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A new species and variety of *Dombeya* (*Sterculiaceae*) from Madagascar

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Summary : *Dombeya moratii* L. Barnett & Dorr *sp. nov.* and *D. longicuspis* Baillon var. *bosseri* L. Barnett & Dorr *var. nov.* are described from Madagascar.

Résumé : *Dombeya moratii* L. Barnett & Dorr *sp. nov.* et *D. longicuspis* Baillon var. *bosseri* L. Barnett & Dorr *var. nov.* sont décrits de Madagascar.

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The genus *Dombeya* Cav. is remarkable for its diversity in Madagascar. In fact, it qualifies as one of the richest groups on that island, where it is represented by 187 species, almost all endemic (Arènes, 1958, 1959). Additional species occur in Africa and the Mascarene Islands, and there are perhaps altogether 225 species in the genus.

The following new taxa came to our attention in the course of completing studies on related Malagasy *Sterculiaceae.*

Dombeya moratii L. Barnett & Dorr, *sp. nov.*

Frutex parvus. Folia trilobata, lobis lateralibus quam lobo medio brevioribus. Epicalyx tribracteatus ; bracteae pinnatilobatae, persistentes. Inflorescentiae umbellatae, triflorae. Petala rubra. Androecium coroniforme. Stamina 15. Staminodia 5. Fructus ignotus.

Type : *Cremers 1541*, 1er étage de la Brioche où « Fandrana » (sic), vers 1200 m, P.K. 545, à 64 km d'Ihosy à Ambalavao, fl., 7.5.1971 (holo-, P ; iso-, TAN).

Shrubs, 2 m tall, with numerous branches ; branches terete, new growth densely grayish stellate-pubescent, in age twigs glabrate and appearing blackish. Leaf blades ovate to narrowly ovate, faintly to conspicuously palmately 3-lobed, lateral lobes short compared to median lobe, occasionally one or both lateral lobes suppressed, 4.5-12 cm long, 3-8 cm wide, apex acute, apiculate, base cordate, occasionally oblique, margins irregularly crenate or erose, midvein and secondary veins conspicuous, raised below, midvein slightly depressed above, discolorous, lower surface densely stellate-pubescent, rufous, in age grayish-white, upper surface stellate-pubescent, in age glabrate. Petioles shorter than blades, 1.5-5.5 cm long, densely grayish stellate-pubescent. Stipules acicular, ca. 2 mm long, caducous.

Inflorescences 3-flowered umbels ; peduncles 1-1.5 cm long, densely stellate-pubescent ; pedicels 1.5-2 cm long, glabrate. Epicalyx pinnatilobed, ca. 1 cm long, lobes terminating in simple or stellate, hyaline hairs, inner and outer surfaces glabrate, persistent. Floral buds ovoid, apiculate. Calyx 5-lobed, united only at the base, lobes lanceolate, long acuminate, ca. 2 cm long, inner and outer surfaces glabrous, lobes reflexed in age. Petals 5, red, asymmetric, obovate, 2.5-3 cm long, 1.7-2.5 cm wide. Androecium coroniform ; staminal tube 3-5 mm tall ; stamens 15, in fascicles of 3, alternating with 5 staminodes, geniculate, 1-1.3 cm long ; filaments subequal, ca. 5-6 mm long, two filaments in each fascicle of stamens equal and fused and one slightly longer and free ; anthers lanceolate, 5-7 mm long ; staminodes linear, papillose abaxially, 2-2.5 cm long. Ovary 5-locular, densely villous ; locules 5-6-ovulate, stylar column 2-2.7 cm tall, glabrous, terminated by 5 denticulate, stylar branches to 1 mm long. Fruit unknown.

Dombeya moratii is a striking species easily distinguished by vegetative or floral characters. The leaf shape, palmately 3-lobed leaves with lateral lobes conspicuously shorter than the median lobe, is unique among species of *Dombeya*. Similarly, the combination of pinnatilobed and glabrate epicalyx bracts ; 3-flowered, umbellate inflorescences ; pubescent peduncles ; glabrate pedicels ; and glabrous calyx is not found elsewhere in the genus.

In Arènes' (1958, 1959) revision and floristic treatment, *Dombeya moratii* keys to *Dombeya* subg. *Dombeya* sect. *Paracheirolaena* Hochr., the critical characters being the 5-carpellate ovary, umbellate inflorescence, coroniform androecium, and pinnatilobed epicalyx bracts. However, the inflorescence of *D. ctenostegia* Hochr., the sole species referred to *Dombeya* sect. *Paracheirolaena* (Hochreutiner, 1926 ; Arènes, 1958, 1959), is a paniculate cyme, and the fruit is sufficiently different from other species of *Dombeya* to warrant transfer of *D. ctenostegia* to a related genus (Barnett, in prep.). The combination of an umbellate inflorescence and an externally glabrous calyx is found also in *Dombeya* sect. *Dombeya* subsect. *Stipulaceae* Arènes, but in this subsection the epicalyx bracts are not pinnatilobed. *Dombeya moratii* can not be accommodated easily in any of the other sections of subgenus *Dombeya* recognized by Arènes (1958, 1959). Since we feel that the subgeneric groupings of *Dombeya*, as presently defined, do not necessarily represent natural groups, we prefer to leave *D. moratii* as *incertae sedis*.

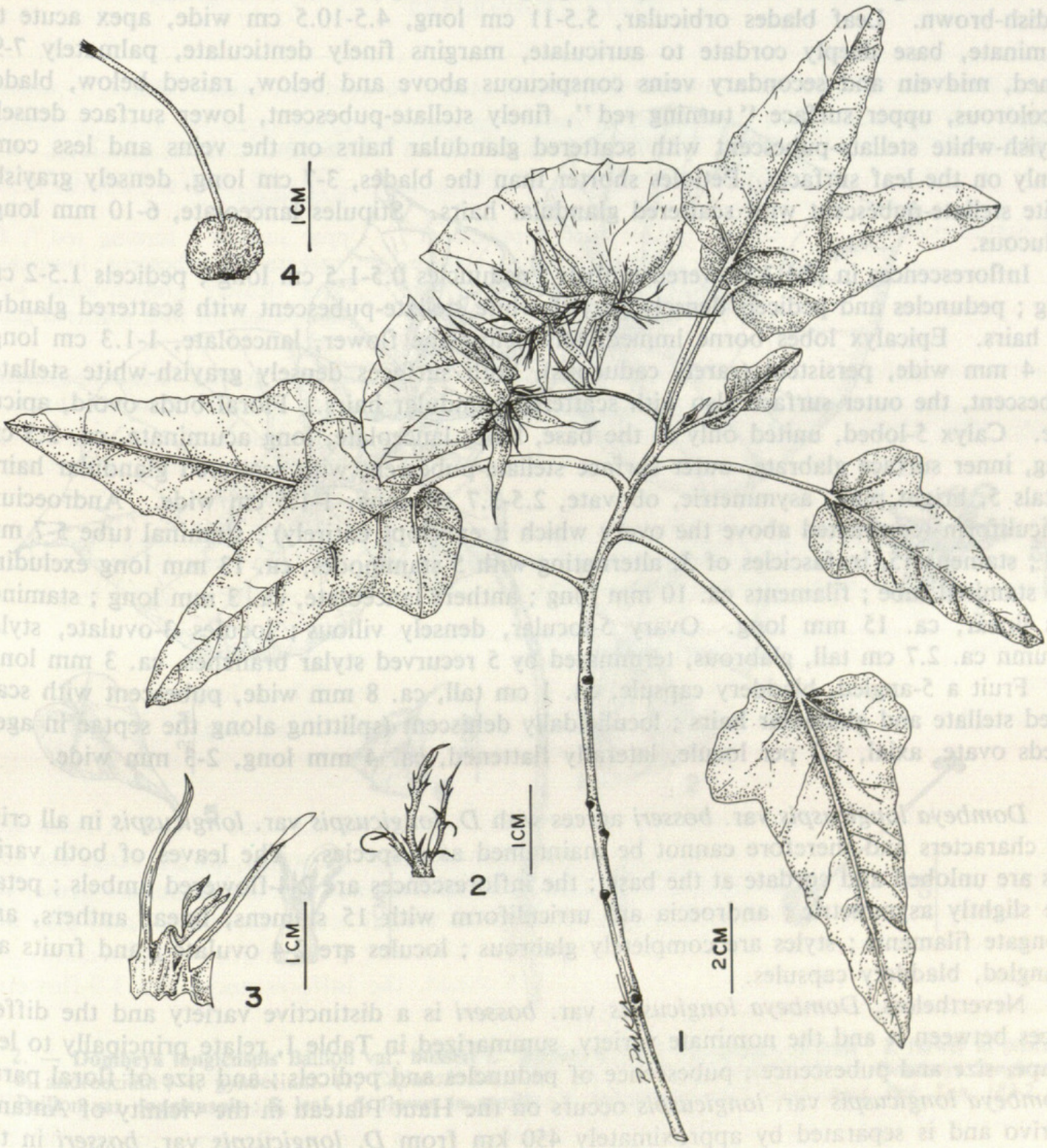
We are pleased to name *Dombeya moratii* for Prof. Philippe Morat who collected the species and whose contribution to Malagasy botany is significant.

Material studied : *Morat 3350*, La Brioche, rocher entre Ambalavao et Ihosy, 1200 m, fréquent sur rocher, 6.1969 (TAN) ; *Capuron 23509-SF*, massif granitique de l'Ifanadana, entre Ankaramena et Ihosy, 1300-1400 m, fl., 7.10.1964 (P) ; *Cremers 1541* (type).

Dombeya longicuspis Baillon var. **bosseri** L. Barnett & Dorr, *var. nov.*

Dombeya longicuspis Baillon *affinis a qua imprimis differt foliis orbiculatis et foliis, lobis calycibus, petalis, filamentis, staminodiis et stylis omnibus grandioribus.*

Type : *Bosser 19072*, rochers, Isalo, Ranohira, fl., 3.1964 (holo-, P ; iso-, TAN).



Pl. 1. — **Dombeya moratii** L. Barnett & Dorr : **1**, branch in flower ; **2**, epicalyx bract ; **3**, androecium ; **4**, gynoecium. (1, *Capuron 23509-SF*, P ; 2-4, *Morat 3350*, TAN).

Shrubs, 2 m tall ; branches terete, new growth densely grayish-white stellate-pubescent with scattered glandular hairs, in age twigs glabrate, eglandular, and appearing gray to reddish-brown. Leaf blades orbicular, 5.5-11 cm long, 4.5-10.5 cm wide, apex acute to acuminate, base deeply cordate to auriculate, margins finely denticulate, palmately 7-9-veined, midvein and secondary veins conspicuous above and below, raised below, blades discolorous, upper surface " turning red ", finely stellate-pubescent, lower surface densely grayish-white stellate-pubescent with scattered glandular hairs on the veins and less commonly on the leaf surface. Petioles shorter than the blades, 3-7 cm long, densely grayish-white stellate-pubescent with scattered glandular hairs. Stipules lanceolate, 6-10 mm long, caducous.

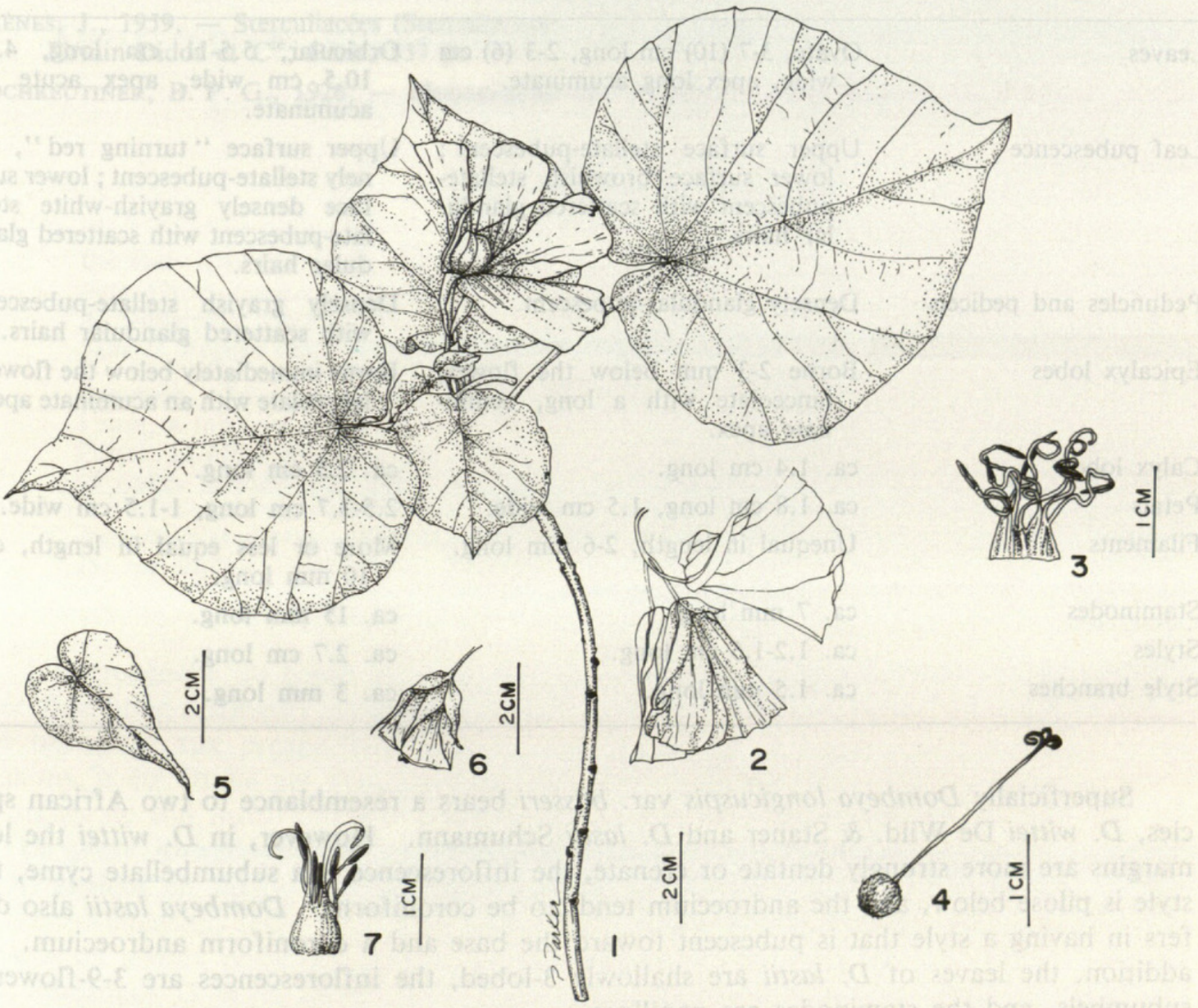
Inflorescences in (2-) 3-flowered umbels ; peduncles 0.5-1.5 cm long ; pedicels 1.5-2 cm long ; peduncles and pedicels densely grayish-white stellate-pubescent with scattered glandular hairs. Epicalyx lobes borne immediately below the flower, lanceolate, 1-1.3 cm long, ca. 4 mm wide, persistent (rarely caducous), both surfaces densely grayish-white stellate-pubescent, the outer surface also with scattered glandular hairs. Floral buds ovoid, apiculate. Calyx 5-lobed, united only at the base, lobes lanceolate, long acuminate, ca. 2.5 cm long, inner surface glabrate, outer surface stellate-pubescent with scattered glandular hairs. Petals 5, bright pink, asymmetric, obovate, 2.5-3.7 cm long, 1-1.5 cm wide. Androecium utriculiform (contracted above the ovary which it envelops entirely) ; staminal tube 5-7 mm tall ; stamens 15, in fascicles of 3, alternating with 5 staminodes, ca. 13 mm long excluding the staminal tube ; filaments ca. 10 mm long ; anthers lanceolate, ca. 3 mm long ; staminodes linear, ca. 15 mm long. Ovary 5-locular, densely villous ; locules 3-ovulate, stylar column ca. 2.7 cm tall, glabrous, terminated by 5 recurved stylar branches, ca. 3 mm long.

Fruit a 5-angled, bladdery capsule, ca. 1 cm tall, ca. 8 mm wide, pubescent with scattered stellate and glandular hairs ; loculicidally dehiscent (splitting along the septae in age). Seeds ovate, axial, 1-3 per locule, laterally flattened, ca. 4 mm long, 2-3 mm wide.

Dombeya longicuspis var. *bosseri* agrees with *D. longicuspis* var. *longicuspis* in all critical characters and therefore cannot be maintained as a species. The leaves of both varieties are unlobed and cordate at the base ; the inflorescences are 2-4-flowered umbels ; petals are slightly asymmetric ; androecia are utriculiform with 15 stamens, linear anthers, and elongate filaments ; styles are completely glabrous ; locules are 2-4 ovulate ; and fruits are 5-angled, bladdery capsules.

Nevertheless, *Dombeya longicuspis* var. *bosseri* is a distinctive variety and the differences between it and the nominate variety, summarized in Table I, relate principally to leaf shape, size and pubescence ; pubescence of peduncles and pedicels ; and size of floral parts. *Dombeya longicuspis* var. *longicuspis* occurs on the Haut Plateau in the vicinity of Antananarivo and is separated by approximately 450 km from *D. longicuspis* var. *bosseri* in the Isalo Plateau.

Dombeya longicuspis var. *bosseri* keys to *D. catatii* Hochr. in ARÈNES' (1958, 1959) revision and floristic treatment because of its pubescent peduncles and pedicels. However, *D. catatii* differs from *D. longicuspis* var. *bosseri* in its ovate, shortly-petiolate leaves ; broad petals ; single whorl of 5 stamens diverging below the apex of the staminal tube ; subsessile anthers ; spatulate staminodes ; and style that is villous along the lower half.



Pl. 2. — **Dombeya longicuspis** Baillon var. **bosseri** L. Barnett & Dorr : **1**, branch in fruit ; **2**, flower in profile ; **3**, androecium ; **4**, gynoecium. (1, *Capuron 24111-SF*, P ; 2-4, *Bosser 19072*, P). — **Dombeya longicuspis** Baillon var. **longicuspis** : **5**, leaf ; **6**, flower in profile ; **7**, androecium. (5-7, *Herb. Jard. Bot. Tan. 182-2*, P).

TABLE I : Characters differentiating varieties of *Dombeya longicuspis*.

CHARACTER	var. *longicuspis*	var. *bosseri*
Leaves	Ovate, 3-7 (10) cm long, 2-3 (6) cm wide, apex long acuminate.	Orbicular, 5.5-11 cm long, 4.5-10.5 cm wide, apex acute to acuminate.
Leaf pubescence	Upper surface stellate-pubescent ; lower surface brownish stellate-pubescent with scattered glandular hairs.	Upper surface "turning red", finely stellate-pubescent ; lower surface densely grayish-white stellate-pubescent with scattered glandular hairs.
Peduncles and pedicels	Densely glandular-pubescent.	Densely grayish stellate-pubescent with scattered glandular hairs.
Epicalyx lobes	Borne 2-3 mm below the flower, lanceolate with a long, acuminate apex.	Borne immediately below the flower, lanceolate with an acuminate apex.
Calyx lobes	ca. 1.4 cm long.	ca. 2.5 cm long.
Petals	ca. 1.8 cm long, 1.5 cm wide.	2.5-3.7 cm long, 1-1.5 cm wide.
Filaments	Unequal in length, 2-6 mm long.	More or less equal in length, ca. 10 mm long.
Staminodes	ca. 7 mm long.	ca. 15 mm long.
Styles	ca. 1.2-1.5 cm long.	ca. 2.7 cm long.
Style branches	ca. 1.5 mm long.	ca. 3 mm long.

Superficially *Dombeya longicuspis* var. *bosseri* bears a resemblance to two African species, *D. wittei* De Wild. & Staner and *D. lastii* Schumann. However, in *D. wittei* the leaf margins are more strongly dentate or crenate, the inflorescence is a subumbellate cyme, the style is pilose below, and the androecium tends to be coroniform. *Dombeya lastii* also differs in having a style that is pubescent toward the base and a coroniform androecium. In addition, the leaves of *D. lastii* are shallowly 3-lobed, the inflorescences are 3-9-flowered subumbels, and the staminodes are papillose.

Twenty years ago J. BOSSER set aside one of his collections of *Dombeya* from Isalo thinking that it was new. Independently we came to a similar conclusion regarding the distinctiveness of this taxon and we name this variety in his honor. BOSSER's important contributions as a collector and author on the plants of Madagascar are well known.

MATERIAL STUDIED : *Bosser 19072* (type) ; *Capuron 24111-SF*, massif gréseux de l'Isalo ; ravin dit des Singes, à l'Ouest de Ranohira le Vieux, fl., fr., 22.5.1965 (P).

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