Studies on Indian Cucurbitaceae

A note on *Thladiantha* Bunge and *Hemsleya* Cogn., with special reference to *Thladiantha Hookeri* C. B. Clarke

BY

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(*With Plate* CCLX)

After examination of a number of sheets of *Thladiantha* and *Hemsleya* at the Herbaria of the Royal Botanic Gardens, Kew, British Museum, and the Royal Botanic Garden, Edinburgh, I have come to the conclusion that *Thladiantha Hookeri* C. B. Clarke has been confused with certain species of *Hemsleya* and *Thladiantha*. The species is interesting as in the same plant different types of leaves are found. Simple or variously divided leaves as in the figures 1–3, or forms even with distinct leaflets as in figures 4–5 are often met with. We find in forms attaining the highest degree of segmentation, three- to seven-foliate types of palmate leaves. Trifoliate and unifoliate segmented leaves may occur in the same individual plant as well as in different individuals. Due to this interesting feature of leaf development, one is apt to mistake a trifoliate individual of *Thladiantha Hookeri* for some other species. Cogniaux described such a specimen as *Hemsleya trifoliata* Cogn. On a careful examination of a number of sheets of Cogniaux's *H. trifoliata* and Clarke's *T. Hookeri* I find they are the same species. Cogniaux's observation of *H. trifoliata* rested on the characters of the male plant; he had not seen the female plant. If he could have traced the female plant, undoubtedly the confusion would not have arisen. *Hemsleya* is principally a Chinese plant and its natural habitat is in Central China. I have examined a good number of Chinese specimens in the Edinburgh Herbarium and I am of opinion that *H. trifoliata* should be reduced to *T. Hookeri* C. B. Clarke.

The distinction between *Thladiantha* and *Hemsleya* is mainly with regard to the arrangement of the ovules in the ovary. In *Thladiantha* they are horizontal and in *Hemsleya* pendulous. Cogniaux has described three other species of *Hemsleya* :—*H. amabilis*, *H. Henryi* and *H. yunnanensis* from specimens with male flowers only. When female flowers are known, they will throw further light on the systematic position. It is difficult to distinguish male plants of *Thaldiantha* with palmately compound leaves from certain species of *Hemsleya*, the flowers and the leaves being so alike.

Cogniaux quoted Henry No. 12295D, Herbarium Berlin for both *Hemsleya trifoliata* Cogn. and *Thladiantha pentadactyla* Cogn. I have reason to believe that they are individuals of the same species, as *H. trifoliata* often bears pentafoliate leaves ; on the strength of this finding *T. pentadactyla* should also be reduced to *T. Hookeri* Clarke. *T. heptadactyla* Cogn. might be a form of *T. pentadactyla* with 7–foliate leaves. In one individual plant leaves with 5–7 leaflets are also found. Hence *H. trifoliata*, *T. pentadactyla* and perhaps *T. heptadactyla* are nothing but *T. Hookeri* Clarke. Burmese and Chinese specimens of *T. Hookeri*, however, possess narrower lanceolate leaflets. On the observation of

this variable character of *T. Hookeri* it is desirable to amend Clarke's description of the species *T. Hookeri* as given in Hooker's Flora of British India. The amended description is given below.

Thladiantha Hookeri Clarke, descript. emend.

C. B. Clarke in Hook. f. Fl. Brit. Ind. ii (1879), 63, in part; Cogn. in Engler's Pflanzenr. iv, 275, i (1916), 52, in part. Chakravarty in Ind. Jour. Agric. Sc. xvi (1946), 64; Figures 1–14.

A large climber, sparingly branched, stem angular, sulcate, glabrous. Leaves palmate, polymorphous from undivided to fid, partite or sect; and compound-trifoliate to hepta-foliate. Petiole slender glabrous or puberulous, 3–6 mm. long. Lamina thinly membranous, accuminate, margin entire or minutely and remotely denticulate, upper surface prominently and uniformly white globular-punctate or clad with short pointed hairs, lower surface glabrous, 10-13 cm. long, 6–8 cm. broad; in 3–foliate to 5–foliate forms leaflets shortly petiolate, lanceolate, intermediate leaflets 9–13 cm. long, 3–5·5 cm. broad; lateral leaflets shorter asymetrical, auriculate. Tendril filiform. elongate, puberulous. Male flowers in racemes; peduncle slender or somewhat robust, puberulous 4–7 flowered, 2–3 cm. long; pedicels erect, slender, glabrous, ebracteate, 1–3 cm. long. Receptacle broadly campanulate, sparsely pilose, 3–4 mm. long, 1·5–2 mm. broad. Petals nerved, outer glabrous, inner shortly papillose, 10–12 mm. long about 4 mm. broad. Staminal filaments slender, glabrous, 2–3 mm. long; anthers about 2 mm. long. Female flowers solitary or few, peduncle short. Staminodes 5; pedicels 2–3 cm. long; young ovary densely brownish tomentose. Fruit oblong, both sides round, 3–3·5 cm. long. Seeds ash coloured, smooth, attenuate at base, 6·5 mm. long, 5 mm. broad, 2·5 mm. thick.

Habitat: Assam and Burma up to elevations of 6,000 feet. Distributed to China and Siam.

Assam: Assam (Griffith No. 769, Herb. Kew); Khasia (Hooker & Thomson); Halflong, Jowai, Mapong, Kala Naga Hills, Nichoogard (Naga Hills), Kohima, Lushai Hills (Chakravarty l. c.).

Burma: Kachin Hill, Upper Burma (Chakravarty l. c.); Maymyo (Lace No. 6258, Edin. Herb.).

Var. **palmatifolia** var. nov.

Folia palmata, 3–vel 5–foliata.

forma 1. *trifoliata*, comb. nov.; *Hemsleya trifoliata* Cogn. in Engler's Das Pflanzenr. iv, 275, i (1916), 26.

Foliis trifoliatis nec simplicibus differt.

Leaves trifoliate palmate, 10–15 cm. long, 3–3·5 cm. broad, punctuate to scabrous on upper surface. Lateral leaflets asymetrical, all similar; middle leaflet lanceolate, attentuate at apex and base (figure 4).

Habitat: Assam, Kala Naga Hills (Watt No. 7306, Edin. Herb.). Typus in Herb. Edin. Distributed to China.

forma 2. *quinquefoliata* forma nov.; *Thladiantha pentadactyla* Cogn. in Pflanzenr. iv, 275, i (1916), 52.

Foliis quinquefoliatis divergit.

Leaves 5-foliate ; leaflets narrowly lanceolate, 9–10 cm. long and 1–1·5 cm. broad (figure 5).

Habitat : Burma, Hpimaw Fort (Farrer R. No. 1028, Edin. Herb.) ; Nyetmaw (Farrer R. No. 964, Edin. Herb.) ; Nyitadi (Farrer R. No. 1843, Edin. Herb.) ; Typus in Herb. Edin. Distributed to China.

References

Chakravarty, H. L. (1946) . Indian Journal of Agricultural Science, xvi, Part I, 62–69.

Clarke, C. B. (1879) . in Hooker's Flora of British India, ii, 630–631.

Cogniaux, A. (1916) . in Engler's Das Pflanzenreich, iv, 275, i, 26, 40–53.

Cogniaux, A. (1881) . in De Candolle's Monographia Phanerogamarum, iii, 623–625.

Explanation of Plate CCLX

Thladiantha Hookeri Clarke.

Figures 1–3 : Leaves showing types of segmentation, × $\frac{3}{8}$.

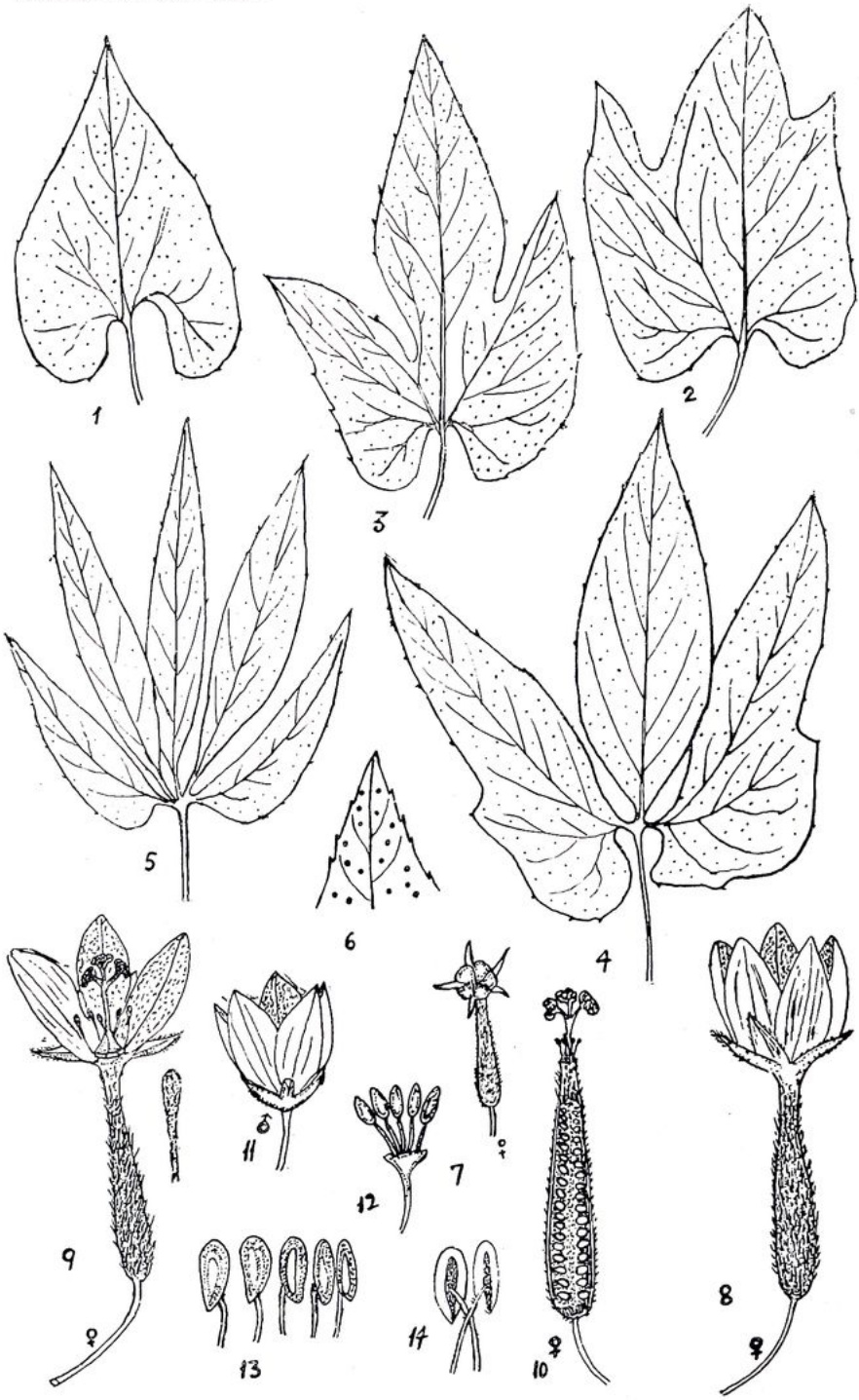
Figure 4 : var. *palmatifolia*, forma *trifoliata*, × $\frac{3}{8}$.

Figure 5 : var. *palmatifolia*, forma *quinquefoliata*, × $\frac{3}{8}$.

Figure 6 : portion of the leaf showing punctation in detail, × $\frac{3}{2}$.

Figures 7–10 : female flower and its parts : figure 7 a bud, × $\frac{3}{4}$; figure 8 mature flower, × 1 ; figure 9 same with some petals removed to show staminodes (5) and stigmatic lobes (3), × 1 ; figure 10 ovary partially cut off lengthwise to show the arrangement of the ovules, × 1.

Figures 11–14 : male flower and its parts : figure 11 mature flower, × $\frac{3}{4}$; figure 12 same, perianth removed to show stamens (5) × $\frac{3}{2}$; figure 13 stamens front view, × $\frac{9}{2}$; figure 14 stamens (shown 2), back view showing attachment of the filaments, × $\frac{9}{2}$



Thladiantha Hookeri Clarke.