

IDENTITY AND NOMENCLATURE OF *UTRICULARIA NIVEA* VAHL

V. ABRAHAM¹, R. L. MITRA AND K. SUBRAMANYAM²

Botanical Survey of India, Calcutta

ABSTRACT

The paper deals with the identity, and nomenclature of *Utricularia nivea* Vahl, and *Utricularia caerulea* Linn. Detailed descriptions of these two species and the features on which they can be identified are given.

WHILE studying the various species of *Utricularia* occurring in India, some discrepancy regarding the identity of *Utricularia nivea* was noted, which is presented here.

C. B. Clarke in J. D. Hooker's *Fl. Brit. India* 4 : 333, 1884, cites *U. nivea* Vahl as a synonym to *U. racemosa* var. *flicaulis* (Wall. ex DC.) Clarke. Gamble in *Fl. Pres. Madras* 2 : 691, 1957 (repr. edit.) has shown that *U. racemosa* Wall. ex DC. is synonymous with *U. caerulea* Linn. non sensu Clarke in *Fl. Brit. India* 4 : 331, 1884 nec Cooke in *Fl. Pres. Bombay* 2 : 392, 1958 (repr. edit.) quae est *U. graminifolia* Vahl. Cooke loc. cit. p. 393 treats *U. nivea* Vahl, *U. flicaulis* Wall. ex DC. and *U. racemosa* Wall. ex DC. as conspecific

U. nivea Vahl

1. Flowers white (rarely purple), sparse and not crowded towards the apex of scape.
2. Corolla—upper lip shallow to deeply bifid at apex; lower lip less than half the length of spur.
3. Seeds with clavate projections.

and selected the earliest valid binomial of the three, *U. nivea* Vahl. It was Merrill in *Philipp. J. Sci.* 7 : 347, 1912, who for the first time recognised *U. nivea* as distinct from *U. caerulea* and remarked that "The Philippine plants however have pale purplish flowers rather than white as in the type of Vahl's species".

Gamble loc. cit. and Santapau in *J. Bombay nat. Hist. Soc.* 49 : 220, 1952, treat *U. racemosa* Wall. ex DC. and *U. nivea* Vahl as synonymous with *U. caerulea* Linn. Haines also in *Bot. Bihar and Orissa* 2 : 676, 1961 (repr. edit.) treats *U. racemosa* Wall. ex DC. and *U. flicaulis* Wall. ex DC. as synonymous to *U. caerulea* Linn. Clarke differentiated the variety *flicaulis* from *U. racemosa* and stated "stem slender with fewer scattered flowers". Gamble casually mentions, "The very small form with few usually white flowers is var. *flicaulis*, C. B. Clarke". Haines also mentions, ".... in var.

flicaulis, Clarke ... the flowers are sparse and distant".

A careful examination of all the herbarium sheets available in the various herbaria of India and the preserved materials available to the authors revealed that *U. nivea* is quite distinct from *U. caerulea*. As for the colour variation of the flowers pointed out by Merrill, there is a herbarium sheet, *Vicary s.n.* (CAL) with the following remarks "... in no way differing except for colour which is purple ...". The study of the seeds from the above sheet further corroborates Merrill's findings of colour variation in *U. nivea* Vahl.

These two species can be distinguished in the following features :

U. caerulea Linn.

Flowers blue or purplish, mostly crowded towards the apex of scape.

Corolla—upper lip truncate to emarginate at apex; lower lip more than half the length of spur.

Seeds without clavate projections.

The features of the seeds are shown in Figs. 1 and 2. Hence it is necessary to segregate *U. nivea* Vahl from *U. caerulea* Linn. and treat the former as a distinct species. The nomenclature and descriptions of the two species are given below :

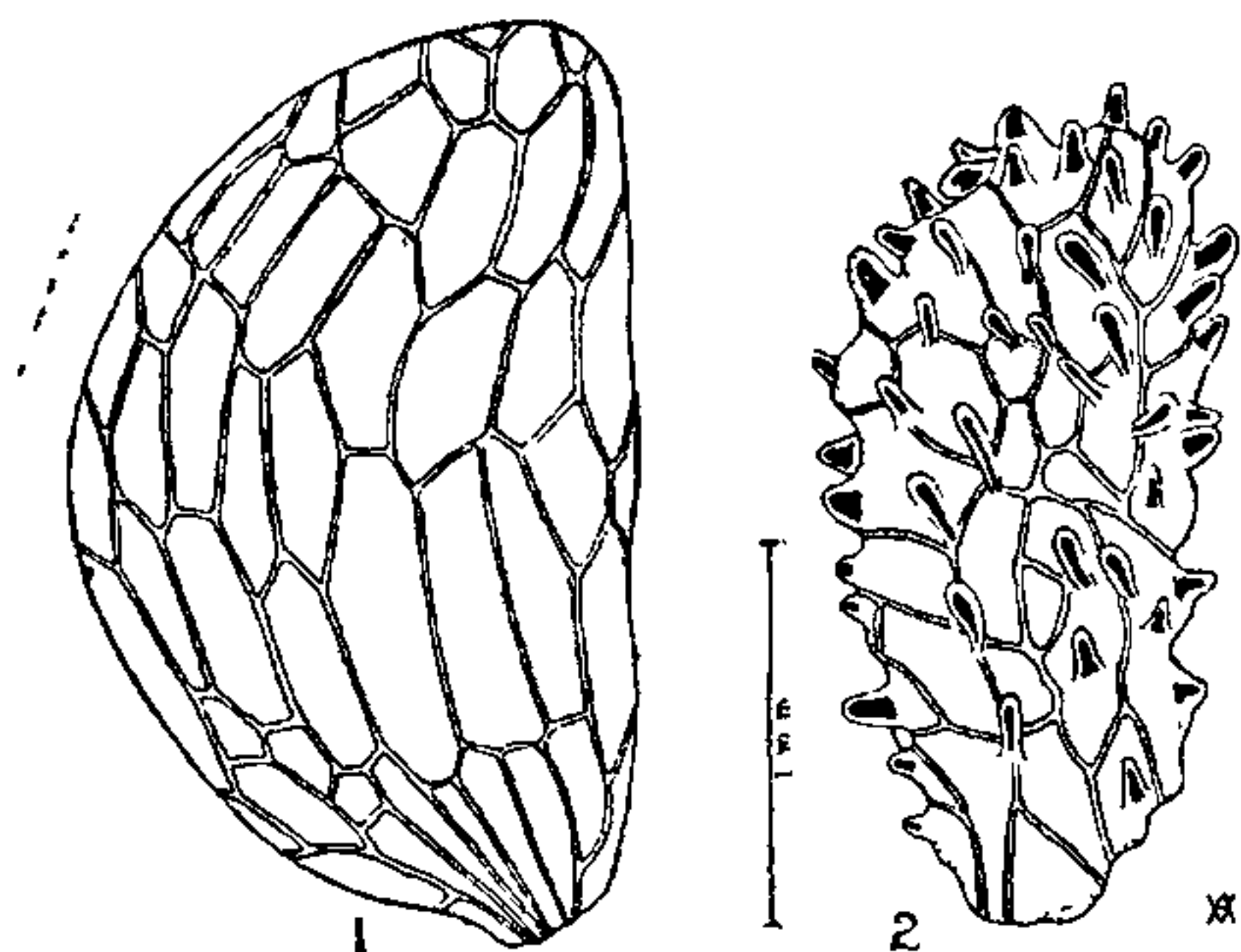
U. nivea Vahl, *Enum.*, 1 : 203, 1805; *Wt. Icon. t.* 1582, 1850; Merrill in *Philipp. J. Sci.* 7 : 247, 1912, *U. flicaulis* Wall. (Cat. 1501, 1829, *nom. nud.*) ex DC. *Prodr.* 8 : 21, 1844. *U. racemosa* var. *flicaulis* (Wall. ex DC.) Clarke in *Hook. f. Fl. Brit. India* 4 : 333, 1884.

Terrestrial herbs; roots few, simple, capillary. Leaves up to 5 mm long, linear-spathulate, 1-nerved, rounded at apex. Scape erect, 4.5–15.5 cm tall, slender, glabrous; scales few, attached by the middle, up to 2 mm long, 1-nerved, acute at apex. Flowers usually few, sparsely arranged; pedicels about 1 mm long; bracts medifixed, up to 2 mm long, 1-nerved, acute at apex; bracteoles attached apparently by base, up to 1 mm long, 1-nerved, acute at apex; calyx lobes up to 1.5 mm long.

¹ B.A.R.C., Trombay, Bombay-85.

² Tata Silk Farm, Bangalore-4.

minutely papillose, 5-6-nerved, rounded at apex; corolla white (rarely purple); upper lip 2 mm long, oblong to slightly expanded above, shallow to deeply bifid at apex; lower lip ovate, bent down covering less than half the length of spur; spur conical, minutely papillose; ovary ovoid, up to 1.5 mm long. Capsules ovoid, up to 2 mm long; seeds ovoid, reticulate with clavate projections.



FIGS. 1-2. Seeds of two species of *Utricularia*; Fig. 1. *U. caerulea*. Fig. 2. *U. nivea*.

Specimens examined:

INDIA. ASSAM: Khasia mountains, *Hooker f. et Thompson s.n.* (CAL). BENGAL: Sili-guri, *King s.n.* (CAL); Titalyah, *Kurz s.n.* (CAL). MADHYA PRADESH: Guna, *Ridley 28* (CAL). MYSORE: Yellapur, North Canara, *Talbot 1047* (CAL). ANDHRA PRADESH: Mahimandalam, Chittoor District, *Fischer 4685* (CAL); Madanapally, Chittoor District, *Fischer 4712* (CAL). MADRAS STATE: Annamallay, *Wight 2418* (CAL). KERALA: Munnar, *Saldanha 8045* (BLAT).

BURMA. Tavoy, *Wallich 1501* (CAL); Kaukkwe valley, Bhamo District, *Lace 6056* (CAL).

MALACCA. *Ridley 10706* (CAL).

NO LOCALITY. *Vicary s.n.* (CAL).

U. caerulea Linn. *Sp. Pl.*, 1: 18, 1753; *Wt. Icon. t.* 1583, 1850; *Gamble, Fl. Pres. Madras 2*: 691, 1957 (repr. edit.), *excl. syn. U. nivea* Vahl; *Haines, Bot. Bihar and Orissa 2*: 676, 1961 (repr. edit.), *p.p.*; *Santapau in J. Bombay nat. Hist. Soc.* 49: 220, 1952, *excl. syn. U. nivea* Vahl. *U. racemosa* Wall. (*Cat.*, 1496, 1829, *nom. nud.*), *ex DC. Prodr.* 8: 21, 1844; *Clarke in Hook. f. Fl. Brit. India 4*: 333, 1884; *Prain, Bengal Pl. 2*: 582, 1963 (repr. edit.). *U. nivea sensu Cooke, Fl. Pres. Bombay 2*: 393, 1958 (repr. edit.).

Terrestrial herbs, roots many, capillary, simple stolons numerous from the base of scape, branched.

Traps ovoid, dimorphic; mouth terminal with an oblique funnel-shaped rim, margin of rim covered with glandular hairs; rim of the upper lip produced into a long carinate beak. Leaves few, up to 1.9 cm long, linear-spathulate, 1-nerved, rounded at apex. Scape erect, 3.5-30 cm tall, stout, glabrous; scales few, attached by middle, up to 6 mm long, 1-nerved, acute at apex. Flowers usually many in congested racemes; pedicels up to 1 mm long; bracts medifixed, up to 5 mm long, 1-nerved, acute at apex; bracteoles attached above base, 1-nerved, up to 4 mm long, acute at apex; calyx lobes up to 5 mm long, minutely papillose, 7-9-nerved, rounded at apex; corolla blue or purple; upper lip 4-6 mm long, base ovate-deltoid, limb obovate to suborbicular, truncate or emarginate at apex; lower lip entire, bent down covering more than half the length of spur; spur conical, 7-8 mm long, curved forward or sometimes upwards, tapering and acute at apex, minutely papillose; ovary ovoid, 2-3 mm long. Capsules ovoid, up to 3 mm long; seeds obovoid, smooth-walled, reticulate.

Specimens examined:

INDIA. ASSAM: Khasia, *Clarke 15164* (CAL); Mamloo, Khasia, *Clarke 45291* (CAL); K. and J. Hills, *Deka 18537* (ASSAM) K. and J. Hills, *Deka 22985* (ASSAM). BENGAL: Silhet, *Wallich 1496/1* (CAL) Dinajpur *Vicary s.n.* (CAL); Manbhum, *Campbell s.n.* (CAL). BIHAR: Chota Nagpur, *Prain s.n.* (CAL); Hazaribagh, Chota Nagpur, *Clarke 850* (CAL); Singhbhum, *Haines 208* (CAL); Mihijam, Santhal Parganas, *N. Gill s.n.* (CAL). ORISSA: Ramagiri, *Subba Rao 30354* (ASSAM). MADHYA PRADESH: Satna town, *Sebastine 8899* (MH); Rajbandha tank, Bastar District, *Subramanyam 7162* (MH). MAHARASHTRA: Amaravathi road, Nagpur, *Nafday 59* (BSI); Ambazeri tank, Nagpur, *Subramanyam 4683* (MH). MYSORE: North Canara, *Talbot 1047B* (BSI). ANDHRA PRADESH: Madanapally, Chittoor District, *Fischer 4710* (CAL). MADRAS STATE: Shonthethy canal, Kodaikanal, *Barber 7531* (MH); Ramnad District, *Ramamurthy 22732, 22733* (MH). KERALA: Kamalakad, Wynad, *Saldanha 7513* (BLAT).

BURMA. Pegu, *Kurz 2306* (CAL); *Griffith 4080* (CAL).

MALAYA. Larut, Perak, *King 1931* (CAL); Perak, *Kunstler 3820* (CAL); Taiping, Perak, *Wray 131* (CAL); Penang, *Curtis s.n.* (CAL).

HONGKONG. Fokien, *Dunn 3366* (CAL).

CEYLON. *Thwaites 277* (CAL).