

New species of *Ficus* (Moraceae) from Brazil

C. C. BERG AND J. P. P. CARAUTA

Berg, C. C. (The Norwegian Arboretum/Botanical Institute, University of Bergen, N-5259 Hjellegstadi, Norway; email: cornelis.berg@bot.uib.no) & J. P. P. Carauta (Museu Nacional, Caixa Postal 34031, 22462-970, Rio de Janeiro, RJ, Brazil). New species of *Ficus* (Moraceae) from Brazil. *Brittonia* 54: 236–250. 2002.—Eight new species from Brazil, ***Ficus acreana***, ***F. bahiensis***, ***F. duartei***, ***F. duckeana***, ***F. hatschbachii***, ***F. lagoensis***, ***F. laureola***, and ***F. rupicola***, are described and illustrated. The new species are compared with other species of the genus.

Key words: Brazil, *Ficus*, Moraceae.

Since the publication of the treatment of the Moraceae by Miquel (1853) in *Flora Brasiliensis*, the *Ficus* flora of extra-Amazonian Brazil had not received much attention until Carauta's publication (1989) included it in a study of the Brazilian species. This work, however, did not include descriptions of new species. The first new species described from Brazil since Miquel's work on material from this region is from the Pantanal, *F. carautana* Emygdio (Neves & Emygdio de Mello Filho, 1992). A second, *F. mariae*, was described by Berg et al. (1999). During studies of the *Ficus* flora of this region, as part of a planned monograph of the genus for Flora Neotropica, several undescribed species were discovered.

The *Ficus* species of Amazonian Brazil were studied by Berg et al. (1986). In that study 50 species were recognized, seven of which were new for the region. On the basis of recent collections, three additional species were discovered. Eight of these new species are described and illustrated here.

The new species presently described belong to subgenus *Urostigma* (sect. *Americanae*), which implies that they produce aerial adventitious roots and are potentially hemi-epiphytic (or hemi-epilithic).

Ficus acreana C. C. Berg, spec. nov.
(Fig. 1)

TYPE: BRAZIL. Acre: Fazenda Bom Sossego, between Igarapé do Cujubim and Igarapé Jacamin, 27 Sep–7 Oct 1985, D. G. Campbell et al. 9211 (HOLOTYPE: MG, n.v.; ISOTYPE: BG).

Fico panurensis similis, sed venatione tertiaria scalariformi, stipulis longioribus non striatis distincta.

Tree to 20 m tall. *Leafy twigs* 5–10 mm thick, densely brown hirtellous to strigose to subvillous; periderm persistent. *Lamina* subcoriaceous, oblong to subobovate to lanceolate, 15–30 × 5.5–13 cm, symmetric; apex acuminate; base obtuse; margin entire; upper surface glabrous; lower surface densely brown substrigose to subtomentose, on smaller veins to tomentose; lateral veins (10–)13–15 pairs, the basal pair hardly different from the other pairs, up to 1/10–1/8 length of lamina, unbranched; tertiary venation scalariform with 10–20 intercostal veins in middle of lamina, prominent; petiole 1–1.5 cm long, brown substrigose; stipules 2–4(–5) cm long, pale brown to yellowish (sub)sericeous, subsistent. *Figs* axillary, solitary or in pairs, sessile; basal bracts 2, 2–3 mm long; receptacle subglobose, 0.7–1 cm diam (when dry), densely (dark) brown puberulous to subvelutinous, of unknown color at maturity; ostiole ca. 2.5 mm diam (when dry), surrounded by a 3-lobed rim. *Staminate flowers*: pedicel 0.2–0.4 mm long; tepals 3, 0.6–1 mm long; stamen 1; anther ca. 0.5 mm long, not apic-

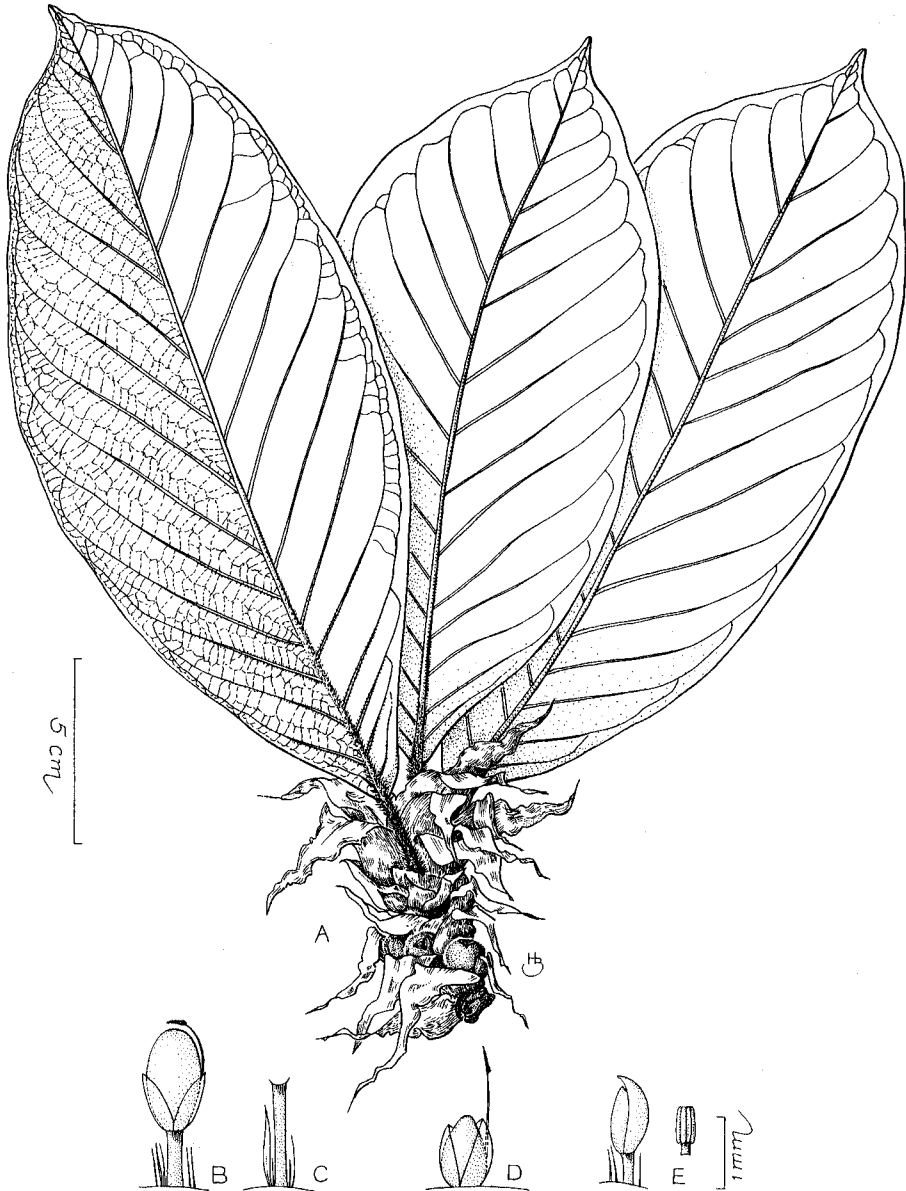


FIG. 1. *Ficus acreana*. A. Leafy twig with figs. B. Short-styled pistillate flower and internal hairs. C. Pedicel of short-styled pistillate flower, internal hairs, and interfloral bract. D. Long-styled pistillate flower. E. Staminate flower, internal hairs, and stamen. (From Campbell *et al.* 9211.)

ulate. *Pistillate flowers*: tepals 3, 0.6–1 mm long; stigma ca. 0.3 mm long; long-styled flowers sessile, the style 0.8–1 mm long; short-styled flowers with pedicel 0.5–1 mm long, the style 0.4–0.6 mm long. *Interfloral bracts* 0.6–1 mm long. *Internal hairs* abundant.

Additional specimens examined: ECUADOR. **Napo**: Parque Nacional Yasuní, Pozo petrolero Amo 2, 9–19 Jan 1988 (st), *D. Neill et al.* 8313 (BG, QCNE); Reserva Biológica Jatun Sacha, Río Napo, 8 km below Misahualli, 2 Oct 1986 (st), *W. Palacios* 1412 (BG, MO).

Several characters, in particular the 3-

lobed rim around the ostiole and the presence of abundant hairs on the inner surface of the fig receptacle, indicate that this species is related to *Ficus panurensis* Standl. and *F. trigona* L.f. *Ficus acreana* differs from the former in having distinctly scalariform venation and non-striate stipules that are 2 cm or longer; it differs from the latter in having prominent and coarser tertiary venation and subsistent stipules that are longer than 1.5 cm. The new species is an element of the rain forest.

A collection from Peru (Madre de Dios: Tambopata Tourist Camp, junction of Río Tambopata and Río La Torre, 22 Jul 1985, st. A. Gentry et al. 51129, BG), might belong to this species. It differs from *Ficus acreana* in having more slender and angular leafy twigs, longer petioles (to 4 cm long), smaller (to 2 cm long) and probably not subsistent stipules, and sparser indumentum.

***Ficus bahiensis* C. C. Berg & Carauta, spec. nov. (Fig. 2)**

TYPE: BRAZIL. **Bahia:** Reserva Florestal de Porto Seguro, CVRD-BA, 6 Nov 1989, G. L. Farias 320 (HOLOTYPE: RB; ISOTYPES: BG, GUA).

Fico guianensi (sensu lato) similis, sed brachyblasti desunt.

Tree to 15 m tall, or *shrub*. *Leafy twigs* 2–4 mm thick, glabrous or minutely puberulous; periderm persistent or flaking off. *Lamina* coriaceous, oblong to elliptic to (sub)obovate, (3–)6–12 × (1–)2.5–6.5 cm, symmetric; apex shortly acuminate, apiculate, obtuse, or rounded; base obtuse, subcuneate, or rounded; margin entire, usually ± revolute (toward base); upper surface minutely puberulous on midrib or glabrous, lower surface glabrous; lateral veins (7–)10–14 pairs, the basal pair up to 1/10–1/8 length of lamina, unbranched; tertiary venation reticulate; petiole (0.5–)1–3 cm long, 1.5–2.5 mm thick, glabrous or sparsely and minutely puberulous; stipules 0.5–1 cm (on opening shoots to 3 cm) long, glabrous or minutely puberulous, caducous. *Figs* axillary or also just below leaves, solitary or in pairs; peduncle 0.2–1 cm long, glabrous or

sparsely minutely puberulous; basal bracts 2, 1.5–2.5 mm long, glabrous or sparsely minutely puberulous; receptacle subglobose, 0.6–1(–1.2) cm diam. (when dry), smooth or ± wrinkled when dry, glabrous or sparsely minutely puberulous, emaculate or maculate, greenish to yellowish or reddish (?) at maturity; ostiole ca. 2–2.5 mm diam. (when dry), mostly ± umbonate. *Staminate flowers:* pedicel 0.4–0.8 mm long; tepals 3, 0.5–0.8 mm long; stamen 1; anther ca. 0.5 mm long, not apiculate. *Pistillate flowers:* tepals 3, 0.8–1 mm long; stigma ca. 0.25 mm long; long-styled flowers sessile, the style 1.5–2 mm long; short-styled flowers with pedicel 0.8–1.5 mm long, the style 0.4–0.8 mm long. *Interfloral bracts* few, ca. 1.5 mm long. *Internal hairs* absent.

Additional specimens examined: BRAZIL. **Bahia:** Maraú, 12 Jan 1967, R. P. Belém & R. S. Pinheiro 3083 (BG, NY); Mun. Santa Cruz Cabralia, rd. Santa Cruz de Cabralia–Porto Seguro, Km 15, 5 Nov 1983, R. Callejas et al. 1672 (BG, NY, RB); Mun. Salvador, Dunes of Itapoá, nr. Lagoa de Abaete, 15 Jun 1991, A. M. de Carvalho et al. 3329 (GUA, NY) and 3324 (NY); Mun. Santa Cruz de Cabralia, Res. Bio. Pau-brasil, 5 Jan 1972, A. Euponio 162 (BG); Reserva Florestal de Porto Seguro-CRVD, 4 Jul 1990, D. A. Follis 1190 (CRVD); Mun. Correntina, Velha da Calinha, Rio Corrente, Cachoeira da Furaça, 26 Aug 1995, M. L. Fonseca et al. 523 (GUA); Mun. Belmonte, rd. Itapebi–Belmonte, Km 60–68, 18–24 km E of Barro-lândia, 6 Jan 1980, L. A. Mattos et al. 949 (BG, GUA); Mun. Ilhéus, rd. Pontal–Oliveira, nr. Km 12, Fazenda Barra do Manguinho, 25 Sep 1980, L. A. Mattos et al. 1081 (BG, GUA); Mun. Nilo Peçanha, rd. Nilo Peçanha–Cairu, 22 Oct 1985, km 2, L. A. Mattos Silva & T. S. dos Santos 1960 (GUA); Mun. Canavieiras, rd. Canavieiras–Santa Luzia, Km 17, 14 Jun 1988, L. M. Mattos Silva et al. 2421 (GUA); Mun. Salvador, ca. 35 km NE of Salvador, 3 km E of Itapoá, 17 Feb 1981, W. Morawetz & M. Morawetz 16–17281 (BG); Mun. Salvador, Itapoá, 14 Jul 1983, G. C. P. Pinto & H. P. Bautista 283 (GUA); Mun. Ilhéus, rd. Oliveira–Vila Brasil, Km 7, L. A. M. Silva et al. 1530 (GUA); Mun. Una, Una, rd. to Pedras de Una, 15 Aug 1995, G. Hatschbach et al. 63344 (RB); Mun. Belmonte, Barro-lândia, Estação Experimental Gregório Bondar, 48 km E of BR.101 on rd to Belmonte, 12 May 1993, W. Thomas et al. 9882 (BG, GUA, NY); Mun. Santa Cruz de Cabralia, Res. Bio. Pau-brasil, ca. 16 km W of Porto Seguro, 19 Jan 1984, F. S. Santos 162 (GUA), 18 Sep 1971, T. S. dos Santos 1961 (BG), 5 Aug 1986, T. S. dos Santos 4291 (GUA); Mun. Alcobaça, 24 Oct 1994, C. M. Vieira & L. C. Gurken 684 (HB); Mun. Ilhéus, rd. Ilhéus–Oliveira–Una, Km 11, 5 Jun 1984, R. Voeks 9 (GUA), 25 Jun 1984, R. Voeks 24 (GUA). **Espírito Santo:** Mun. Conceição da Barra, Itaúnas, 21 Sep 1993, (GUA), 23 Aug 1993, O. J. Pereira 4716 (GUA), 13 Jul 1991, P. C. Vinha 1257 (GUA). **Minas**