

NEW PLANT RECORDS FOR BOMBAY—IV

BY

H. SANTAPAU, S.J.

(With four plates)

This is a further continuation of the series of new records of plants for Bombay State. In the course of the last few years we have been conducting a very intense exploration of various parts of the State. A good number of research students have been helping in this investigation, and have helped in the preparation of this note; their names are appended after each plant mentioned in the body of this paper, so that credit may go to them for the good work they have done. The line diagrams have been drawn from the fresh plants, and represent what to our mind are the typical characters of the plant in question.

1. *Uria hamosa* Wall. Cat. 5681 B, 1831-32; Wight et Arn. Prodr. 222, 1834; Wight, Icon. t. 284; Fl. Brit. Ind. 2: 156 (Plate I).
Hebysarum hamosum Roxb. Hort. Beng. 57, 1814, nom. nud.
Doodia hamosa Roxb. Fl. Ind. 3: 367, 1832.
Desmodium hamosum Loud. Hort. Brit. 310, 1830.
Uria desmodioides & *U. lanceolata* Grah. in Wall. Cat. 5682-5683, 1831-32.

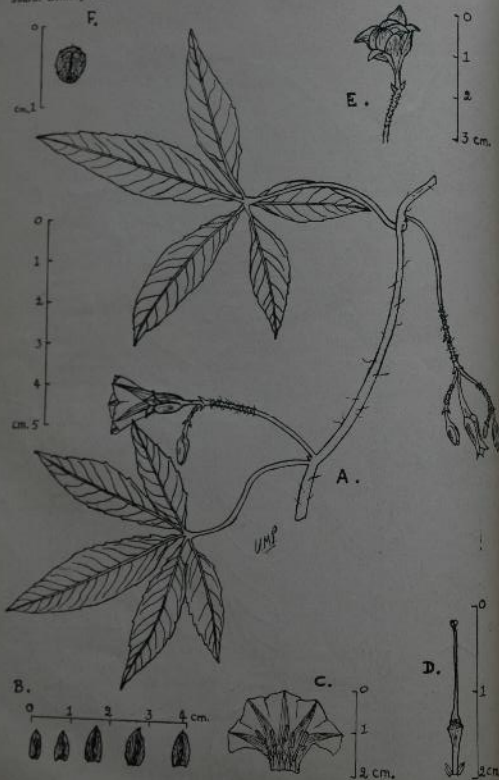
Erect shrubs or undershrubs, 122-275 cms. high, branching profusely; stems woody, solid, angled, minutely hispid, the hairs slightly hooked. Leaves uni- and tri-foliolate on the same plant; leaflets 4-11.5 x 2.2-6.5 cms, elliptic or broadly ovate, acute, mucronate or emarginate, base cordate or rounded, nerves 9-16 on either side of the central main nerve, upper side of leaflet glabrescent, lower one densely pubescent especially along the midrib; stipules 0.4-2.1 cms. long, deltoid-cuspidate, densely hairy persistent; stipels 0.3-0.6 cms. long, hairy, lanccolate; petioles 1.8-3.8 cms. long, grooved on the upper side, hispid; petiolules 0.2-0.4 cms. long, slightly swollen, hispid. Flowers in racemes, which are 10-30 cms. long, axillary, lateral or terminal, hispid, paniced. Flowers 2-4 in distant fascicles; bracts ovate, cuspidate, pubescent, caducous; pedicels 0.2-0.5 cms. long, incurved at the apex, hispid. Calyx 0.2-0.3 cms. long, not longer than the first joint of the pod, campanulate, hairy; teeth 5, subequal, deltoid-cuspidate, the lower 2 joined and short. Corolla mauve, exserted, 0.3-0.6 cms. long. Stamens 9+1, alternating long and short; anthers uniform. Ovary sessile; style nearly twice as long as the stamens persistent in fruit; stigma broad. Pod twisted, 4-7-jointed, joints alternate brown and black, minutely hispid.

The pod is the most typical part of the plant, and in every respect resembles the other species of Bombay. It is indeed remarkable that the plant has not been described before for Bombay; it seems to be widespread in the State, as the following list of herbarium specimens examined by us will show: North Kanara, T. R. D. Bell 2520, May 1917; Salsette Island, Santapau 995, 997 from Makal Caves near Andheri, Sept. 1942; Dangs



Urvia hamosa Wall.

A. Fruiting branch ; B. Flowers, front and side view ; C. Fruit.



Merremia quinquefolia Hall. f.

A. Branch with inflorescence; B. Sepals showing the outer surface; C. Corolla with stamens; D. Ovary with pedicel and bracts; E. Fruit; F. Seed from the inner surface.

Journ. Soc.
 Bombay Nat. Hist. Soc.
 The plant
 Soc., and
 the intergr...

: Merremia
 1850
 4 (1)

Boerhaavia
Convolvulaceae

A herbaceous
 coarsely linear
 pinnately com-
 pactly granu-
 larly grooved
 narrowly ob-
 oval apex;
 finely serrate
 midrib, cyano-
 phloem, but
 slightly hirsute
 pubescent,
 pubescent glan-
 derous, about
 1 cm. long, ac-
 cording to the im-
 age, somewhat
 inflated, with
 shallow
 cyano-
 phloem, 3-4
 and
 glaucous, si-
 milar to
 4 mm. long.
 This plant
 is a
 large herb
 found under
 species of

We have
 seen
 Swartz, L.
 R. A. W.
 Swartz
 Swartz, P.
 Koenig
 Swartz

We have
 seen
 Swartz, L.
 R. A. W.
 Swartz
 Swartz, P.
 Koenig
 Swartz

Forest, *Santapan* 17338-17339, Nov. 1953; Waghai in the Dangs, *Panthaki* 1726-1729, 19th Oct. 1954; Sasurda, *Panthaki* 1748, 20th Oct. 1954.

The plant has been found to be common in clearings in the Dangs Forest, and along the railway line. It has been seen nearer Bombay in the undergrowth of thin deciduous forest.

(Miss) D. P. PANTHAKI, B.Sc.

2. *Merremia quinquefolia* (Linn.) Hall. f. in *Bot. Jahrb.* 16: 552, 1893; Oostroom in *Blumea* 3: 324, 1939 et in *Fl. Males.* 4 (4): 446, f. 28, 1953. (Plate II).

Ipomoea quinquefolia Linn. Sp. Pl. 162, 1753.

Convolvulus quinquelobus Linn. Syst. ed. 10, 923, 1759.

A herbaceous climber. Stems slender, twining, terete, glabrous or sparsely hairy, not thickened at the nodes. Leaves alternate, petiole, palmately compound; petioles 3-5 cms. long, slender, glabrous and faintly grooved on the upper side; leaflets sessile or subsessile, glabrous, narrowly oblong to lanceolate, 2-6 × 0.5-1.5 cms., attenuated at the base and apex; apex acute to subacuminate or often obtuse; margins irregularly serrate, coarsely dentate or undulate or nearly entire. Inflorescence axillary, cymose, 1- or often 3-5-flowered; peduncles about as long as the petioles, but elongating in fruit, 3.5-7 cms. long, branching, glandular and slightly hirsute towards the apex, the branches also glandular. Flowers pedicellate, bracteate, creamy yellow in colour; floral buds ovate, acute; pedicels glabrous, 3-7 mm. long, extending to 10 mm. and becoming somewhat thicker at the apex in fruit; bracts triangular, acute or acuminate, about 1 mm. long. Calyx tubular; sepals 5, narrowly ovate, elongated, acute, mucronulate, glabrous, subequal, the outer 2 slightly shorter than the inner ones; outer sepals 4-6 mm., inner ones 8-9 mm. long, somewhat enlarged in fruit. Corolla creamy yellow, 16-20 mm. long, infundibuliform, 15 mm. in diameter, with lineate, glabrous corolla bands and shallowly lobed; corolla tube glabrous. Stamens 5, subequal, epipetalous, inserted about 3 mm. above the base of the corolla; filaments dilated and hairy at the base; anthers some times spirally twisted. Ovary glabrous, style 1 cm. long; stigma 2-lobed, the lobes globose. Capsule straw-coloured, globose, 4-celled, 1 cm. in diameter. Seeds 4, each about 4 mm. long, brown or black, covered with short, appressed, curly hairs.

This plant is being reported now for the first time from Western India. In point of fact, however, it is quite a common plant, though in Blatter Herbarium many of the specimens of this species have been placed under *M. tridentata* Hall. f. or *M. aegyptia* Urban, or under various species of *Ipomoea*, particularly *I. dissecta*, which it much resembles.

We have examined the following specimens from Western India:

SAURASHTRA: Sasangir, in the Gir Forest, *Santapan* 15152; Dwaraka, *Dhruna* 12; Rajkot, *Santapan* 13559 and 16885.

RAJPUTANA: Abu Road, *Blatter* 22133.

SOUTH GUJRAT: Baroda, *Patel* 1176-1180; Pavagadh Hill, near Baroda, *Patel* 1190-1192.

KONKAN: Thana, from a garden, *Patel* 1323-1328; Bombay, *Achland* 1447 and *Blatter* 14550.

(Miss) V. PATEL, B.Sc.

3. *Eupatorium repandum* Willd. Sp. Pl. 3 : 1767, 1804 ; DC. Prod. 5 : 45, 1836 (Plate III).

Family Compositae. An annual, erect undershrub, 50-75 cms. high. *Stems* branched, terete, pubescent. *Leaves* opposite and decussate, shortly petiolate, lanceolate-elliptic or ovate-elliptic, acute or shortly acuminate, 4-7 x 1.5-3.5 cms., glabrous on the upper, silky pubescent on the lower side; the lower leaves deeply sinuate-dentate, the upper ones shallowly serrate-dentate; base tapering into the short petiole. *Heads* homogamous, about 1 cm. long, cylindrical, arranged in terminal corymbs; peduncles 1-5 cms. long, hairy. *Involucre* multiseriate, the innermost series of bracts the longest; all the bracts oblong-lanceolate, obtuse, 3-nerved from the base, scarious, varying in length 2-7 mm.; receptacle convex, pitted, naked. *Florets* all bisexual. *Pappus* 1-seriate, consisting of numerous setose hairs about as long as the corolla tube. *Corollas* tubular, white to pale violet; tube 4-5 mm. long, narrow; lobes 5, triangular-ovate, acute, pubescent outside, 1-2 mm. long. *Stamens* 5; anther bases sagittate; auricles narrow, obtuse. *Style* arms 2, very long and far exserted, subulate and hairy. *Achenes* black, hispid on the angles, 4-5 mm. long, crowned with the pappus.

This is a Central American plant, that has been found growing probably as an escape near gardens at the entrance to the National Park, Borivili, near Bombay. *Randeria* 577, collected in flower on December 12th, 1943.

(Miss) A. J. RANDERIA, M.Sc.

4. *Hymenatherum tenuifolium* Cass. Dict. 22 : 313, 1821-1822; DC. Prodr. 5 : 642, 1836. (Plate IV).

Family Compositae. An annual erect herb, 15-20 cms. high. *Stems* cylindrical or subquadrangular, simple or branched, obscurely ribbed, finely pubescent with short minute hairs. *Leaves* sessile, the upper ones alternate, the lower ones more or less opposite, all deeply pinnatisect, 2-5 x 1-3 cms., lobes opposite, more or less filiform, glabrous or puberulous. *Heads* heterogamous, rayed, about 2 cms. in diameter, terminal; peduncles bracteate or naked, 5-9 cms. long, generally glabrous; bracts 2-3 mm. long, lanceolate-subulate. *Involucres* uniseriate; involucral bracts partially connate at the base, oblong-cuneate, 3-lobed at the apex, 6-7 x 3-4 mm., ciliate at the margins, reticulate veined; receptacle naked. *Pappus* copious, 1-seriate, consisting of setose unequal hairs about as long as the corolla tube. *Corollas* yellow; those of hermaphrodite florets tubular, their tubes uniformly dilated upwards, glabrous, 2-3 mm. long; lobes 5, ovate, acute, spreading, more or less 1 mm. in length; corollas of female florets ligulate, 3-notched at the apex, 6-9 x 1.5-2.5 mm. *Stamens* 5; anther bases obtuse or slightly tailed. *Style* arms 2; those of hermaphrodite florets ciliate and truncate at apex; those of female florets subulate, glabrous. *Achenes* oblong, angled and ribbed, black, hispidly hairy, 3-4 mm. long.

This herb is original of Central America, and has been found in the Krishnagiri National Park, Borivili, near Bombay, growing not far from the entrance to the Park; it has been seen in flower and fruit during the rains and seems to be well established on Pavilion Hill of the Park.

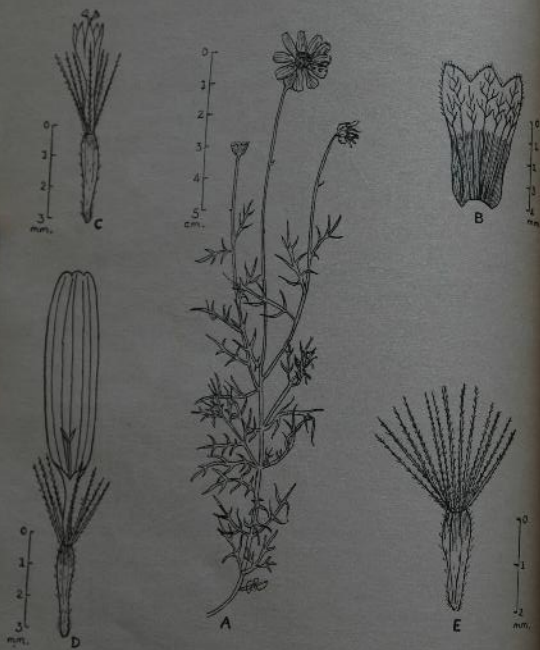
Randeria 57, collected on 23rd August 1951, and *Randeria* 441, collected on 7th October 1952.

(Miss) A. J. RANDERIA, M.Sc.



Eupatorium repandum Willd.

A. Flowering branch; B. Floret; C. Achenium.



Hymenatherum tenuifolium Cass.

A. Flowering branch ; B. Involucral bract ; C. Disc floret ; D. Ray floret ; E. Achene.

October 1954 to June 1955, the plant was watered regularly every day, but it did not flower; after the monsoon rains of 1955, the plant was left unwatered until this year's monsoon supervened. During the period when the plant was regularly watered, its vegetative growth was fast; during the dry season, when it was left unwatered, growth was slow, but this seems to have induced profuse flowering. At the end of April of this year we noticed the first signs of the coming flowers; by the middle of May 1956 it showed a large bunch of flowers (a central rachis with four lateral branches).

Towards the end of May of this year the flowering spike gave rise to a vegetative proliferation at its end; gradually 4-6 fleshy leaves, much smaller in size than those at the base of the plant, appeared beyond the flowers; these terminal leaves gradually fell off, but new leaves appeared in their place, so that 4-6 were always present on the plant.

Unfortunately we had only one specimen, and so could not carry out experiments with proper controls, on the effect of the profuse watering during the dry season. It is quite possible that the early flowering of the plant and its vegetative proliferation may be due to the abnormal watering it received. The plant in its wild state is known to flower only between the end of May and the middle of June.

The diagram herewith appended was drawn by one of us from the living specimen. At present the preserved plant is kept in Blatter Herbarium of our College.

ST. XAVIER'S COLLEGE,
BOMBAY,

July 5, 1956.

H. SANTAPAU, s.j.
Z. KAPADIA, B.Sc. (Hons.)

37. SOME NEW PLANTS FOR THE DANGS FOREST, BOMBAY STATE

(With two plates)

Under the auspices of the Gujerat Research Society, the senior author has been conducting intensive botanical surveys in the Dangs Forest; some of his research students have joined in many of his outings. The results of the survey of the Dangs Forest have been published in the *Jour. of the Gujerat Res. Society*; the work is still continuing. The present paper gives details of two striking plants that have been found to be rather common all over the Dangs. The junior author has been working on the Papilionaceae of Bombay State and has accompanied the senior author on several excursions to the Dangs.

Indigofera oreophila spec. nov.

Accedit ad *Indigoferam tritum* Linn. caractere generali florum, foliorum et habitus; ab ea tamen differt praesertim sequentibus notis: