, glossy, glabrous, subcoriaceous, drying glaucous; petiole upto 5.5 cm long; leaflets obovate,  $10.0-11.5 \times 3.5-5.0$  cm, 2.0-2.5 times as long as wide, broadest above middle, base attenuate, apex abruptly acuminate, tip 6-8 mm long, rounded; lateral nerves 8-10 pairs, faint above, prominent beneath, ascending and interarching away from margin; reticulation distinct; petiolule 4-5 mm long. Inflorescence terminal racemose panicle, sparingly branched, fulvous-brown pubescent. Flowers lax, 5-6 mm across, brown when dry; bracts linear,  $\pm 1.5$  mm, puberulous, caducous; pedicels 2.8-3.5 mm long, pubescent. Torus  $\pm 1.5$  mm, wide. Sepals 6, in two series,  $2.8-3.5 \times 1.0-1.5$  mm, ovate to oblong, slightly connate at base, densely brown pubescent, apex acute to subacute, not reflexed during anthesis. Petal like appendages 6,  $1.8-2.2 \times 1.0-1.3$  mm, infundibular. Androgynophore  $\pm 1.2$  mm long gradually passing into gynophore. Stamens 16-24, unequal; filaments unequal, puberulous, 3.5-5.0 mm long; anthers 0.8-1.2 mm. Gynophore 1.5-2.5 mm long, fulvous pubescent. Ovary ovoid to subglobose,  $1.5-2.0 \times 0.8-1.0$  mm, minutely puberulous, 3-loculed; ovules few, placentation axile; style 1.8-2.0 mm glabrous; stigma obscurely 3-fid. Fruits unknown (Plate IV).

BURMA : Borwa, Tenasserim district, Meebold 15406 (*Holotype*, CAL).

There is only a solitary gathering by Meebold from Burma, based on which the present species is being described. Except for the trifoliolate leaves and petal like appendages, it otherwise shares features of *Stixis* only. Such exceptions are not infrequent in other genera of Capparaceae as in *Cadaba* Forssk. *Claoome* L. and *Maerua* Forssk. where both simple or 1-7(9) foliolate leaves occur within the same genus. Besides petals may be present

or lacking within the same genus (as in *Maerua*) or sometimes reduced [*Cadaba trifoliata* (Roxb.) Wight & Arn.]. In view of the above, the present species is retained under *Stixis* only. This species is named after Dr. M.P. Nayar, Director, Botanical Survey of India, who is well known for his valuable contributions to the taxonomy of Indian botany.

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