Barteria Hook. f. (Passifloraceae) revised

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ABSTRACT
The African genus *Barteria*, most recently treated as monospecific, is revised to comprise four species, three of which (*B. dewevrei*, *B. fistulosa*, *B. nigritana*) are myrmecophytes. The fourth species, *B. solida*, is described as new and does not house ants. It is confined to higher altitudes. A key to the four species is given and their distributions are mapped. Illustrations are provided of the new species as well as the ants that inhabit *B. fistulosa*. A note concerning the stipules and the extra floral nectaries of *Barteria* is added.

KEY WORDS
Barteria,
Passifloraceae,
myrmecophily,
stipules.

RÉSUMÉ
Le genre africain *Barteria*, considéré dans le traitement le plus récent comme monospécifique, renferme quatre espèces. Trois de ces espèces (*B. dewevrei*, *B. fistulosa*, *B. nigritana*) sont des myrmécophytes ce qui n'est pas le cas de la quatrième (*B. solida*, *sp. nov.*) qui se trouve en haute altitude. Une clé de détermination et des cartes de répartition des quatre espèces sont présentées. L'espèce nouvelle est illustrée de même que les fourmis qui vivent en association avec *B. fistulosa*. Une note relative aux stipules et aux nectaires extra floraux de *Barteria* est ajoutée.

MOTS CLÉS
Barteria,
Passifloraceae,
myrmécophilie,
stipules.

The tribe Paropsieae, in which the genus *Barteria* is classified, has been treated as a member of Flacourtiaceae by some authors (e.g. PELLEGRIN 1952, SLEUMER & BAMPS 1976) and of Passifloraceae by others (e.g. KEAY 1954, FERNANDES 1970, DE WILDE 1975). DE WILDE (1971) provided evidence that it is best placed in Passifloraceae, but stated that it continues to «occupy an intermediate position between Passifloraceae and Flacourtiaceae».

The separation between *Barteria nigritana* Hook. f. and *B. fistulosa* Mast., previously recognized by PELLEGRIN (1952) and KEAY (1954), presented problems for SLEUMER (1974) when preparing the treatment of Flacourtiaceae for the Flore d'Afrique Centrale. He decided to unite them and treat *B. fistulosa* as a subspecies of *B. nigritana*.

The present author agrees with SLEUMER (1974) that, apart from the flower bracts, there are few differences in the flowers of *Barteria* to support the recognition of more than one species. But other characters do. *Barteria nigritana* s.s. can easily be distinguished from *B. fistulosa* s.s. based on features mentioned by KEAY (1954), such as the number of flowers, the apex of the flower bracts, and spindle-shaped swellings on the branches versus branches hollow throughout. This latter difference is also very well illustrated in ENGLER (1921). The spindle-shaped swellings of *B. nigritana* are, however, not located "here and there" as mentioned by KEAY, but are only found in the basal part of lateral (orthotropic) shoots (see Fig. 1, 2). Moreover, the ants that inhabit these structures are of a different species than those found in the hollow branches of *B. fistulosa*.

Material from the mountainous area in western Cameroun was referred by SLEUMER (1974) to typical *B. nigritana* on account of its few flowers per inflorescence and the form of its leaves. He did not, however, mention that this material from higher altitudes has flower bracts with a rounded apex as in *B. fistulosa* nor that it completely lacks any hollow swelling in its branches. This material (see also KEAY 1954) is here refer-

Table 1.—Main diagnostic characters of the *Barteria* species.

Character	*B. dewevrei*	*B. fistulosa*	*B. nigritana*	*B. solida*
Plagiotropic branches	± hollow over their full length	± hollow over their full length	Spindle-shaped hollow part	Solid
Inflorescence	1-2(-5)-flowered; flowering on lower side of plagiotropic branches	(2-)6-9(-10)-flowered; flowering on both sides of shoot, or only above when few-flowered	1-3-flowered; no tendency of flowering either above or below branches	1-2-flowered; flowering on upper side of branches
Apex of flower bracts	Acute to apiculate	Rounded to obtuse, rarely apiculate	Acute to apiculate	Rounded to obtuse
Fruits	Subglobose, ca. 2 cm diam.	Ellipsoid, 3-3.5 × 2-2.5 cm	Subglobose, 2-2.5 cm diam.	Subglobose, ca. 2 cm diam.
Ants	Small, ≤ 5 mm long	Large, ≥ 10 mm long	Small, ≤ 5 mm long	Absent
Geography	Central Africa (southern part of DRC, RC, CAR) extending to Uganda and western Tanzania	Inland western Central Africa, from W Nigeria to DRC and CAR	Coastal Atlantic zone of Africa from Benin to the mouth of the Congo river	On altitudes between 500 and 1600 m in eastern Nigeria, Cameroun, Gabon, RC and western DRC

Fig. 1.—***Barteria fistulosa*** Mast.: **A**, part of swollen lateral shoot with large ants.—***Barteria nigritana*** Hook. f.: **B**, branches showing spindle-shaped swellings and extra-floral nectaries on the decurrent petioles. Photograph by F.J. BRETELER.

red to a new species *B. solida*. It occurs also further South in western Central Africa, but always at higher altitudes. The 4-lobed stigma SLEUMER (l.c.) found in one specimen of this new species is not a constant feature; specimens from Gabon show both non-lobed stigmas and slightly lobed ones.

The material from inland areas of the Democratic Republic of the Congo (DRC) was classified by SLEUMER (1974) and SLEUMER & BAMPS (1976) as *B. nigritana* subsp. *fistulosa*. All the specimens have branches that are hollow throughout, as well as large leaves. But there are at least two different species of ants that inhabit these plants, and this is correlated with morphological differences. Most specimens have large, aggressive stinging ants [*Tetraponera aethiops* F. Smith, 1877 and *T. latifrons* (C. Emery, 1912)], whereas

the remainder have smaller, non-aggressive ants (*Crematogaster* sp.). The first group is characterized by having many flowers in their leaf axils with rounded flower bracts; the second group has few-flowered inflorescences with acute or apiculate bracts. The differences between these two entities are very well described by DE WILDEMAN (1905). *Barteria fistulosa* s.s. is the correct name for the taxon with the large ants, and *B. dewevrei* De Wild. & Th. Dur. refers to the second, which was also described as *B. acuminata* Baker f. from Uganda and as *B. stuhlmannii* Engl. & Gilg from western Tanzania.

The main differential characters of the four species of *Barteria* recognized here are listed in Table 1.

NOTES.—Most earlier authors (ENGLER 1921, GILG 1925, PELLEGRIN, 1952, SLEUMER & BAMPS 1976) never described the stipules of *Barteria*, but only mentioned that they are caducous; DE WILDE (1975) was alone in describing them as small and caducous. Apparently none of them had actually seen the stipules so they otherwise remained undescribed. The present author has not observed these structures, not even on very young shoots, nor have any scars been observed. It is therefore assumed that stipules are absent in *Barteria*, and that DE WILDE's comments were erroneous.

The extra floral nectaries on the branches of *Barteria* species are situated on the decurrent petiole margins. In *B. fistulosa* and *B. dewevrei* they are only found on the orthotropic shoot, two per node in the former species, probably more than two in the latter. In *B. dewevrei* poorly developed nectaries have sometimes been observed on the plagiotropic shoot as well. In *B. nigritana* these structures are very well developed (see Fig. 1B), up to 2 × 6 per node on the orthotropic shoot and 1-4 nectaries on each decurrent petiole margin on the plagiotropic shoot, usually less numerous (rarely absent) on the lower side of the branch. *Barteria solida* usually has nectaries on the orthotropic shoot, 1-2 on each side, but on the plagiotropic shoots they may be absent altogether, poorly developed, or only one present per petiole margin. Here again the nectaries are better developed on the upper side of the shoot than on the lower side.

Key to the species of *Barteria*

1. Plants with hollow plagiotropic branches usually inhabited by black ants (ants may be absent in young specimens or in young shoots) 2
1'. Plants with plagiotropic branches solid, ants absent ..... **B. solida**
2. Plagiotropic branches hollow over their full length or nearly so 3
2'. Plagiotropic branches only hollow in a distinct, spindle-shaped basal part, situated in between the middle of the first internode and the fourth node ..... **B. nigritana**
3. Flowers (2-)6-9(-10) per axillary inflorescence, arranged in an arc, or when few situated on the upper side of the shoot, flower bracts rounded to obtuse apically, rarely apiculate; ants ≥ 10 mm long; fruits ellipsoid, 3-3.5 × 2-2.5 cm ..... **B. fistulosa**
3'. Flowers 1-2(-5) per axillary inflorescence, flowering on the lower side of the shoot, flower bracts acute to apiculate apically; ants ≤ 5 mm long; fruits subglobose, ca. 2 cm diameter ..... **B. dewevrei**

Barteria dewevrei De Wild. & Th. Dur.

Ann. Mus. Congo, Bot., sér. 2, 1: 8 (1899).—Type: *Dewèvre 869*, Congo (Kinshasa), Bangala (holo-, BR).—Fig. 2, 6I.

Barteria acuminata Baker f., J. Linn. Soc., Bot. 37: 155 (1905).—Type: *Bagshawe 93*, Uganda, Lake Victoria, Misozi, fl. Jan. (holo-, BM).

Barteria stuhlmannii Engl. & Gilg, Bot. Jahrb. Syst. 40: 479 (1908).—Types: *Stuhlmann 986, 987, 1024, 1025, 3661*, Tanzania, Bukoba (syn-, B†). Neotype (chosen here): *Bosch 202*, Tanzania, near Bukoba, fl., fr. Jan. (holo-, WAG), see note.

SPECIMENS EXAMINED (selection).—CENTRAL AFRICAN REPUBLIC: *Guigonis 1938*, Kembe, fl., fr. Sep. (P); *Le Testu 4152*, Yalinga, juv. fr. Sep. (BM, BR, P, WAG); *Le Testu 4735*, fl. May (BM, BR, P, WAG); *Tisserant (Equipe) 61*, Boukoko, fl. July (BM, P).—CONGO REPUBLIC: *Chevalier 11384*, Brazzaville,

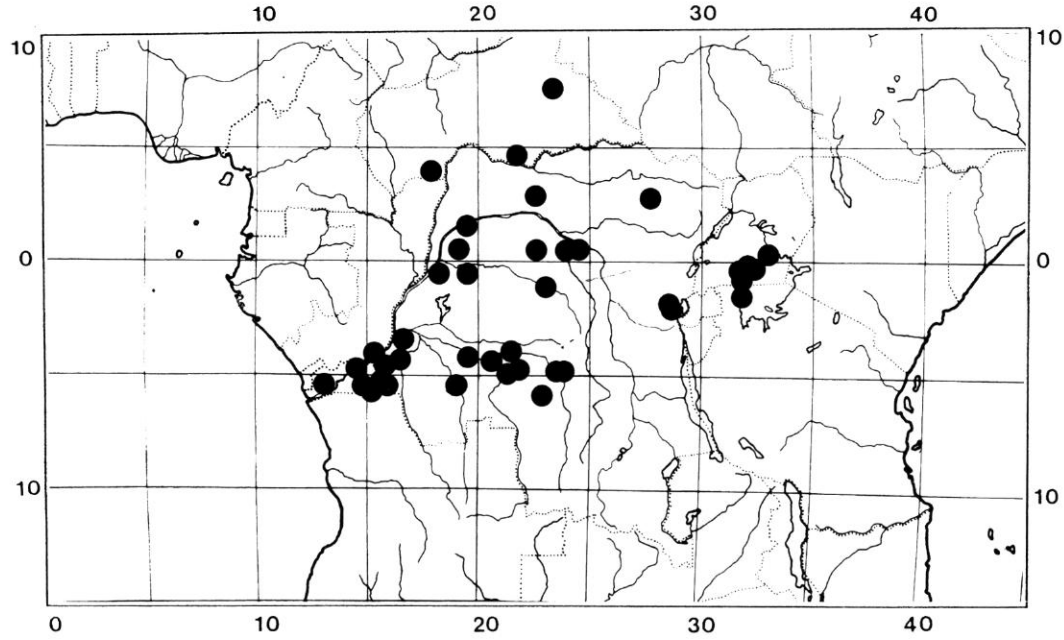

Fig. 2.— Distribution of ***Barteria dewevrei*** De Wild. & Th. Dur.

fr. Jan. (K, P); *De Néré 32*, Kingoyé, fl. Dec. (P, WAG); *De Néré 527*, Boko region, fr. Aug. (P); *Descoings 9673*, 20 km Kibossi - Brazzaville, fl. Dec. (P, WAG); *Thollon 927*, Alima R., fl. Mar. (P); *Trochain 7978*, Brazzaville, fl. buds Sep. (P).—DEMOCRATIC REPUBLIC OF THE CONGO: *Bamps 295*, Yangambi, fl. Nov. (BR); *Bequaert 7663*, Kinshasa, fl. May (BR, K); *Boone 36*, Nala, fl. (BR); *Breyne 512*, Kimuenza, fl. Dec. (BR); *Callens 1987*, Mpese, fl. buds Dec. (BR); *Callens 3846*, Kimbuba, fr. Dec. (BR, K); *Claessens 729*, Bomaneh, fl. July (BR); *Compère 1205*, Kiloango, fr. Jan. (BR, K, WAG); *De Giorgi 991*, Dundusana, fl. June (BR); *Devred 758*, Mvuazi, fl. Sep. (BR); *Devred 2764*, Kiyaka, fl. Nov. (BR); *Dewèvre 869*, Bangala, fl. May (BR, type); *Donis 1555*, Luki, fl. Nov. (BR, WAG); *Dubois 181*, Boyera, fl. (BR); *Evrard 5797*, Djolu, fl. buds Feb. (BR); *Gillardin 289*, Kakenge, fl. Nov. (BR, K); *Gutzwiller 2406*, Bunyakiri, fl. Nov. (BR); *Lescrauwaet 270*, Bena Makima, fl. Feb. (BR); *Liben 2163*, Kafumba, fl. Jan. (BR, P); *Moureau-Cheuvrard 123*, Bikoro, fr. Nov. (BR); *Mukwemuvi 24*, Binanga, fr. Feb. (BR, WAG); *Pierlot 1178*, Lukando, fr. Dec. (BR); *Toussaint 57*, Nkula, fl. Dec. (BR, K, WAG); *Vanderyst 8564*, Ipamu, fl. Jan. (BR).—TANZANIA: *Bosch 201*, Bukoba, fr. Jan. (WAG); *Bosch 202*, fl., fr. Jan. (WAG, neotype of *Barteria stuhlmannii*); *Eggeling 6235*, Rubare, fl. July (K); *Gillman 469*, Bukoba, fl. buds Sep.-Oct. (K).—UGANDA: *Bagshawe 93*, Musozi, fl. Jan. (BM, type of *Barteria acuminata*); *Dawkins 709*, Nakiza F., fl. buds Jan. (K); *Eggeling 272*, Sozi Point, fl. buds Nov. (K); *Maitland 211*, Entebbe, fr. Sep. (K); *Thomas 4093*, Buka Kata, fl. Nov. (K).

NOTES.—Although label data on *Le Testu 4735* from Yalinga, Central African Republic, indicate that its branches are inhabited by large, black, stinging ants, it has been referred to this species on account of its morphological characters.

The syntypes of *B. stuhlmannii* have been lost at Berlin and not a single isosyntype has been found at the following herbaria where collections of *Barteria* have been investigated: BM, BR, COI, GOET, K, LISU, MO, P, WAG. A neotype has therefore been designated.

Barteria fistulosa Mast.

In Oliv., Fl. Trop. Afr. 2: 511 (1871).—*Barteria nigritana* Hook. f. subsp. *fistulosa* (Mast.) Sleumer, Blumea 22: 14 (1974); De Wilde W.J.J.O., Flor. Trop. E. Afr.: Passifloraceae, 5 (1975); Sleumer &

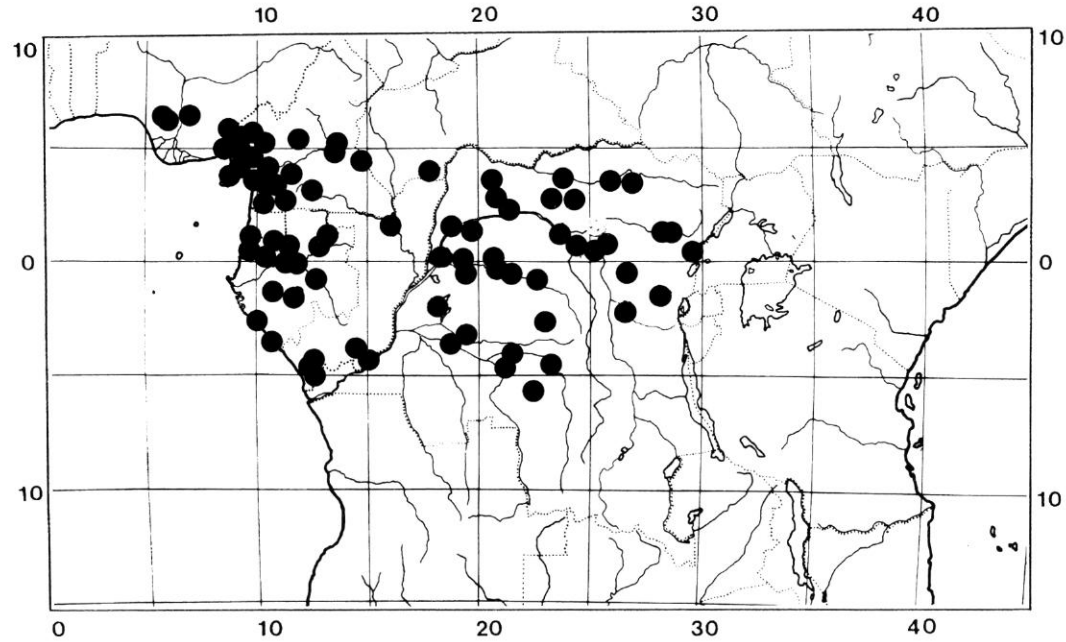

Fig. 3.—Distribution of ***Barteria fistulosa*** Mast.

Bamps, Flor. Afr. Centr., Flacourtiaceae 2: 24 (1976).—Type: *Mann 268*, Equatorial Guinea, Bioco (holo-, K; iso-, P).—Fig. 1, 3, 4, 6J.

B. fistulosa Mast. var. *macrophylla* De Wild. & Th. Dur., Ann. Mus. Congo, Bot., sér. 3: 98 (1901).—Type: *Dewèvre 597*, Congo (Kinshasa), Mbandaka (holo-, BR).

Barteria urophylla Mildbr., Deutsch. Zentr. Afr. Exp. 1910-1911, 2: 97 (1922), nom. nud.

SPECIMENS EXAMINED (selection).—ANGOLA: *Gossweiler 6200*, Pango Munga, fl. Jan. (BM, COI, LISU); *Gossweiler 6791*, Buco Zau, fl. Oct. (BM, BR, COI, K, LISU); *Gossweiler 6791B*, fl. Nov. (BM, BR, COI, K, LISU, MO).—CAMEROUN: *Adebusuyi FHI 44048*, Kumba, fl. June (K); *Bates 1279*, Bitye, fl. (BM, MO); *Breteler 1373*, Bertoua, fl. buds May (K, P, WAG); *Breteler 12037*, 40-50 km E of Campo, ster. Mar. (WAG); *J.J. de Wilde 7677*, Nkoemvone, fl. Nov. (MO, WAG); *W. de Wilde c.s. 2800*, 70 km SW Eseka, fl. July (WAG); *Fleury in Chevalier 33245*, Muyuka, ster. June (P); *Jacques-Félix 4802*, Yaoundé, fr. Aug. (BR, K, P); *Leeuwenberg 5248*, Masok, fl. Mar. (BR, K, MO, P, WAG); *Leeuwenberg 5682*, 58 km Edea-Kribi, fl. May (BR, K, MO, P, WAG); *Leeuwenberg 9487*, 5 km NE Diboumbe, fl. juv. Mar. (BR, WAG); *Letouzey 4893*, Ngoto, fl. Apr. (BR, K, P); *Maitland 616*, Limbe, fl. Apr. (BR, K); *Nkongmeneck 324*, 30 km SW Linté, ster. Apr. (P); *Mildbraed 8877*, Deng Deng, fl. Apr. (BM, K); *Zenker 1129*, Bipinde, fl. (BM, K, MO, P, WAG).—CENTRAL AFRICAN REPUBLIC: *Tisserant (équipe) 848*, fl. Apr. (BM, BR, P, WAG); *Tisserant 975*, fr. June (BM, BR, P, WAG); —CONGO REPUBLIC: *Attims 11*, Dimonika, fl. Nov. (BR, P); *Koechlin 4041*, Bangou F., fl. Dec. (P); *Sandberg 61*, Ouesso, ster. July-Aug. (P); *Thollon 35*, Modzaka, fl. May (P).—DEMOCRATIC REPUBLIC OF THE CONGO: *Achten 545*, Luebo, fl. Oct. (BR); *Bequaert 1003*, Barumbu, fl. Oct. (BR, K); *Bequaert 2339*, Penge, fl. Feb. (BR); *Bredo 1000*, Bambesa, fl. (BR); *Bruneel 6*, Lopori R., fl. (BR); *Claessens 837*, Baranga, fl. June (BR); *Devred 1241*, Boyasegeze, fl. June (BR); *Dewèvre 597*, Mbandaka, fr. Jan. (BR, type of *B. fistulosa* var. *macrophylla*); *Dewèvre 1165A*, Kisangani, fr. (BR); *Corbisier-Baland 1442*, Eala, fl. Apr. (BR, K, P); *Dubois 179*, Boyera, fl. Nov. (BR); *Evrard 4010*, Baliko, fl. Mar. (BR, WAG); *Evrard 4305*, Ikelembe, fr. June (BR); *Evrard 5425*, Yalikungu, fl. Dec. (BR, WAG); *Hart 49*, Epulu, fl. May. (BR); *Hulstaert 503*, Bolima, fr. Feb. (BR); *Hulstaert 1007*, Ikongo, fl. July (BR); *Em. & M. Laurent arbre 1*, Bolombo, fr. Dec. (BR); *plante 5*, Manghe, fl. Nov. (BR); *Lebrun 2622*, Buta, fl. Apr. (BR); *Lejoly 1856*, 45 km N Lubutu, fr. June (BR); *Lemaire 397*, fl. June (BR); *Lisowski 18479*, Bakuti, fl. buds May (K); *Louis 9018*, Yangambi, fl. June (BR, MO, WAG); *Malchair 254*, Likimi, fl. Apr. (BR); *Osmaton 2521*, Mwenda, fl.

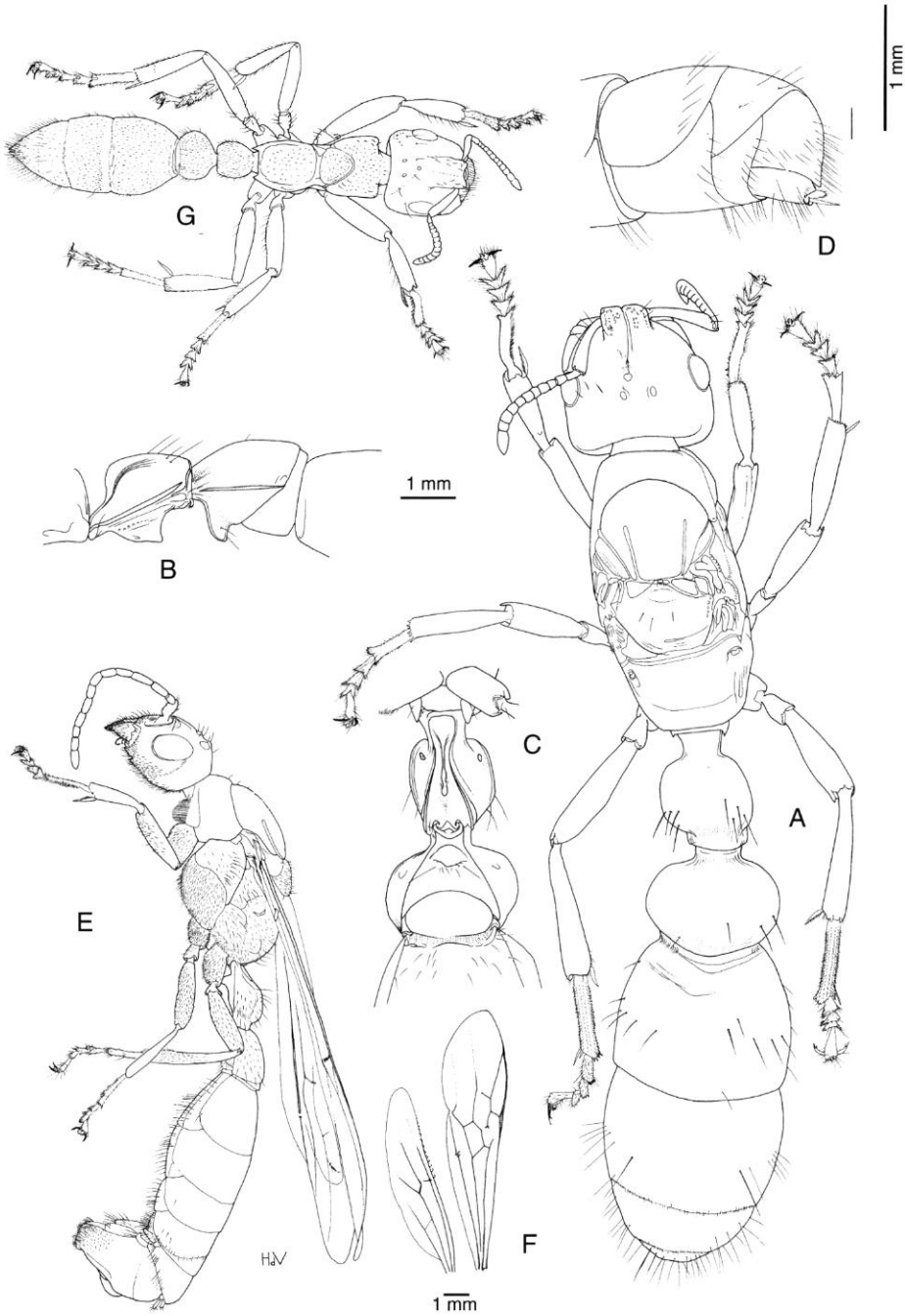

Fig. 4.—Ants (*Tetraponera* spp.) inhabiting ***Barteria fistulosa*** Mast.: *T. aethiops*, A-D: **A**, queen; **B**, queen, basal part of abdomen, side view; **C**, as B, lower side; **D**, queen, apical abdomal segments; *T. latifrons*, E-G: **E**, male; **F**, male wings; **G**, worker. (A-D, from *Breteler 12037*; E-G, from *Breteler c.s. 12445*). Drawing by H. DE VRIES.

Sep. (BM); *Paquay 25*, Lugulu, fl. Sep. (BR); *Pierlot 975*, Kampala, fl. Sep. (BR); *Szafranski 1267*, km 43 Banalia-Panga, fr. May (BR, WAG); *Van de Brande 574*, La Kulu, fl. May (BR); *Vanderyst 11306*, Kamtsha, fr. Nov. (BR).—EQUATORIAL GUINEA: *Carvalho 3397*, Bioco, Malabo, fl. buds Apr. (BR); *Mann 268*, Bioco, s.loc., fl. buds (K, P, type).—GABON: *Aubréville 86, 88*, Kango, ster. Sep. (P); *Bos & van der Laan 10708*, Bélinga. fl. July (BR, MO, WAG); *Breteler c.s. 12177*, 30 km E Lastoursville, ster. Nov. (WAG); *Breteler c.s. 12445*, 10 km Moanda-Franceville, fl. Dec. (WAG); *J.J. de Wilde et al. 514*, 18 km Mimongo-Koulamoutou, fr. Feb. (WAG); *N. Hallé 2028*, 10 km SW Ndjolé, ster. May (P); *Hladik 1593*, Makokou, fl. Nov. (P); *Jongkind et al. 1337*, Kougouleu-Médouneu Rd., fr. Dec. (WAG, see note); *Klaine 152*, Libreville, fl. Oct. (BR, K, P); *Leeuwenberg & Louis 12427*, 26 km KongoBoumba-Lastoursville, fl. Nov. (BR, WAG); *Leeuwenberg & Persoon 13575*, S of Médouneu, fl. Sep. (BR, MO, WAG); *Le Testu 1807*, Mayumba, fl. Oct. (BM, BR, P); *Louis et al. 596*, Lopé, fl. Nov. (WAG); *Louis et al. 1335*, 32 km E Sindara, fr. Dec. (WAG); *Reitsma c.s. 2003*, 25 km SW Mitzic, fl. Mar. (MO, WAG); *Schoenmaker 183*, Rabi, fl. Nov. (WAG).—NIGERIA: *Baldwin jr. 12011*, Benin City, fl. May (K, MO); *Binuyo FHI 41445*, Calabar, fr. Aug. (BR, K); *Eimunjeze & Oguntayo FHI 70274*, Sapoba F.R., fr. May (K, WAG); *Latilo & Onyeachusim FHI 33975*, Calabar-Mamfe Rd, fl. Feb. (K); *Latilo & Oguntayo FHI 70572*, Oban, fl. Mar. (K, WAG); *Ross 127*, Nikrowa, fl. Mar. (BM, MO); *Van Meer 724*, Omo, fl. Apr. (WAG).

NOTES.—Like *Barteria dewevrei*, which may occasionally be inhabited by large ants, *B. fistulosa* is sometimes occupied by small ants, according to the field notes of *Louis 9018* from DRC.

Field observations from the Cristal Mountains area in Gabon, made by the present author and others (*Jongkind 1337*), reveal that *B. fistulosa* is not inhabited by large ants in this region, at least not where there is no real dry season. In these cases ants may be absent or small ants (*Camponotus sp.*) may be present.

Barteria nigritana Hook. f.

J. Linn. Soc., Bot. 5: 15, t. 2 (1861).—Type: *Barter 2119*, Nigeria, Niger R. (holo-, K).—Fig. 1B, 5.

Barteria nigritana Hook. f. var. *uniflora* De Wild. & Th. Dur., Ann. Mus. Congo, Bot., ser. 2, 2: 24 (1900).—Type: *Cabra 57*, Congo (Kinshasa), Talavange (holo-, BR).

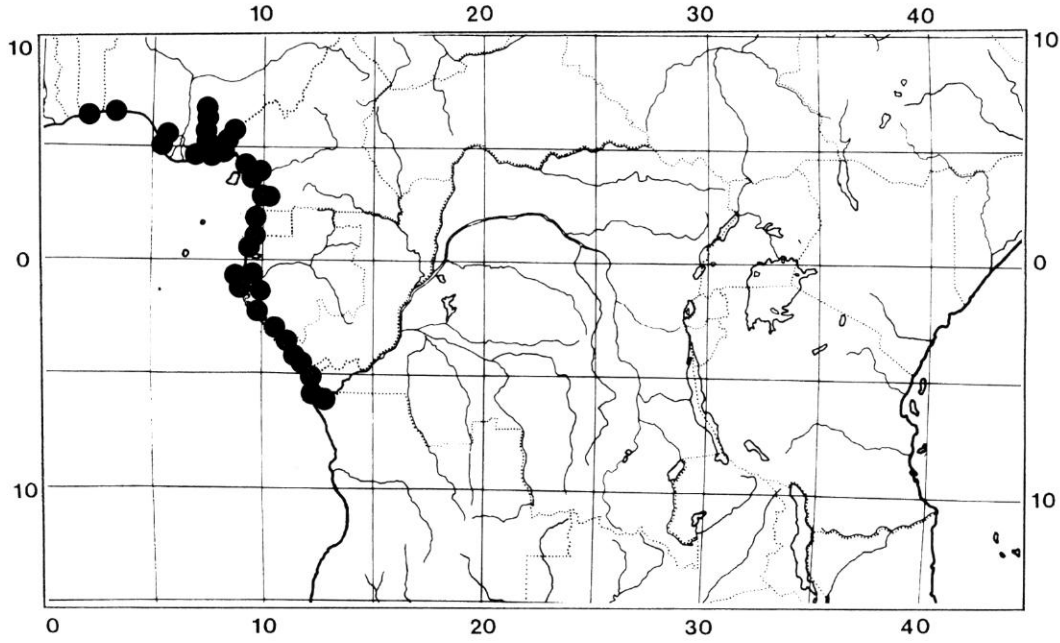

Fig. 5.—Distribution of ***Barteria nigritana*** Hook.f.

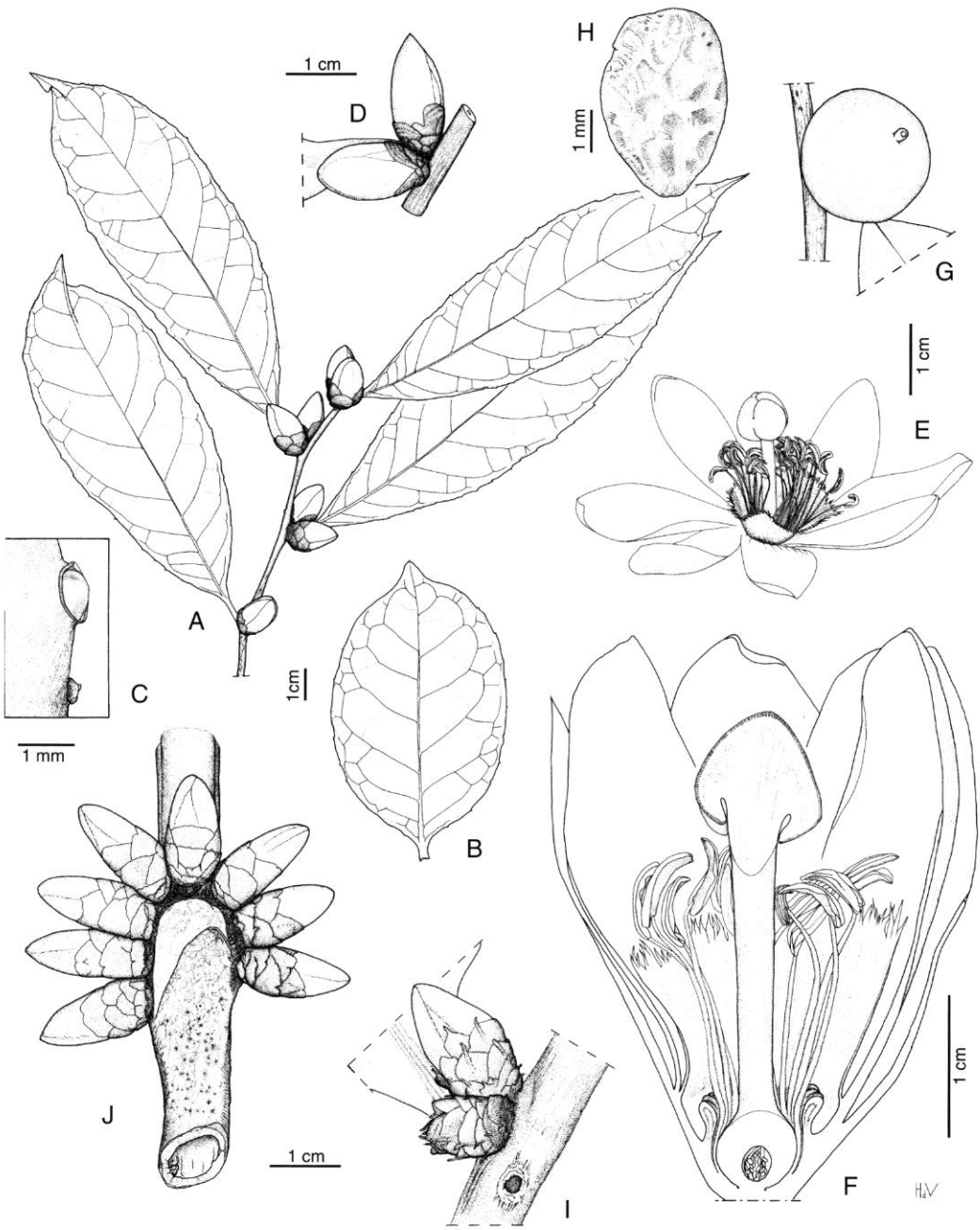

Fig. 6.—***Barteria solida*** Breteler: **A**, branchlet with flower buds; **B**, leaf; **C**, detail of leaf margin with glands; **D**, axil with 2 flower buds; **E**, flower; **F**, flower cut lengthwise; **G**, fruit in leaf axil; **H**, seed.—***Barteria dewevrei*** De Wild. & Th. Dur.: **I**, leaf axil with flower buds.—***Barteria fistulosa*** Mast.: **J**, leaf axil with arc of flower buds. (A, D, F, *Louis et al. 942*; B, C, E, *Leeuwenberg 9544*; G, H, *J.J. de Wilde et al. 410*; I, *De Néré 32*; J, *J.J. de Wilde 7677*). Drawing by H. DE VRIES.

Barteria braunii Engl., Bot. Jahrb. Syst. 14: 392 (1891)).—Type: *Braun s.n.*, Cameroun, Batanga (holo-, B†; iso-, HBG n.v.).

SPECIMENS EXAMINED (selection).—ANGOLA: *Gossweiler 8067*, Landana, fl. June (BM, COI, LISU); *Gossweiler 8672*, Sumba, Peco, fr. Feb. (BM, K); *Gossweiler 8676*, fl. buds (BM).—BENIN: *Isert s.n.*, Onidah, fl. (K, photo).—CAMEROUN: *Bates 110*, Batanga, fl., fr. Mar. (K); *Bos 7351*, 9 km N Kribi, fl. Sep. (WAG); *Kalbreyer 56*, Limbe, fl. Feb. (BM, K); *Leeuwenberg 5638*, Longi, fl. fr. Apr. (BR, K, MO, P, WAG); *Letouzey 12458*, Mbanda, fl. Dec. (K, P); *Van der Zon 2004*, 22 km S Kribi, fl. Jan. (WAG); *Zenker 826*, Bipinde, fl. (BM, K, P, WAG), see note.—CONGO REPUBLIC: *Bouquet 1960*, Diosso, fl. Nov. (P); *Farron 4943*, Loango, fr. Feb. (P); *Koechlin 5497*, Pointe Noire, fl. Dec. (P).—DEMOCRATIC REPUBLIC OF THE CONGO: *Cabra 57*, Talavange, fl. Apr.-May (BR, type of *B. nigritana* var. *uniflora*); *Jans 323*, Inbruga Ngelo, fr. Nov. (BR); *Mahieu 388*, Luki, fl. (BR, WAG), see note; *Nsimundele 86*, Moanda, fr. Dec. (BR); *Wagemans 876*, Banana, fl. Nov. (BR, K, WAG).—EQUATORIAL GUINEA: *Mann s.n.*, Gaboon R. (lat. 1°N), fl. (K, P); *Trilles 70*, Bata, fl. May (P); *Trilles 177*, fl. Oct. (P).—GABON: *Breteler & van Raalte 5537*, 15 km SE Port Gentil, fr. Sep. (BR, WAG); *Breteler 12171*, Gamba, fr. Nov. (WAG); *Breteler c.s. 12563*, near Libreville, fl. Dec. (WAG); *Breteler & Leal 13986*, ca. 20 km S Fougamou, fr. Sep. (WAG), see note; *J.J. de Wilde et al. 801*, 100 km S Libreville, fl. Feb. (MO, WAG); *J.J. de Wilde et al. 9084*, Mandji Lake, fl. Dec. (BR, WAG); *Fleury in Chevalier 26712*, Cap Lopez, fl. Sep. (P, WAG); *Klaine 3362*, Libreville, fl. July (P); *Le Testu 1802*, Panga, fl. Oct. (BM, BR, P, WAG), see note; *Louis 2210*, Mayumba, fl. Oct. (WAG); *Wieringa 1206*, 6 km Koumaga-Rabi, fl. June (WAG).—NIGERIA: *Barter 2119*, Niger R., fl. (K, type); *Brass s.n.*, Old Calabar, ster. (K); *Coussens FHI 7461*, Nsukka, fr. Feb. (K); *Dalziel 1061*, Lagos, fl. Oct. (K); *Emwiogbon FHI 46781*, Ubukpa F., fl., fr. Apr. (K, WAG); *Emwiogbon FHI 63901*, Bende, fr. Mar. (K); *Emwiogbon FHI 66027*, Ngwo F.R., fl. Feb. (WAG); *Jackson 2479*, Ikom, fr. Mar. (K, P); *Talbot 471*, Oban, fl. (K); *Talbot 3103*, Eket, fl. (BM), see note.

NOTE.—*Barteria nigritana* occurs primarily in sandy coastal areas along the Gulf of Guinea, but may also be found upstream along some rivers (e.g. *Talbot 3103, Le Testu 1802*) and even further inland. *Zenker 826* is reported from Bipinde, Cameroun; *Breteler & Leal 13986* was collected at Fougamou in Gabon, and *Mahieu 388* at Luki in DRC. All these sites are located at least 100 km from the Atlantic coast.

Barteria solida Breteler, **sp. nov.**

B. dewevrei De Wild. & Th. Dur. *et* B. nigritanae Hook. f. *numero parvo florum per axillam similis, sed bracteis rotundatis differt,* B. fistulosae Mast. *bracteis rotundatis similis, sed numero parvo florum differt, a speciebus omnibus ramis non-cavis divergens.*

TYPUS.—*Leeuwenberg 9544*, Cameroun, Manengouba Mts., 4 km WNW Nkongsamba, 1200 m, fl. Apr. (holo-, WAG; iso-, B, BR, C, FHI, HBG, K, LD, LISC, M, MO, P, PRE, UPS, YA).—Fig. 6A-H, 7, 8.

Small tree up to 13 m tall and 13 cm dbh. Plagiotropic shoots solid, ± densely appressed-short-hairy when young, glabrescent or not. Leaves: petiole broad, semi-terete to ± flat, canaliculate above or not, (1-)3-7(-10) mm long, decurrent on the branchlet, appressed-short-

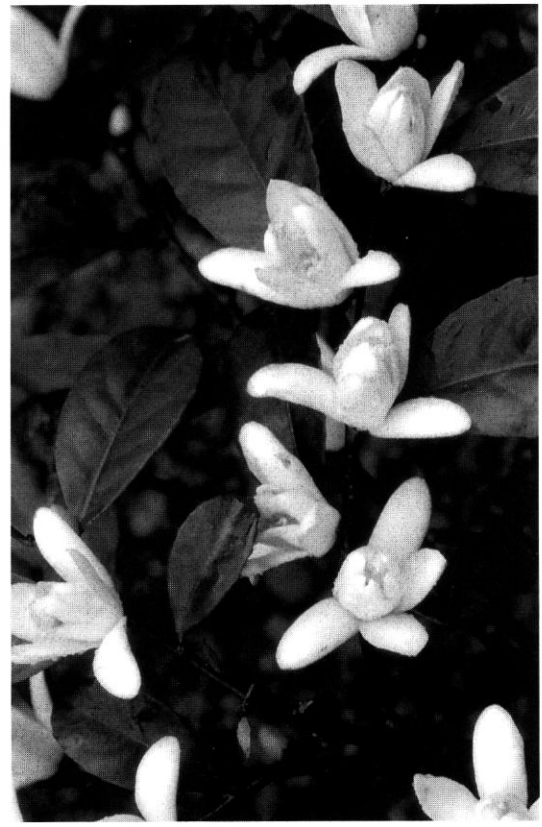

Fig. 7.—Flowering branch of ***Barteria solida*** Breteler (*Wieringa et al. 3074*). Photograph by J.J. WIERINGA.

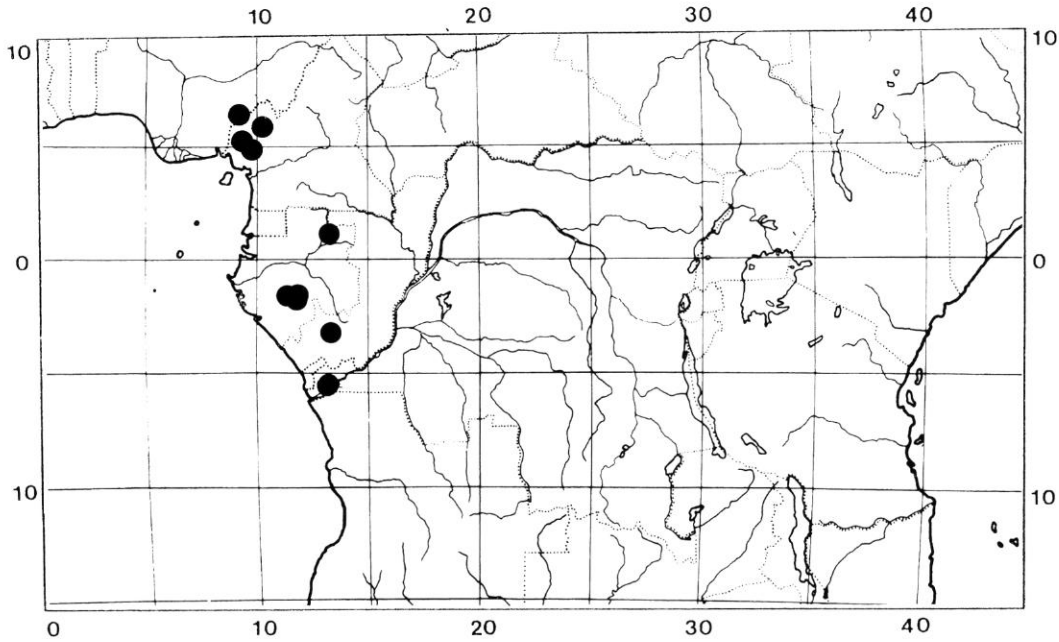

Fig. 8.—Distribution of ***Barteria solida*** Breteler.

hairy beneath, glabrous above; lamina coriaceous, smooth, shiny, elliptic to obovate-elliptic, narrowly so or not, (4-)10-15(-18) × (2-)4-5(-6.5) cm, 1.5-5 times as long as wide, cuneate to rarely rounded at base, acute to acutely acuminate at apex, acumen 0.5-1.5 cm long, ± glabrous above, appressed-short-hairy beneath, especially so on midrib, glabrescent; midrib impressed to plane to slightly prominent above, prominent beneath, lateral nerves thin, (5-)6-9 (-11) on each side of the midrib, rather indistinct above, slightly prominent and more distinct beneath; margin ± entire to crenulate to shallowly glandular dentate. Flowers white, sessile, 1-2 per axillary inflorescence; basal bracts membranaceous, up to 8 mm long, apex rounded, the lower ones appressed-hairy outside, the upper ones glabrous or hairy in lower part and/or on margin; sepals oblong, 3.5-5 cm long, 1-1.5 cm wide, united for ca. 0.5 cm from the base, apex acute to acuminate, ± silverish appressed-short-hairy outside, glabrous inside; petals as long as sepals and adnate to them at base for ca. 5 mm, ca. 1 cm wide; outer corona thin, laciniate, 15-17 mm long, glabrous; inner corona thick, 2-4 mm high, shortly lobed, glabrous; stamens ca. 30, 2 cm long, glabrous; filaments united for 5-7 mm from the base, anthers 5-7 mm long; pistil 2.5-3.5 cm long, glabrous; ovary 3-5 mm long, subglobose; style 2-2.5 cm long; stigma capitate, shallowly lobed or not, ca. 7 mm in diam. Fruits fleshy, subglobose, 1.5-2 cm in diam., glabrous, apiculate. Seed obovoid, laterally compressed, 4 -5 × 3-3.5 × 1.5-2 mm, testa crustaceous, foveolate.

HABITAT AND DISTRIBUTION.—Rain forest, alt. ca. 500-1600 m, in Western Central Africa.

SPECIMENS EXAMINED.—CAMEROUN: *Leeuwenberg 9544*, 4 km WNW Nkongsamba, Manengouba Mts., fl. Apr. (BR, WAG, type); *Maitland 1578*, Bamenda, fl. June (K); *Mambo & Thomas 14*, Kumba-Mamfe Rd., 10 km W of Wone, fl. Apr. (K, MO); *Ujor FHI 30375*, Bamenda, fl. May (K).—CONGO REPUBLIC: *Sita 3189*, Makélé, fr. Dec. (BR).—DEMOCRATIC REPUBLIC OF THE CONGO: *Donis 2167*, Luki, fl. Dec. (BR).—GABON: *Breteler & Lemmens 8042*, 60 km Mouila-Yeno Rd., fl. buds Sep. (BR, MO, WAG); *J.J. de Wilde et al. 410*, 25 km Mbigou-Mimongo Rd, fl. Feb. (MO, WAG); *N. Hallé 3225*, Bélinga, fl. Nov.

(P, WAG); *Le Testu 6352*, Dibaça, fl. Oct. (BM, BR, P, WAG); *Louis et al. 942*, Mimongo-Koulamoutou Rd., fl. Nov. (WAG); *Wieringa et al. 3074*, 8 km Etéké-Massima Rd., fl., fr. Nov. (WAG).—NIGERIA: *Van Meer 1792*, Boshi Ext. F.R., fr. May (MO, WAG).

Acknowledgements

I kindly acknowledge the cooperation with Doyle MCKEY of Montpellier, France, who introduced the subject to me. I am grateful to Hans DE VRIES for the nice drawings, Jan WIERINGA for the photograph of *Barteria solida* and P. LOWRY for helpful comments on the manuscript.

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Manuscript received 17 September 1999;
revised version accepted 18 October 1999.