

NEW TAXA OF *OSBECKIA* L. WITH A NOTE ON *O. LINEOLATA* GAMBLE

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The paper deals with a new species of *Osbeckia* L. A note on the systematic position of *O. lineolata* Gamble with a new variety under it is also presented here with illustrations.

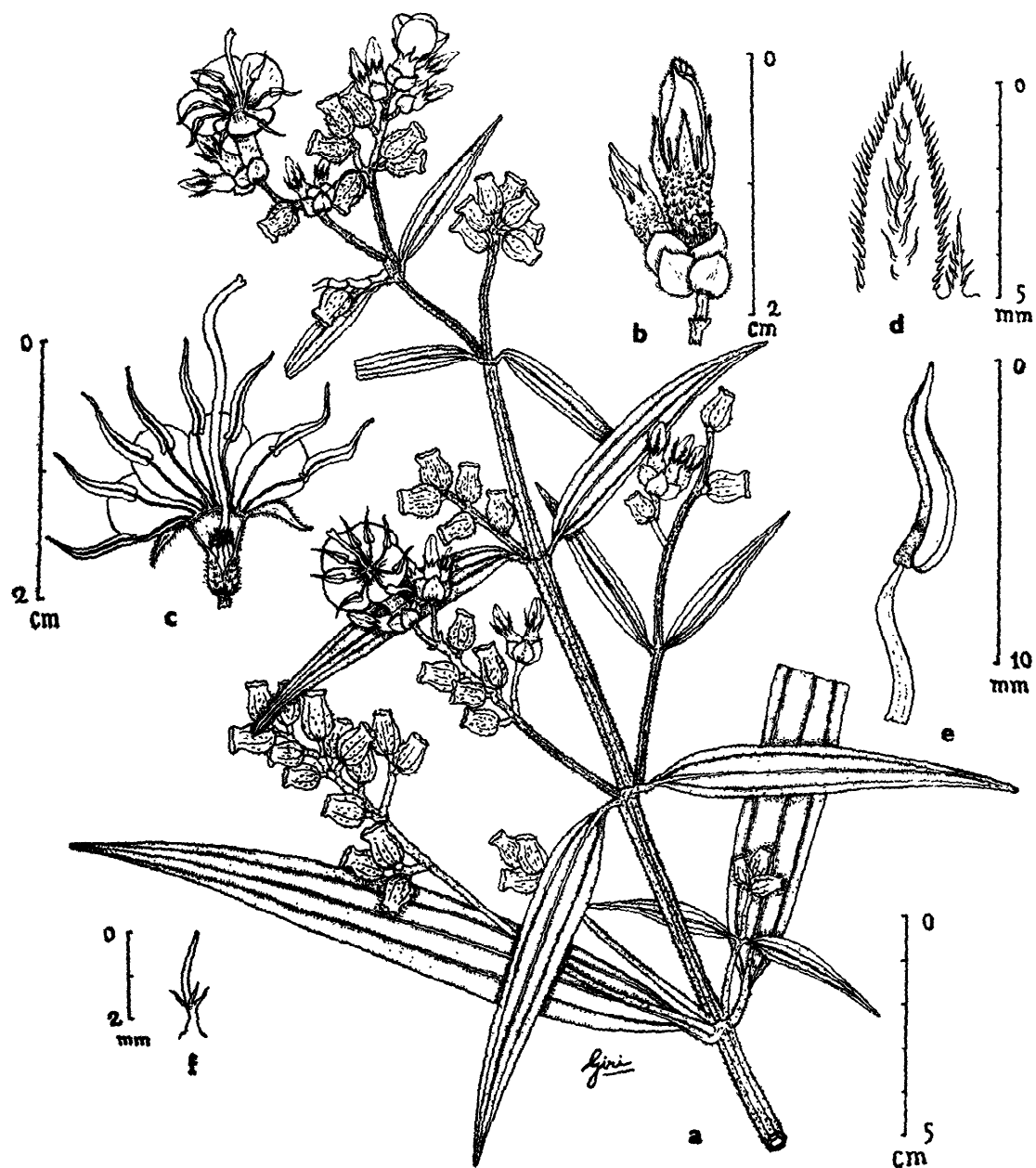
***Osbeckia darjeelingensis*** Giri et Nayar,  
Sp. nov.

Affinis *O. stellatae*, sed caulibus hexangularibus, foliis lineari-lanceolatis, 3-5 nervibus, in utrinque pagina fere glabris, calycis tubis sparse glandulosi excrescentibus, excrescentibus intersepalorum apice robuste setosibus, calyx-tubis 10-12 mm longis, capsulo apice nonquam setoso differt.

*Typus* : Jhenaikuri, Darjeeling, Dec. 1879, *Gamble* 7597A (Holotype CAL); *Gamble* 7597B (Isotype CAL).

Erect, branched herbs or small shrubs, stems hexangular, sometimes compressed, more or less hollow, densely covered with short, rigid appressed hairs. Leaves opposite, sometimes 3 or 4 in whorls also occur, linear or linear-lanceolate (8.0-) 12.0-15.0(-18.0) × (0.8-) 1.4-2.0(-2.7) cm, base acute, apex acuminate, margin entire, slightly recurved or not, nerves 5, of which 3 much distinct and impressed above, the marginal 2 inconspicuous on the upper surface and often remain as a small line on the lower surface; both surfaces glabrous or very sparsely scattered small, rigid hairs occur near the margin, small appressed hairs occur on the nerves beneath, nervules inconspicuous above, more

or less prominent beneath, both surfaces become dull green to reddish black on drying, chartaceous; petioles (4.0-)6.0-9.0(-11.0) mm long, canaliculate, shortly appressed hairy. Inflorescence terminal or axillary panicle; bracts broadly ovate, 4.0-8.0 × 3.5-6.5 mm, acute or obtuse at apex, margin long ciliated, dorsally sparsely appressed hairy or glabrous, ventrally glabrous, sometimes series of bracts enclosing the basal part of flowers, usually deciduous, rarely persistent. Flowers bisexual, actinomorphic, 4-merous, bright purple, very showy; subsessile or with very short pedicels, fruiting pedicels 1.0-3.0 mm long. Calyx-tube urceolate, sparsely covered with emergences, emergences with a very short terete stalk, 2-4 patent hairs at or near base and a long gland at apex; sometimes patent hairs occur but are always restricted to the base of the calyx-tube. Calyx-lobes 4, oblong-acute to triangular, 4.5-5.0 × 1.5-1.75 mm, long ciliated at margin, midrib distinct, patent hairs and bristles occur only on the midrib, otherwise glabrous, deciduous. Intersepalar emergences with a terete stalk of 2.0-2.5 mm long, patent hairy along its length, terminated by a strong bristle, stellate head absent. Petals 4, obovate 14.0-18.0 × 9.0-14.0 mm, ciliated at margin. Stamens 8, equal, filaments filiform, 6-8 mm long, glabrous, anthers narrowly oblong 7-8 mm long including a narrow beak, not twisted, pore single, round at apex. Ovary 5-6 mm long, nearly  $\frac{1}{3}$  adnate to the calyx tube, free portion sparsely appressed hairy, true crown



*Osbeckia darjeelingensis* Giri et Nayar, *sp. nov.*

Fig. 1. (a-f) : a. Habit, b. Flower buds, c. Flower splitted open, d. Sepal with an intersepal emergence, e. Stamen, f. An emergence.

of bristles absent; style 15-20 mm long, glabrous, stigma punctate. Capsules 7.0-10.0 × 4.5-6.0 mm, remain enclosed by the urceolate calyx-tube. Seeds many, small, muricate.

*Type* : Jhenaikuri, Darjeeling, Dec. 1879, *Gamble* 7597A (Holotype CAL); *Gamble* 7597B (Isotype CAL).

*Fls.* : Oct.-Dec. *Frts.* : Nov.-Feb.

*Ecol.* : Grows only in the swampy low hill jungles.

*Distribution* : INDIA : West Bengal, Sikkim.

Pancheuai, Darjeeling Terai, 29.10.1876 *Gamble* 20513 (CAL); Darjeeling Terai, *Gamble* 28021 (CAL); N. Bengal, Silligoree, 27.10.1868, *Kurz* s.n. (CAL); Buxa Res., W. Duars, Jan., 1880, *Gamble* 7671 (CAL); Sikkim, Terai, *Ribu* s.n. (CAL); Mahanadi, Terai, Sikkim, 2-400 ft., 13.12.1910 *Ribu & Rhomoo* s.n. (CAL); Sikkim, *J.D.H.* s.n. (CAL); without precise locality *Narayana-swami* s.n. (CAL).

The species is related to *O. stellata* Ham. ex Ker-Gawl but can be easily differentiated by the following key :

- A. Stem subquadrangular; leaves ovate-lanceolate to ovate-oblong, usually 7 nerved, both surfaces densely strigillose with short appressed hairs; calyx-tube densely covered with stellate emergences without glands; intersepalar emergences terminated by a stellate head; fruiting calyx 13-20 mm long; capsules with a distinct crown of bristles at apex ... *O. stellata*
- AA. Stem hexangular; leaves linear to linear-lanceolate, 3-5 nerved, both surface nearly glabrous; calyx-tube sparsely covered with gland-tipped emergences; intersepalar emer-

gences terminated by a strong bristle, stellate head absent; fruiting calyx 10-12 mm long; capsules without a distinct crown of bristles at apex ... *O. darjeelingensis*

Beddome (1864) described *Osbeckia gracilis* based on a specimen collected by himself (Beddome 2975) from Sispara, Tamil Nadu. The species is characterised by narrowly lanceolate leaves and greyish blue calyxtube. Gamble (1918) described another taxon namely *O. lineolata* based on several collections of Bourne, Gardner, Wight, Sauliere from S. India, but did not designate the holotype. This taxon is characterised by glabrous elliptic leaves with olive green colour.

Hansen (1977), however, merged *O. lineolata* Gamble under *O. gracilis* Bedd. Hansen also remarked "though different in general appearance the specimens which I refer to this species are all characterised by brownish, patent, curved usually bristly hairs present at least on the lower part of the hypanthium." A good number of specimens along with the type materials of both the taxa referred to above reveal that the hypanthium as described by Hansen, covered more or less by similar type of hairs, though there are variations of colour and density of hairs. However, in *O. gracilis*, the characteristic narrowly-lanceolate leaves is overlooked by Hansen (1977) and in the description of *O. gracilis*, he only mentioned 'leaves elliptic less often ovate or obovate' which is characteristic of typical *O. lineolata*. The contrasting characters by which the species *O. lineolata* and *O. gracilis* can be distinguished are given below.

<i>O. gracilis</i> Bedd.	<i>O. lineolata</i> Gamble
1. Leaves narrowly lanceolate, 3 nerved.	1. Leaves elliptic to broadly elliptic, 5 nerved.
2. Lines of crystalliferous cells not prominently branched on the lower surface of leaves.	2. Lines of crystalliferous cells prominently branched on the lower surface of leaves.
3. Intersepalar emergences persistent.	3. Intersepalar emergences deciduous.
4. Flowers large, petals 18-22 mm long.	4. Flowers small, petals only 10-13 mm long.
5. Apical part of the capsules distinctly exposed.	5. Capsules remain enclosed by the calyxtube or very slightly exposed.

As many as seven specimens are cited by Gamble in the protologue of *O. lineolata* (specimens listed under *O. lineolata*). Among these syntypes, *Wight* s.n., Kew Distrib. No. 1090 is proposed herewith as the lectotype of *O. lineolata*.

**O. gracilis** Bedd., Madras Journ. Lit. & Sci. Ser. 3, 1: 45. 1864 et in Trans. Linn. Soc. 25. 216. 1866; C. B. Clarke in Hook f. Fl. Brit. Ind. 2: 518. 1879; Cogn. in A. & C. DC. Monogr. Phan. 7: 330. 1891; Gamble, Fl. Madras Pres. pt. 3: 494. 1919. Hansen in Ginkgoana, 4: 77. 1977 (pro parte). *O. sublevia* Cogn. in A. & C. DC. Monogr. Phan. 7: 321. 1881 [type *Perrottet* 377]. *O. carnosa* Gamble nom. nud. syn. nov.

*Type*: Sispara Ghat, 4000 ft. *Beddome* 2975 (Holotype BM, CAL-photo).

**O. lineolata** Gamble in Kew Bull. Misc. Inf. 241. 1819.

*Type materials* (Syntypes): S. India: Nilgiri Hills, *Gardner* s.n.; near Kodaikanal and Perumal, *Bourne* 68, 968, 1532; Shembag, *Saulinere* 150, 312; Pulney Hills, *Wight* s.n. Kew Distrib. No. 1090 (K, CAL, lectotype chosen at CAL).

**O. lineolata** Gamble var. *anamalayana* Giri et Nayar var. nov.

A typo differt, calycis tubo dense hirsuto, ramis dense puberulis, adnodis dense longi setosis, foliis infra ad nervos setosis differt.

Erect, much branched woody undershrubs upto 1 m high, branches, quadrangular covered with short rigid hairs and with long hairs at nodes, internodes usually shorter 8-15(-25) mm long, greyish-green to light olive green on drying. Leaves (1.5-)3.0-4.0(-5.2) × (0.8-)1.4-1.8(-2.2) cm, base subrounded, apex acute, margin entire, nerves prominently impressed above, raised beneath, reticulations prominent beneath. Lower surface of leaves with short rigid hairs throughout and with long ascending hairs on the nerves, chartaceous, dull green to light olive green on drying; petioles (1.5-)2.0-4.0 mm long. Inflorescence short terminal panicle, rarely

axillary or even solitary from upper axiles; bracts ovate to broadly ovate (2.0-) 3.0-4.5 (-6.0) × (2.0-) 2.5-4.0 (-5.0) mm, greenish white, papery, finely veined, ciliate at margin, glabrous on both sides. Flowers 5 merous, pedicels 0.5-1.5 (-2.5) mm long, appressed hairy. Calyx-tube urceolate, 4.0-6.0 × 3.5-5.5 mm, densely covered with soft and long brownish hairs, emergences absent. Sepals triangular 3.0-3.5 × 1.5-2.0 mm, margin ciliate, sparsely patent hairy on the midrib, otherwise glabrous, deciduous. Intersepal emergences with a short convex stalk and bristled apex, deciduous. Petals obovate, ciliate at margin, pink or purple. Stamens 10; filaments 6.0-7.0 mm long, anthers 4.5-5.0 mm long, not twisted, collar small. Ovary 3.5-4.5 mm long, free apical part densely covered with strong ascending hairs, true crown absent; style 13-16 mm long, stigma capitate. Capsules 5.0-6.0 × 5.5-6.0 mm. Seeds small, muricate.

*Type*: Konalar, Anamalai Hills, Tamil Nadu, 1950 m, 17.11.1980, *Chandrabose* 57793 (Holotype CAL).

*Distribution*: INDIA: Tamil Nadu, Kerala.

Anamalai Hills, Tamil Nadu, 1950, 17.11.1980, *Chandrabose* 57793 (Holotype, CAL), Lockhart gap, Kottayam Dist., Kerala, 1675 m, 10.10.1963, *Sebastine* 17480 (CAL); Perambicolum, Cochin, 3-4000', Nov. 1910, *Meebold* 12441 (CAL); Devicolum, Travancore, 6000', Dec. 1910, *Meebold* 13173 (CAL); Lower Nirar to Italyar forest, Anamalai Hills, 6.9.1983 *Ramamurthy* 78431 (CAL).

The variety can be differentiated by densely clothed calyx-tube with long and soft deep brownish hairs, short rigid hairy stems with long hairs at the nodes; under surface of leaves covered with short hairs and with long ascending hairs on the nerves; whereas in var. *lineolata*, calyx-tube sparsely rigid hairy, stems glabrous with glaucous ultimate branches, under surface of leaves glabrous or with few scattered hairs, long ascending hairs absent on the nerves.

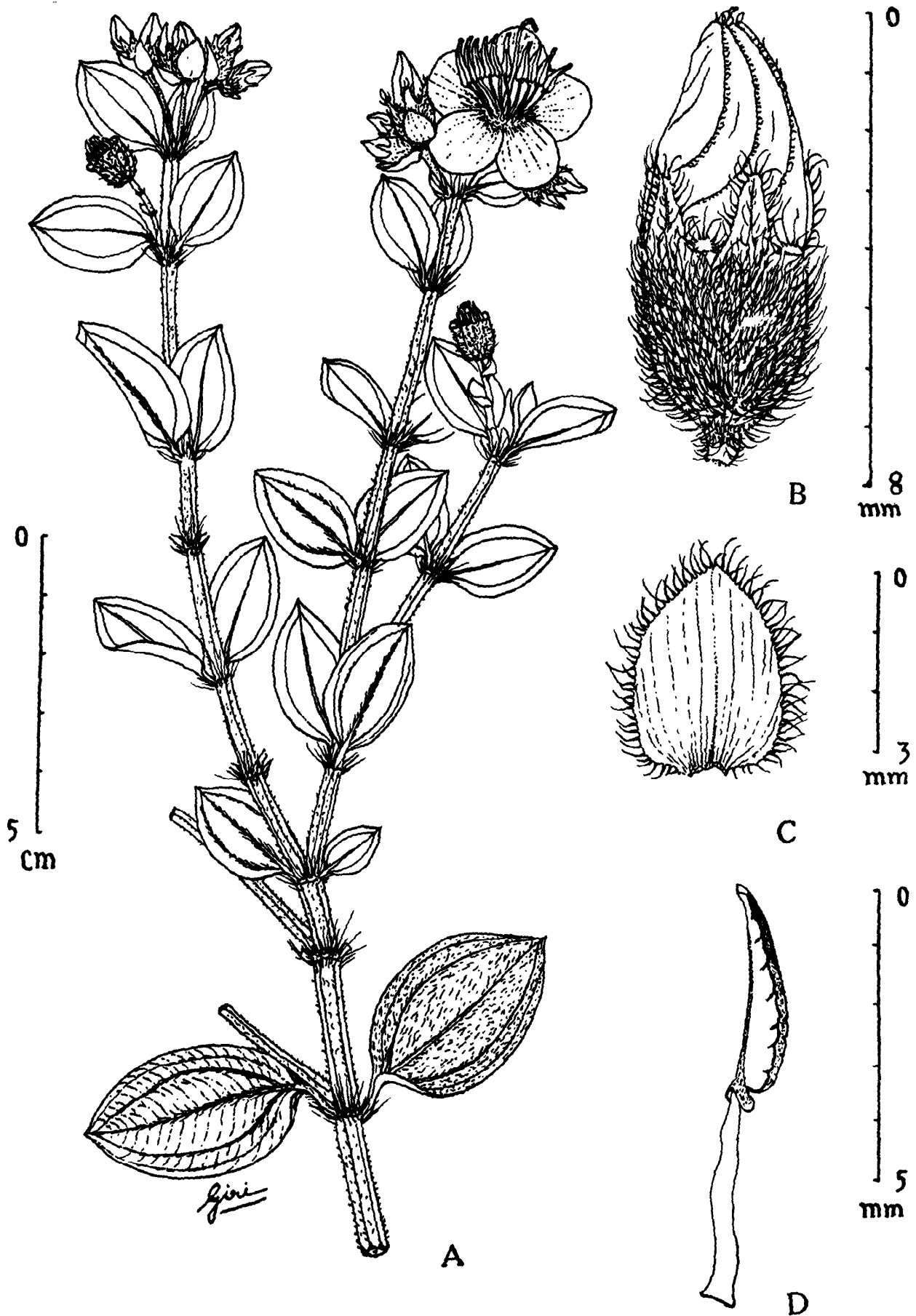


Fig. 2. (A-D) *Osbeckia lineolata* Gamble var. *anamalayana* Giri et Nayar var. nov.  
A. Habit. B. Flower bud. C. Bract. D. Stamen.