Notes R.B.G. Edinb. 38(3):489–493 (1980)

A REVISION OF BARTHEA

CARLO HANSEN*

ABSTRACT. A full description of the monotypic genus *Barthea* Hook. f. (Melastomataceae) is given and a new variety, *B. barthei* (Hance ex Benth.) Krasser var. *valdealata* C. Hansen, is described.

The following communication reports a study of the monotypic genus *Barthea* (Melastomataceae) which was made using specimens from throughout its geographical range. Much more detailed information on morphology than was previously available has been obtained and is incorporated in the descriptions.

Barthea barthei (Benth. ex Hance) Krasser, the only species which I recognize in the genus, was originally reported by Bentham (1861) as *Dissochaeta barthei* [Hance ex] Benth. although he expressed uncertainty about placing it in this genus. In Bentham and Hooker's *Genera Plantarum* (1867) the genus *Barthea* was described to accommodate this species which was unfortunately given the synonym *Barthea chinensis* Hook. f. The transfer of *Dissochaeta barthei* to give the correct name *Barthea barthei* was made by Krasser (1900) in *Natürl. Pflanzenfamilien.*

The diagnostic characters of *Barthea* are the dimorphic stamens, each with two filiform ventral appendages, and the large narrowly cuneate brown seeds. Accessory, but not absolutely distinctive, characters are the tightly appressed peltate glands on many parts, the sharply angled and often winged hypanthium, the keeled to winged sepals which are persistent in fruit, and the sessile placentae. According to the current subdivision of the family (e.g. Bakhuizen jr, *Rec. Trav. Bot. Néerl.* 40:1–391, 1946), the possession of a capsular fruit and a straight embryo places *Barthea* in the Oxysporeae or the Sonerileae. The distinction between these tribes is obscure, but *Barthea* is usually placed in the Oxysporeae although it does not appear closely related to any of the other genera in this tribe.

Barthea Hook. f. in Benth. & Hook., Gen. Pl. 1:751 (1867).
Syn.: *Dissochaeta* sensu Benth., Fl. Hongk.:115 (1861).
Type species: *Barthea barthei* (Hance ex Benth.) Krasser.

Barthea barthei (Hance ex Benth.) Krasser in Engl. & Prantl, Natürl. Pflanzenfam. 2.3(7):175, fig. 76B (1900). **Fig. 1.**

Much branched shrub, 50–240 cm tall. Very young branchlets more or less angular and sometimes sulcate on two opposed sides, or ribbed, indumentum of appressed peltate glands, older branchlets terete and glabrous; bark grey to light brownish; internodes usually much shorter than leaves, nodes often swollen. Leaves decussate, those of a pair mostly somewhat unequal in size. Petiole with peltate glands when young, 0·3–1·7

* Botanical Museum, University of Copenhagen, Gothersgade 130, 1123 Copenhagen K.

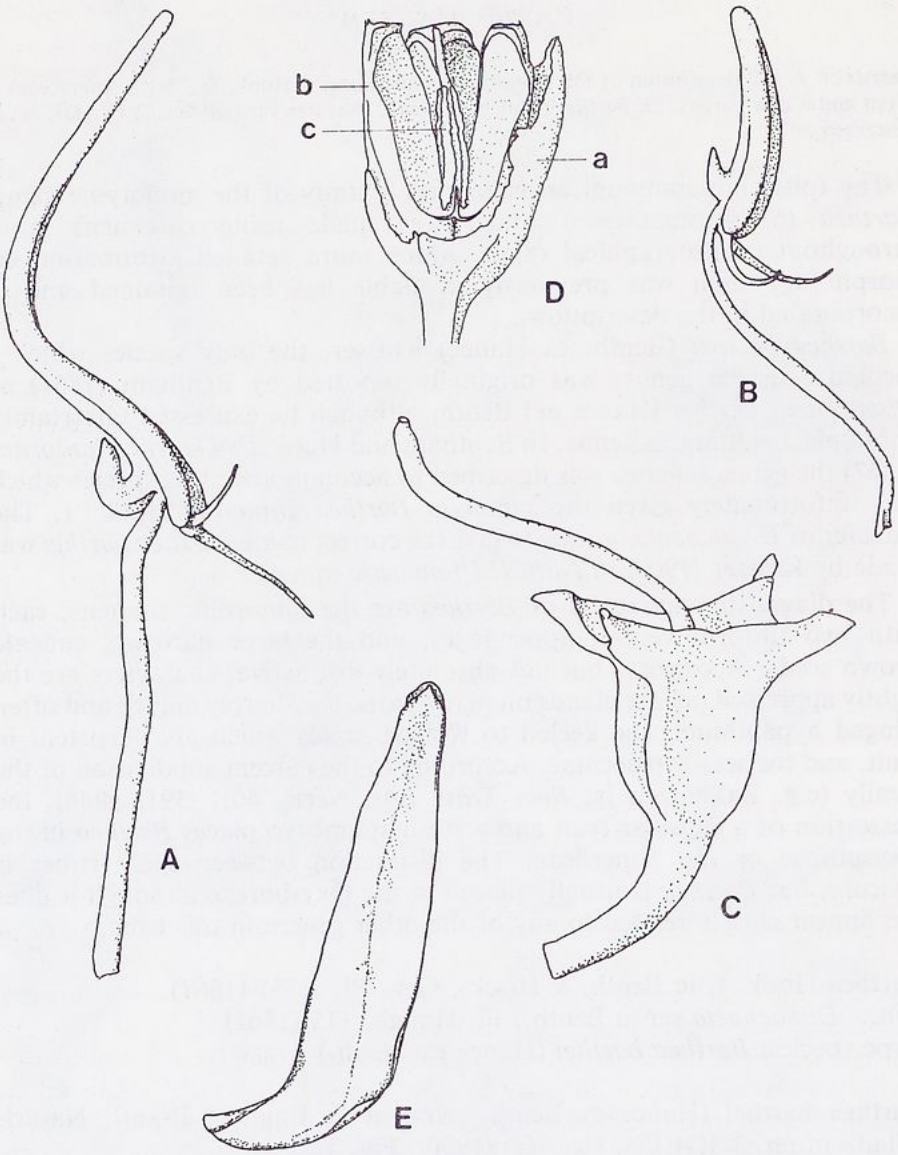

FIG. 1. *Barthea barthei* var. *barthei:* A, antisepalous stamen × c. 4·5 (*Hu* 12566 at K); B, antipetalous stamen × c. 4·5 (*Hu* 12566 at K); C, hypanthium and style × c. 2·5 (*Fortune* 167 at P); D, dehisced fruit × c. 2·5 (*Tsiang* 41 at NY), a, remnants of hypanthium, b, valve, c, sessile placentae on central column freed during dehiscence; E, seed × c. 20 (*Hancock* 70 at K).

cm long. Leaf-blade (1·5–)3·3–9·8 × (0·9–)1·4–3·5(–5·3) cm, ovate or rarely elliptic, 3-veined with longitudinal veins prominent beneath, apex long attenuate or rarely acuminate, margin entire and slightly revolute, rarely distantly serrulate; both surfaces of very young leaves densely covered with peltate glands, older leaves glabrous above, the peltate glands remaining only beneath. Inflorescence a terminal fascicle of 1–3(–4) flowers; subtending leaf-pair normal-sized or more or less reduced into narrow bracts; inflorescences sometimes aggregated and resembling a thyrse. Pedicels 4–9(–13) mm in flower, 5–13(–17) mm in fruit. Flowers actinomorphic, 4-merous, bisexual. Hypanthium urceolate with parallel sides and attenuate base, quadrangular in cross section, winged or rarely only ribbed at angles, (5·5–)7·2–10(–14) × 2–4·5 mm, 1·8–3·3 × as long as broad, with a thin covering of peltate glands. Sepals connate into a 4-lobed rim, 0·3–1 mm high at sinuses, 2·1–4(–12) mm high at lobes (including extension of wing), attenuate to rarely broadly triangular, keeled or more usually produced into a wing which may project to 10 mm; sparse indumentum of peltate glands present on both sides; sepals persistent in fruit. Petals very broadly obliquely ovate, apiculate, pink to red in bud, white or white with some pink in flower, 10–22 × 7–17 mm. Stamens 8, dimorphic; filaments somewhat flat, glabrous, those of small (antipetalous) stamens 6–10 mm long, those of large (antisepalous) stamens 8·5–11 mm long and always somewhat longer than those of small stamens. Anthers introrse. Those of small stamens oblong, slightly curved outwards, 2·1–4 mm long; connective distinct, tuberculate or with a blunt spur on the back up to 0·3 mm, ending below in two filiform appendages 2·3–3·7 mm long; pore 1, small, ventral. Anthers of large stamens linear, curved inwards, 9·4–13·2 mm long; connective distinct, with a large fleshy upwardly bent appendage on the back, 1–2 mm long, ending below in two filiform appendages, 1·7–3 mm long; pore 1, small, ventral. Ovary almost as long as hypanthium, partially adnate to it for about two thirds of its length; anther pockets 4, extending to base of ovary; free part of ovary obtuse or truncate at apex, sometimes slightly depressed, glabrous or with various patterns of indumentum of peltate glands, and/or glandular and non-glandular hairs — often arranged to form a crown around the edge of the apical depression. Placentae long, sessile, protruding only slightly into the loculi. Style 10–15 mm long, glabrous, usually bending sideways at base, curving upwards again at apex; stigma small, narrower than style. Fruit an urceolate loculicidal capsule, 8·5–12(–16) × 5–9 mm, dehiscing to expose brown apically-thickened valves and a disengaged placental column. Seeds brown, long and narrow, slightly compressed laterally, widening from base to top of embryo and produced above into a flat beak pointing to the raphal side, 2·2–3·2 (including beak of 0·6–1·2) × 0·4–0·6 mm, muricate with a few indistinct longitudinal ridges; raphe a sharp angle, sometimes with a narrow furrow; strophiole a thin inconspicuous strand of cells on lower part of raphe; embryo straight.

Var. **barthei**. Fig. 1.

Syn.: *Dissochaeta barthei* [Hance ex] Benth., Fl. Hongk. :115 (1861).
Barthea chinensis Hook. f. in Benth. & Hook., Gen. Pl. 1:751 (1867) nom. illeg.

Barthea formosana Hayata in J. Coll. Sci. Imp. Univ. Tokyo 25:97, pl. 10 (1908). Type material: Taiwan. Nanto: Mushazan, ad 6000 ped. alt., x 1906, *Kawakami & Mori* 1148 n.v.; Suihenkiaku?, i 1906, *Kawakami & Nakahara* 41 n.v.

Hypanthium (5·5–)7·2–8·5(–10) mm long. Calyx lobes 2·1–4(–7) mm long including 0–1·5 mm long extensions of wing. Fruit 8·5–12 mm long. Type. Hong Kong. Victoria Peak, i 1856 & iv 1861, *Hance* 463 (lecto. K; isolecto. BM, P, W). Paratypes: *Barthe* s.n. (P); *Wilford* 164 (A, K).
Distr. North Vietnam, China (Guangxi, Guangdong, Hong Kong), Taiwan (Fig. 2).

The many specimens of *B. barthei* var. *barthei* examined are too numerous to cite here. They have usually been collected in forests (type specified in two instances: broad-leaved and *Chamaecyparis*), ravines, or along streams, and mostly in shade. The altitudinal range of the specimens is between 450 and 2600 m, and flowering time is from December to May.

I have cited the authors of *Dissochaeta barthei* as [Hance ex] Benth. since Bentham did not state whether he ascribed the name to Hance ('ex' Rec. 46C, *International Code of Botanical Nomenclature*, 1978) or whether Hance supplied the description ('in' Rec. 46D), and in such a case the *ex* form is preferable since in the shortened form, *D. barthei* Benth., it shows that the name should be sought in a work by Bentham.

Hayata (loc. cit.) described *B. formosana* as differing from *B. barthei* in the absence of a crown on top of the ovary and in having subentire leaves. Both these characters occur amongst the material of *B. barthei* I have examined: the indumentum on top of the ovary varies greatly and the variation includes specimens without a crown, while specimens with entire or distantly serrulate (subentire) leaf margins also occur. However, there is no correlation between the absence of a crown and presence of subentire leaves, nor of either of these with any other character. My conclusion is therefore that *B. formosana* should be regarded as a synonym of *B. barthei*.

Var. **valdealata** C. Hansen, **var. nov.**

A var. *barthei* hypanthio 12–14 mm longo, lobis calycis 10·5–12 mm longis (extensionam alae 9–10 mm longam includens), fructu 15–16 mm longo differt.
Type. China, Guangxi, Me-kon, Seh-feng, Dar Shan, S Nanning, 2600 ft, 3 xi 1928, *Ching* 8346 (holo. A; iso. NY, US).
CHINA. Guangxi, Shap Man Taai Shan, Shang-sze Distr.: nr Iu Shan village, SE of Shang-sze, 25 v 1933, *Tsang* 22372 (A, BM, P, S); near Hoh Lung village, 26 vi 1933, *Tsang* 22566 (A, BM, P, S); Tang Lung village, 30 ix 1934, *Tsang* 24306, 24379 (A, NY); Nam She village, 5 xi 1934, *Tsang* 24619 (A, NY); ibid., 26 xi 1934, *Tsang* 24746 (A, NY). Guangdong: Sheh Mang Tai Shan, 2500 ft, 3 viii 1933, *Tso* 23570 (NY).

This variety occurs in a small area around the Guanxi–Guangdong border (Fig. 2) and is distinct in its large hypanthium and the sepalar wing being much extended beyond the apex of the sepal — in all other characters it falls within the variation of *B. barthei*.

Var. *valdealata* grows in forests and ravines. Soils mentioned are silt and sand. The altitudes given on two labels are 740 and 750 m. Flowering

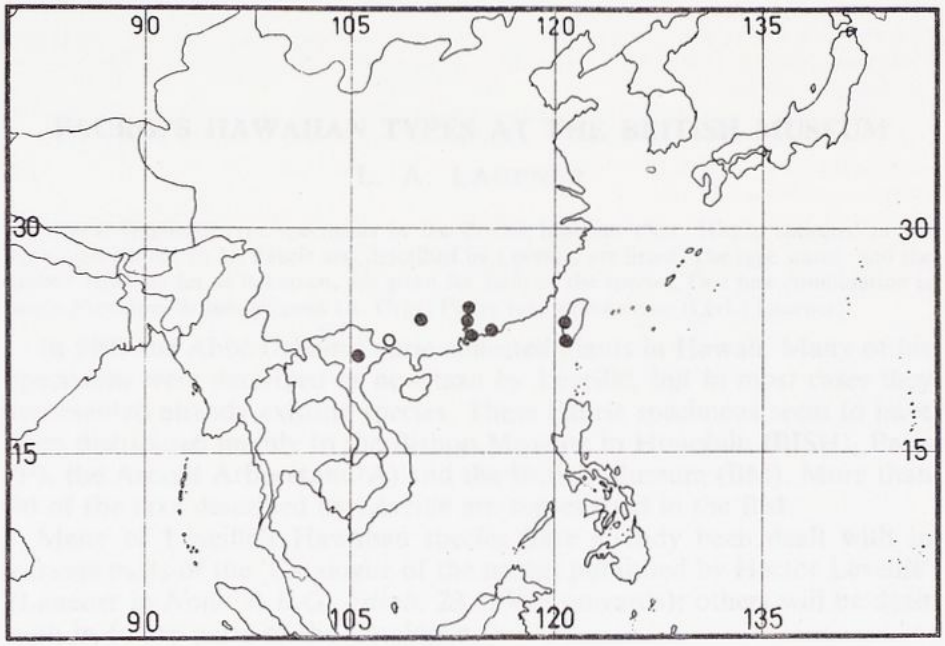

FIG. 2. Total distribution of *Barthea barthei:* ● *B. barthei* var. *barthei*, ○ *B. barthei* var. *valdealata*.

specimens have been gathered in September and November. The eight specimens are probably all from the same small area.

EXCLUDED NAMES

Barthea blinii Lévl.—Taxonomic synonym of *Plagiopetalum esquirolii* (Lévl.) Rehd.

Barthea cavaleriei Lévl.—Taxonomic synonym of *Bredia esquirolii* (Lévl.) Lauener.

Barthea esquirolii Lévl.—Basionym of *Bredia esquirolii* (Lévl.) Lauener.

See Lauener, *Notes R.B.G. Edinb.* 31:399 & 400 (1972) for a discussion of the nomenclature of these taxa.

ACKNOWLEDGMENTS

I am grateful to those who helped in the preparation of the manuscript and particularly to Mrs Anne Fox Maule for writing the Latin diagnosis of the new variety. The following herbaria kindly lent herbarium material: A, BM, BR, E, G, K, NY, P, PE, S, US, W.