A PRELIMINARY REPORT ON FUNIFERA

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THE EARLIEST RECORDED INFORMATION concerning the plants now recognized as members of the thymelaeaceous genus *Funifera* C. A. Mey. was published in 1820 (Atti Soc. Ital. Sci. Modena 18: 391), by the Italian botanist Raddi. In that publication, by means of a rather sophisticated and complete description, Raddi defined a new Brazilian species of *Daphne, D. brasiliensis* (to be transferred below to *Funifera*). In nearly a century and a half which has since elapsed, our knowledge of this and related species has not increased much; the chief contribution being descriptions of a few additional species.

At the suggestion of Mr. Guido Pabst, Director of Herbarium Bradeanum, I started what was intended to be a comprehensive revision of the genus *Funifera*. However, the poor quality of most of the existing collections (i.e., flowers and fruits lacking from most of the sheets) has frustrated such a project. I hoped the difficulties would be at least partially overcome when I had a large suite of specimens assembled. Since, however, the additional material was not very satisfactory I am presenting as a report the information now available, hoping it may serve as an outline for field work and eventual new collections which will make possible a precise and detailed study.

The species of the genus *Funifera* are not conspicuous components of the vegetation in the areas of Brazil where they grow; nor are they of great economic importance even at the local level. They are intriguing because so little is known of their geographic and ecologic distribution, their anatomy, and their morphology. In addition, the medicinal potential of these plants found in references from folk-medicine, has both practical and theoretical application in modern phytochemistry.

Various properties attributed to plants of the genus *Funifera* are similar to those ascribed to other genera of the Thymelaeaceae. The tough cortical fibers of *Funifera* are employed as cordage (Penna, 1946) a common practice in related genera of the family throughout the geographic distribution. The fibers of the American genera are never used in paper making, this use being restricted entirely to the Old World members of the family. A decoction of the macerated bark of *Funifera* is used externally as a vesicant (Dragendorff, p. 204. 1898) in the same manner as that of *Daphne mezereum* L. of Europe. If accidentally ingested the decoction is especially caustic to the mucous membrane of the mouth. Other American Thymelaeaceae known to have a similar vesicating effect are *Daphnopsis* (one species has the common name "Burn Nose"), *Dirca*, and *Ovidia*.

A decoction of the leaves of *Funifera* may be used internally as an

emetic or cathartic according to Hoehne (pp. 204, 205. 1939). Similar results may be obtained also from the New World genera *Daphnopsis*, *Dirca*, *Lagetta*, *Lasiadenia*, and *Ovidia*. Based on a very limited number of reports, in *Daphnopsis*, *Dirca*, and *Ovidia*, such a decoction, or the comparable use of fruits, should be avoided as it presents more than a little danger to the patient (both violent illness and death have been reported). Hoehne (p. 206. 1920) says that *Funifera* is "extremamente toxicas." He further notes that cattle are adversely affected by grazing both *Daphnopsis* and *Funifera* and are stricken particularly from May to September (during the vegetative growth phase).

An active principle has not been isolated but several compounds, mezerein, daphnin, and umbelliferone, have been reported in several genera of the Thymelaeaceae. Hoehne (p. 206. 1920; p. 204. 1939) has reported both mezerein and daphnin present in *Funifera*. If these compounds, or chemically related ones, are more consistently present in the family than has been realized, they may provide the chemical basis for the similarity of application found in folk medicine throughout the world. The chemical composition of mezerein is unknown, most authorities referring it to the category of an "acrid resin." Both umbelliferone and daphnin belong to a large group of related compounds having coumarin (for a most informative paper on this compound see Brown, 1963) as a nucleus. Since the coumarin derivatives are found in many groups of plants their use as supplemental taxonomic characters is less important than might have been expected. Umbelliferone is known to absorb ultraviolet light and has been used as sunburn protection, and as a whitening agent in soap powders. Specific uses for daphnin have not been reported. Coumarin has been used commercially as an adulterant or substitute for vanilla, as an adulterant of tobacco, and in the perfume trade. It has a fragrant odor and burning taste. A coumarin derivative could account, in part, for the peculiar and distinctive odor of many thymelaeaceous plants. In general, coumarin is considered nontoxic to mammals although Pammel (p. 552) points out that "Dr. Millspaugh states that in large does, [it] causes nausea, vomiting, vertigo, great depression of the heart's action and cold extremities." Dean (p. 241) further states that . . . "larger animals (e.g., dogs, horses) can be killed by coumarin, but moderate quantities have no very marked effect on man except that it has been reported recently that coumarin has a true curare-like activity." It is impossible to say whether a single compound or a group of compounds is responsible for the similarity of medicinal uses to which thymelaeaceous plants are put but the latter alternative seems more likely. It is clear that more precise diagnostic and physiological data are needed for all the compounds mentioned.

MATERIALS

This study is based on specimens from the following herbaria, the abbreviations for which are taken from Lanjouw & Stafleu's *Index Herbariorum, Part I*. Ed. 5 (Regnum Vegetabile, 31. 1964).

A Arnold Arboretum of Harvard University, Cambridge, Massachusetts [1]
BM British Museum (Natural History), London
E Royal Botanic Garden, Edinburgh
F Chicago Natural History Museum, Chicago
FI Herbarium Universitatis Florentinae, Firenze
G–DC Herbier DeCandolle, Conservatoire et Jardin botaniques, Genève
GH Gray Herbarium of Harvard University, Cambridge, Massachusetts [1]
HB Herbarium Bradeanum, Rio de Janeiro
K Royal Botanic Gardens, Kew
L Rijksherbarium, Leiden
LE Herbarium of the Komarov Botanical Institute of the Academy of Sciences of the U.S.S.R., Leningrad
M Botanische Staatssammlung, München
MO Missouri Botanical Garden, St. Louis
NY New York Botanical Garden, New York
P Muséum National d'Histoire Naturelle, Paris
PI Istituto Botanico della Università, Pisa
R Divisão de Botânica do Museu Nacional, Rio de Janeiro
RB Jardim Botânico, Rio de Janeiro
S Naturhistoriska Riksmuseum, Stockholm
US U.S. National Museum (Department of Botany), Smithsonian Institution, Washington

I wish to thank the directors and curators of the institutions listed for allowing me to examine the specimens in their care. Special thanks are given to Mr. Guido Pabst whose encouragement was responsible for my carrying the study to this stage.

TAXONOMY

Funifera C. A. Mey. Ann. Sci. Nat. Paris II. **20**: 46, 47, 49. February, 1843 (TYPE SPECIES: *Lagetta funifera* Mart. & Zucc.); Bull. Acad. St. Pétersb. Classe Physico-Math. **1**: 355, 357. June, 1843.

Neesia Mart. ex Meissn. *In*: Mart. Fl. Bras. **5**: 67. 1855, non Blume, *pro syn.*

Dioecious shrubs with flexible leathery branches, the stems often dichotomously branched, the cortex containing many fibers. Leaves irregularly pseudo-whorled, opposite, subopposite, or rarely alternate, simple, entire, pinnately veined, petiolate, estipulate. Inflorescences usually borne from the younger leafy or bracteate shoots, umbelliform or racemiform. Flowers unisexual, tetramerous, perigynous; calyx tube cylindrical or urceolate, the interior villous below and glabrous above; calyx lobes much shorter than the tube, in unequal pairs, generally erect at anthesis; petals 0; disc of 8 free lobes or the lobes connate and coronate. Staminate flowers: stamens 8, in two whorls, the upper 4 antisepalous, included to exserted, the lower 4 alternisepalous, included, the anthers longitudinally dehiscent, introrse, basifixed; pistillode present, densely villous. Pistillate

[1] The abbreviation A–GH, used for citation of certain microfiches, refers to the collection in the combined library of the Arnold Arboretum and the Gray Herbarium, Harvard University.

flowers: staminodia 8 or 0, the upper whorl sometimes bearing aborted anthers; pistil 1, superior, the ovary uniloculate with 1 anatropous ovule, the style eccentric, the stigma obscurely bilobed or capitate, included or exserted. Fruit a berry enclosed by the persistent and accrescent calyx tube.

KEY TO THE SPECIES

a. Mature leaves 4 to 7 times longer than broad, narrowly elliptic to oblanceolate, 4–14 cm. long, 1–2.5 cm. broad, densely sericeous beneath.
   b. Leaves irregularly pseudo-whorled, opposite, subopposite or rarely alternate, the apex acute and often minutely apiculate; staminate inflorescences 5–6-flowered, the primary peduncle ca. 3 mm. long, stout; disc of the staminate flowers with 8 free lobes; pistillate flowers with 8 staminodia. ..... 1. *F. brasiliensis.*
   b. Leaves subopposite or alternate, the apex long acuminate; staminate inflorescences 10–35-flowered, the primary peduncle 10–35 mm. long, slender; disc of the staminate flowers coronate, the lobes connate below; pistillate flowers unknown. ..... Species A (Incertae sedis).

a. Mature leaves about 3 times longer than broad, elliptic to oblanceolate or obovate, sparsely sericeous beneath.
   c. Leaves elliptic, 8–12 cm. long, 2.5–4 cm. broad, glabrous above, the apex subacute (nearly blunt); disc of the staminate flowers with 8 free lobes; pistillate flowers lacking staminodia. ..... 2. *F. ericiflora.*
   c. Leaves oblanceolate to obovate, 9–21 cm. long, 3–7 cm. broad, glabrescent above, the apex acute or abruptly acuminate; disc of the staminate flowers coronate, the lobes connate below; pistillate flowers with 8 staminodia. ..... 3. *F. grandifolia.*

1. **Funifera brasiliensis** (Raddi) Nevl. comb. nov.

Daphne brasiliensis Raddi, Atti Soc. Ital. Sci. Modena **18:** 391. 1820 (TYPE: *Raddi s.n.*! PI).

Lagetta funifera Mart. & Zucc. Nov. Gen. & Sp. **1:** 64, *t. 39.* 1824, ex char.

Funifera utilis Leandro ex Mart. & Zucc. *Ibid., pro syn.*

Funifera utilis Leandro ex C. A. Mey. Ann. Sci. Nat. Paris II. **20:** 46, 47, 49. February, 1843; Acad. St. Pétersb. Classe Physico-Math. **1:** 357. June, 1843.

Daphne thereminii Lhotzky ex Meissn. in Mart. Fl. Bras. **5:** 67. 1855, *pro syn.*

Neesia daphnoides Mart. ex Meissn. *Ibid., pro syn.*

Much branched shrub, to 2 m. tall, the branchlets reddish brown, rugose, minutely but densely sericeous and soon glabrescent. Leaves [alternate,] subopposite, opposite, or irregularly pseudo-whorled (3–7 leaves per whorl), the blade oblanceolate or narrowly elliptic, 4–11(–14) cm. long, 0–2(–2.5) cm. broad, acute and sometimes minutely apiculate at the apex, tapered to the base, glabrous above, ochraceous sericeous beneath, the costa immersed above, elevated beneath, the primary lateral veins inconspicuous, dark green above (appearing light to dark red-brown on drying), light green beneath (ochraceous when dry); the margin revolute; petiole

ca. 3 mm. long. Inflorescences borne from the apical leafy whorls, the bud scales numerous subtending the inflorescence, lanceolate, 2–5 mm. long, glabrous above, sericeous beneath. Staminate inflorescence: 5–6 flowers per inflorescence, umbelliform, sericeous throughout, primary peduncle ca. 3 mm. long, the rachis 0, the secondary peduncles ca. 4 mm. long. Staminate flower: pedicel 0.5–1.5 mm. long; calyx tube cylindrical, 7–8 mm. long, 1–1.5 mm. in diameter at the orifice, white sericeous without, villous within in lower two-thirds and glabrous in upper one-third; calyx lobes unequal, the deltoid set 1 × 0.5 mm., the ovate set 0.75 × 0.5 mm., puberulent within; petals 0; antisepalous stamens inserted at the orifice, exserted, the alternisepalous stamens inserted about the length of 3 anthers below the orifice, included, the anthers subsessile, oblong, 0.5–0.75 mm. long, 0.25 mm. broad; disc of 8 free lobes, the lobes linear, 1.5–2 mm. long, glabrous, occasionally 2 lobes connate at the base; pistillode fusiform, ca. 0.5 mm. long, long-villous. Pistillate flower: pedicel obsolete; calyx tube cylindrical, 8 mm. long, 2.5 mm. in diameter at the orifice, white, densely sericeous without, densely villous within in lower two-thirds, glabrous in upper one-third; calyx lobes deltoid, unequal, 1.5 × 2 mm. and 1 × 1 mm., minutely puberulent within; petals 0; staminodia 8, in two whorls, the upper whorl with aborted anthers, the lower whorl (often hidden by trichomes) papilliform; disc of 8 free lobes, the lobes linear with a slight swelling at the apex, 2.5 mm. long, glabrous; ovary ovoid, ca. 2.5 mm. long, densely villous, the style eccentric, 3.5–4 mm. long, villous, the stigma obscurely bilobed, barely exserted. Fruit enclosed by the accrescent papery calyx tube, the tube urceolate, to 12 mm. long, the berry obpyriform, ca. 5 mm. long, 4 mm. in diameter, white, the style and stigma often persistent.

Flowering from December through May. Fruiting specimens infrequent. Common names: Embira branca, Embira sebo, Pau de embira, Imbira branca (also used for *Apeiba cimbalanea* of the Tiliaceae), and Imbira (a common name shared with several species of the genus *Daphnopsis*).

Brasil.[2] GUANABARA: Rio, *Doellinger s.n.* (M), *Gardner 812* (E, GH, K, NY, P), *5597* (BM, E, GH, K, US), *Gaudichaud* "1832" (P), *Glaziou 860* (F, K, P), *2487* (BM, K, P), "1872" (FI), *Luschnath* "1835" (LE), *Martius s.n.* (K, L, M), *Riedel 23* ["1829"] (LE, NY), *552* ["1832"] (A, LE, NY, US), *553* ["1823"] (A, LE, US), *Saint-Hilare 757* (P), *Weddell 92* (P), "1843" (P); [Trovasi nei Boschi in vicinanza di Rio-Janeiro, e segnatamente presso *Matacavallos*], *Raddi s.n.* (PI-holotype of *Daphne brasiliensis*); Alta do Bôa Vista, *Brade 10640* (GH, R), *10641* (GH, R); Estrada da Vista Chinesa [road from Mesa do Imperador to Alto da Bôa Vista], *Brade 15015* (RB); Corcovado, *Aparicio & Rizzini 11* (RB), *Gaudichaud 79* (P), *Glaziou 20473* (K, P, US), *Guillemin* "1839" (K, P), *Lhotsky* "1832" (G–DC; microfiche, A–GH), *Miers 3256* (BM, K, P, US), *Nadeaud* "1862" (P), *Schwacke 7149* (RB), Mata das Obras Publicas, perto da Cotia, prósimo da séde do H. Florestal, *Kuhlmann* "1930" (RB, mixed with *Daphnopsis utilis*);

[2] I am departing from my usual custom of noting the sex of the specimens cited, for too frequently in collections of *Funifera* it is impossible to recognize.

Mata do Horto Florestal, Lourenço "1922" (RB), Parque da Cidade, Gavéa, *Duarte 5204* (A, HB), Mata da Lagouinha, *Dionisio & Constantino* "1917" (RB); Suamaré, *Pereira, Liene, Sucre & Duarte 4143* (A, HB); Morro do Grajáu, *Filho 574* (R); Morro de Babilonia, *Guillemin* "1839" (P), Serra Carioca, *Brade 10715* (R), *Occhioni 364* (RB); in the ascent from the head of the valley of Catumbé, up the high mountain on the n.w. side of the Aqueduct of Carioca, *Burchell 1840* (K); along the Aqueduct, *Burchell 858* (K), *1245* (K); up the path by the side of the aqueduct Monta da Santa Theresa, *A. C.* [*Allemão Cysneiros*] "1875" (BM); Tijuca, Trapicheiro [lee side of Serra da Carioca], *Netto* "1870" (R), *Valle 96* (R); Corcovado Mountain, by way of Laranjeiras, *Burchell 1449* (L), *Gardner 812* (BM, K). RIO DE JANEIRO: Cabo Frio, *Netto, Glaziou & Schwacke s.n.* (R). Without precise locality: *Langsdorff & Riedel 606* (LE), *Leandro do Sacremento 8* (M), *Lépine s.n.* (P), *Lund 169* (G–DC; microfiche A–GH), *Martius 416* (K, MO, P), "1823" (G–DC; microfiche, A–GH), *s.n.* (L), *Weddell* "1844" (P), *s.n.* (P), *Widgren 485* (S), *Sello s.n.* (BM, K). Locality questionable: Ceará, *Cysneiros 1347* (R); Para, *Vincent* "1915" (L).

Several manuscript names appearing on specimens of this species have been published as synonyms. The two pistillate sheets of *Martius s.n.* deposited at Munich bear the name "Neesia daphnoides" and are the basis for that name. The microfiche of this collection from the DeCandolle herbarium (G-DC) shows one specimen, *Lhotsky* "1832," bearing the name "Daphne Thereminii." Both of these names were published by Meissner as synonyms in Martius' Flora Brasiliensis. Another sheet in the DeCandolle herbarium, *Martius* "1823," bears an unpublished name.

Several problems have arisen in connection with the geographic distribution of *Funifera brasiliensis*. It seems to me that the plants are restricted to the Carioca, Tijuca, and Gavéa ranges with a disjunct population, to the north, at Cabo Frio. The single collection from the last named locality is fragmentary but appears to be this species. Positive determination must await collection of flowering material. Several cryptic reports indicate that the species occurs as far south as São Paulo but I have seen no material to support the claim. In addition, José Correa Gomes, Jr., Curador do Herbário, has written that no material of the genus is on deposit at the Instituto de Botânica, São Paulo.

I have listed *Allemão Cysneiros 1347* as being from a questionable locality. The specimen bears three labels: one, a handwritten label with "Lagetta funifera (Mart.)" and the family name; a second label with the collector's name and title (M. N. PLANTAS DA COMM. SCIENT. DO CEARÁ.) printed, the collector's number (*1347*) and identification handwritten; the third label is recently printed and typewritten. Cysneiros collected in the state of Ceará from 1859 to 1861. It is not at all clear whether the label is associated with the proper plant, for this locality is not in accord with the range of *Funifera brasiliensis* as understood at this time. A second sheet, with the initials A. C., which I assume to have been collected by the same man, in 1875, is from "Rio."

A specimen at Leiden, collected by Vincent in 1915, marked "Para" is questionable. Surely "Para" refers to a local name and not to the state

of Pará, but I have not found such a locality within the known range of the species.

The collections of Ludwig Riedel have been cited by number and year of collection to avoid confusion. His two earliest Brasilian collections were not numbered; his subsequent collections (four excursions) were each independently numbered. A note explaining this system plus a biographic discussion can be found in Urban's "Biographische Skizzen. II. 2. Georg Heinrich v. Langsdorff (1774–1852) und 3. Ludwig Riedel (1790–1861)" Beibl. Bot. Jahrbüch. **44**: 6–21. 1894 (see especially p. 20).

In this species, *Funifera brasiliensis*, growth seems to occur in flushes, with stem elongation and flower production taking place simultaneously. Following anthesis, one or more axillary buds subtending the inflorescence develop and form the peculiar branched structure characteristic of the shrubs of this species. Shortly after the lateral vegetative shoots elongate, the leaves mature and the plants enter a resting phase.

Notes on several herbarium specimens indicate the possibility of development of an enlarged underground stem in older specimens. It is believed that these underground stems would be advantageous for survival in areas subject to frequent burning. This adaptation occurs in several African genera but is suspected only in a few cases involving American Thymelaeaceae.

2. **Funifera ericiflora** (Gilg & Markgraf) Domke, Biblioth. Bot. **111**: 57. 1934, in text.

Daphnopsis ericiflora Gilg & Markgraf, Repert. Sp. Nov. **19**: 113. 1923 (TYPE: *Hoehne 2112*).

Shrubs, the branchlets puberulent and glabrescent, yellow-brown. Leaves opposite, the blades elliptic, 8–12 cm. long, 2.5–4 cm. broad, subacute at the apex, acute to obtuse at the base, thin-coriaceous, glabrous above, very sparsely sericeous beneath, costa nearly plane above and beneath, lateral veins many, submarginal vein present, margin not thickened; petiole ca. 3 mm. long. Staminate flowers (fide Gilg & Markgraf): borne in axillary fascicles; pedicel 3–4 mm. long, nodding; calyx tube ellipsoid-campanulate, sericeous without, the interior villous below, glabrous above; calyx lobes short, anthers subsessile; disc of 8 lobes, the apices laciniate; pistillode rudimentary, obovate, sericeous. Pistillate flowers: pedicel obsolete; calyx tube urceolate, ca. 6.5 mm. long, 1 mm. in diameter at the orifice, sericeous without, densely villous within in lower portion, upper part glabrous; calyx lobes deltoid, 1.0 × 0.5 mm. and 0.75 × 0.5 mm., puberulent within; petals 0; staminodia 0; disc of 8 free lobes, linear, ca. 1.5 mm. long, glabrous, the apices somewhat swollen; ovary ovoid, densely villous, ca. 1.5 mm. long, the style filiform, eccentric, 3.5 mm. long, glabrous, the stigma capitate, included. Fruit not known.

Flowering in June and November. Hoehne has remarked "interessante per cause da fibra que contem a casca." No common names are known.

Brasil. MATO GROSSO: Juruena, *Hoehne 5504* (R).

There is scarcely any information available about *Funifera ericiflora* which was not presented by Gilg and Markgraf at the time of their original diagnosis. Only diligent collecting can provide us with fruiting material, more and better specimens of flowering material, and a fuller knowledge of the geographic and ecologic distribution of this species.

3. **Funifera grandifolia** Domke, Notizbl. Bot. Gart. Berlin 12: 731. 1935 (TYPE: *Kuhlmann* 14 Nov. 1922! RB).

Shrubs to 3 m. tall, the branchlets minutely sericeous and glabrescent, greenish brown. Leaves alternate to subopposite, the blades oblanceolate to obovate, 9–21 cm. long, 3–7 cm. broad, acute or abruptly attenuate at the apex, cuneate at the base, membranaceous, glabrescent and darker green above, minutely sericeous and paler beneath, the costa immersed above, elevated beneath, the primary lateral veins many, inconspicuous, submarginal vein present, the margin not thickened; petiole 5–7 mm. long. Inflorescences borne from the young growth, solitary; each inflorescence 8–18-flowered, umbelliform, canescent, the primary peduncle 3–12 mm. long, the rachis ca. 1 mm. long, the secondary peduncles 5–8 mm. long. Staminate flowers: pedicel 1–4 mm. long; calyx tube cylindrical, 4.5–8 mm. long, 1–2.5 mm. in diameter at the orifice, white, densely puberulent without, long-villous within in the lower one-third, glabrous in the upper two-thirds; calyx lobes nearly dentate, ca. 1 mm. long, to 0.5 mm. broad, puberulent within; antisepalous stamens inserted at the orifice, exserted, the alternisepalous inserted about the length of 3 anthers below the orifice, included, the anthers oblong, 0.5–1 mm. long, ca. 0.25 mm. broad, the filaments 0.25–1 mm. long, glabrous; disc coronate with 8 attenuate lobes, 1–1.5 mm. long, glabrous; pistillode densely villous. Pistillate flowers (fide Domke): similar to staminate flowers with the following exceptions: staminodia 8, filamentous; disc to 0.5 mm. long; ovary ovoid, ca. 3.5 mm. long, villous, the style filiform, ca. 5 mm. long, villous on lower portion, the stigma small, round, semi-included or included. Fruit unknown.

Flowers in November.

Brasil. RIO DE JANEIRO: Serra de Friburgo, Fazenda Valerio, *Kuhlmann*, 14 Nov. 1922 (RB No. 21335); in sylvis primaevis, Machi, *Riedel 553* (LE).

In Domke's diagnosis of this species a good description of staminate and pistillate flowers is presented. The holotype, which I have examined, is without flowers now; it has been remounted since publication of Domke's diagnosis and several errors appear on the typewritten label.

Domke has indicated that this may be the plant which was listed (Ann. Sci. Nat. Paris II. 20: 49. February, 1843; Bull. Acad. St. Pétersb. Classe Physico-Math. 1: 357. June, 1843) by C. A. Meyer as *Funifera latifolia* Fisch. & Mey. (a *nomen nudum*). A concurring annotation, by A. Smirnova, is on the Leningrad collection.

INCERTAE SEDIS

Funifera species A.

Small shrub, the stems slender, sparsely sericeous and tardily glabrescent, reddish brown. Leaves alternate or subopposite, the blades narrowly elliptic, 5–12 cm. long, 1.5–2.5 cm. broad, long acuminate at the apex, cuneate at the base, membranaceous, glabrous (except sparsely sericeous along the margin) above, sericeous beneath, dark green above (light brown on drying), light green beneath (ochraceous on drying), the costa immersed above, elevated beneath, the primary lateral veins inconspicuous, the margin slightly thickened; petiole 2–5 mm. long, shallowly canaliculate, sericeous. Inflorescences borne from the older stems, axillary or extra-axillary. Staminate inflorescence: 10–35 flowers per inflorescence, racemiform, sericeous throughout, the primary peduncle 1–3.5 cm. long, the rachis 0.5–2 cm. long, the secondary peduncles 2–7 mm. long, dilated at the apex; linear bracteole inserted near the summit of the primary peduncle, deciduous. Staminate flowers: pedicel 1–1.5 mm. long; calyx tube cylindrical, 6–7.5 mm. long, ca. 1 mm. in diameter at the orifice, white, sericeous without, long villous within in lower one-fourth, glabrous upper three-fourths; calyx lobes linear-deltoid or deltoid, 1 × 0.5 mm., and 0.75 × 0.25–0.5 mm., puberulent within; petals 0; filaments 0.25–0.5 mm. long, the antisepalous whorl inserted about the length of 1 anther below the orifice, subexserted or included, the alternisepalous whorl inserted the length of 3–4 anthers below the orifice, included, the anthers linear, 0.75 mm. long, 0.25 mm. broad; disc coronate, 1.75–2 mm. long, glabrous, with large linear lobes; pistillode fusiform, 2–3 mm. long, densely villous. Pistillate flowers and fruit unknown.

Brasil. RIO DE JANEIRO: Ilha de Paquetá, Morro da Imbuca, *Pereira 681* (RB). Without precise locality: São Domingos, Avé-Lallemant "1887" (R).

It is unfortunate that both of the specimens, which I believe represent an undescribed species, are incomplete. The plants resemble *Funifera brasiliensis* most closely but differ from it in important vegetative and floral characteristics. There is no question that better and more complete material will be collected in the future so I do not feel that it is wise to describe the species formally at this time.

EXCLUDED SPECIES

Funifera fasciculata Meissn. Mart. Fl. Bras. **5**: 68. 1835 = *Daphnopsis fasciculata* (Meissn.) Nevl. Jour. Arnold Arb. **44**: 404. 1963.

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INDEX TO EXSICCATAE

The list is arranged alphabetically by the last name of the collector. Numbers in parentheses refer to the corresponding species in the text.

Aparicio & Rizzini, *11* (1).
Avé-Lallemant, R., "1887" (Incertae sedis).
Brade, A. C., *10640* (1); *10641* (1); *10715* (1); *15015* (1).
Burchell, W. J., *858* (1); *1245* (1); *1449* (1); *1840* (1).
Cysneiros, A., *1347* (1), "1875" (1).
Dionisio & Constantino, "1917" (1).
Doellinger, F., *s.n.* (1).
Duarte, A. P., *5204* (1).
Filho, L. E. M., *574* (1).
Gardner, G., *812* (1); *5597* (1).
Gaudichaud, M., *79* (1); "1832" (1).
Glaziou, A., *860* (1); *2487* (1); *20473* (1); "1872" (1).
Guillemin, A., "1839" (1).
Hoehne, F. C., *5504* (2).
Kuhlmann, J. G., "1922" (3); "1930" (1).
Langsdorff, G. & L. Riedel, *606* (1).
Leandro do Sacremento, *8* (1).
Lépine, J., *s.n.* (1).
Lhotsky, J., "1832" (1).
Lourenço, "1922" (1).
Lund, M., *169* (1).
Luschnath, "1835" (1).
Martius, K. F. P. von, *s.n.* (1); *416* (1); "1823" (1).
Miers, J., *s.n.* (1); *3256* (1).
Nadeaud, "1862" (1).
Netto, L., "1870" (1).
Netto, L., A. Glaziou, & W. Schwacke, *s.n.* (1).
Occhioni, P., *364* (1).
Pereira, E., *681* (Incertae sedis).
Pereira, E., Liene, D. Sucre, & A. Duarte, *4143* (1); *6765* (1).
Raddi, G., *s.n.* (1).
Riedel, L., *s.n.* ["1823"] (1); *23* ["1829"] (1); *552* ["1832"] (1); *553* ["1832"] (3).
Saint-Hilaire, A., *757* (1).
Schwacke, W., *7149* (1).
Sello, F., *s.n.* (1).
Valle, M. H., *96* (1).
Vincent, "1915" (1).
Weddell, M., *92* (1); "1843" (1); "1844" (1), *s.n.* (1).
Widgren, J. F., *485* (1).