

on the Fila Tinamaste, Pérez Zeledón; between 900–1050 m. The forest in this area has been severely fragmented, but some remnants are located on top of the Fila Tinamaste, a rocky formation that arises abruptly in the landscape. The climatic conditions on the top of the "Fila" form a certain type of microclimate, which is very humid and characteristic of a cloud forest. The palm community in the remnants is mainly composed of understory species, such as: *Astrophyne martiana*, *Bactris herrerana*, *B. dianeura*, *Chamaedorea pinnatifrons*, *C. pumila*, *Geonoma ferruginea* and *Synechanthus warscewiczii*.

ETYMOLOGY. The specific epithet refers to my friend and companion of several years, Ana Julia Sánchez.

COMMENTS. *Bactris ana-juliae* shares similar floral characteristics with *B. hondurensis* Standl., and *B. dianeura* Burret; these species have a short rachis (<3.0 cm long.) in the inflorescence, and possess relatively few rachillae (<17), in relation to the other species of *Bactris* in Costa Rica.

Bactris ana-juliae resembles *B. hondurensis*, a common species in the Atlantic side of the country, in the general morphology of its inflorescence. In the latter, the peduncle is regularly erect in fruiting vs. recurved in the new species, and possesses fewer rachillae (3–9 vs. 8–12). The main differences between *B. ana-juliae* and *B. hondurensis* are in the leaf morphology of the former. It usually has more pinnae per side (7–10 vs. 5 or fewer) than the pinnate form of *B. hondurensis*, also the middle pinnae are wider (4.2–5.1 vs. 1.2–4.0 cm); the lamina is pubescent on both sides (less dense above), and it lacks the cross veined pattern present in the leaf blade of *B. hondurensis*. Moreover, in *B. ana-juliae* the leaflets have an aristate tip (3.5–7.0 cm long.), opposed to an acuminate tip in *B. hondurensis*, and the spines on the petiole and leaf rachis are yellow with the ends darker, although *B. hondurensis* may have yellow spines, but in younger leaves.

Bactris ana-juliae is easily separated from *B. dianeura* by the leaf shape. This new species possesses fewer pinnae per side (8–10 vs. 12–20), these are sigmoid vs. linear-lanceolate, pubescent vs. glabrous, and they lack cross veined blades.

The sigmoid and convex pinnae with a long tip pointing downward is a striking feature of *B. ana-juliae* in natural conditions. The pinnae have a shiny dark green color above that becomes lighter near the tip of the blade. At the type locality the population produces flowers in March and April; fruiting occurs from November to March.

***Bactris herrerana* Cascante, sp. nov. Fig. 2.**

Inflorescentia *B. glandulosae* Oerst. affinis sed foliis simplicibus bifidis abaxialiter pubescentibus differt. Typus: COSTA RICA. San José: Pérez Zeledón, San Cristobal, Finca Tinamaste (17 km from San Isidro on road to Dominical), remnant forest near Fila Tinamaste, 650–680 m, 9° 17' 54" N, 83° 46' 20" W, 2 December 1998. A. Cascante et al. 1470 (Holotypus: CR; isotypi: MO, USJ).

Stems cespitose, 2.0–3.0 m tall, stems 3–6, 1.5–2.5 cm diam., internodes usually spiny. Leaves 4–6 (–11), sheaths to 24.0 cm long, covered with short black spines; petiole glabrous or shortly pubescent, (15–) 20–28 (–43) cm long, with black spines (0.5–) 2.5–3.6 (–5.7) cm long, the basal portion with more numerous, shorter spines. Lamina simple and deeply bifid (rarely irregularly divided), 0.8–1.2 m long, glabrous adaxially and the secondary veins prominent, abaxially with a short brownish pubescence, lobes 10.0–17.0 cm wide at apex of rachis, 35–45 cm long, spinulose margin. Rachis pubescent underneath, with or without black spines, (2.5–) 3.5–5.0 (–5.7) cm long. Inflorescence infrafoliar, peduncle 3.5–7.0 cm long, 5.0–7.0 mm wide, recurved in anthesis, covered with short spines especially on the basal portion, prophyll ca. 9.0 cm long, peduncular bract 12.0–18.0 cm long., spinulose, with short blackish-brown and yellowish spines; rachis 4.5–7.2 cm long, rachillae 31–45, 4.5–7.5 cm long, densely covered with glandular hairs. Staminate flowers grouped on the proximal part of the rachillae, pedicel 0.4–0.6 mm long, sepals fused at the base, lobes apiculate, ca. 1 mm long, glabrous; corolla 2.0–3.5 mm long, petals white-cream, glabrous, fused at the base and apically, thecae ca. 0.5–0.6 mm long., longitudinally dehiscent. Pistillate flowers sessile, cupular calyx, 1.0–3.0 mm long, glabrous or sub-glabrous, and striate (when dry); corolla forming a tube, 3.0–4.5 mm long, with brown ascendent trichomes outside, glabrous inside, style glabrous, to 4.0 mm long, stigma capitate. Fruits obovate with a prominent stigmatic residue, (0.9–) 1.0–1.2 (–1.5) cm diam., (0.7–) 1.1–1.3 (–1.5) cm long, red when ripe, glabrous, and striate; endocarp black, corolla conspicuous in the fruit, irregularly divided (Fig. 2).

ADDITIONAL SPECIMENS EXAMINED. COSTA RICA. Puntarenas: Golfito, Reserva Forestal Golfo Dulce, Estación Aguabuena, ca. 5 km W of Rincón, Quebrada Aguabuena, 250 m, 7 June 1992, A. Henderson et al. 1819 (INB), 1824 (INB, MO), 1826 (INB); Golfito, Península de Osa, Cerro Rincón, cabecera de los ríos Tigre, and Rincón, 700 m, 7 May 1993, R. Aguilar 1885 (INB); Parrita, and Pirris-

Damas rivers watershed, SW side of Cerro Cabeza de Chancho, 600 m, 1 May 1998, *J. F. Morales 6425* (INB). San José: Acosta, Fila Bustamante, SE side of Fila Pital, ca. Quebrada Colorado, 180-600 m, 10 April 1997, *J. F. Morales 6175* (INB); Puriscal, Zona Protectora La Cangreja, forest near Río Negro, ca. 1.5 km E of Santa Rosa de Puriscal, 320 m, 14 May 1987, *M. Grayum et al. 8310* (INB); Zona Protectora La Cangreja, Santa Rosa de Puriscal, primary forest on Fila La Cangreja, 500 m, 10 September 1992, *J. F. Morales 637*; Pérez Zeledón, San Cristobal, Finca Tinamaste (17 Km from San Isidro in road to Dominical), remnant forest near Fila Tinamaste, 650-680 m, 9° 17' 54" N - 83° 46' 20", 25 March 1998, *O. Valverde 782* (CR, MO).

DISTRIBUTION AND HABITAT. Along the central part and the south region of the Pacific Coast of Costa Rica, and possibly extending to Panamá. From 200-300 m in La Cangreja Protected Zone and Corcovado National Park, to 950-1000 m in the Fila Tinamaste in Pérez Zeledón, San José. In "Tropical humid forest, transition to premontane," and in "Pluvial premontane forest" according to Holdridge's "Life Zones Classification" (Tosi 1969); or "Sub-tropical, Tropical, humid with three to four dry months," and "Tropical, tropical, humid with one to two dry months" according to Herrera and Gómez's "Biotic Units Classification" (1993).

ETYMOLOGY. The epithet honors our Costarican botanist colleague Gerardo Herrera, whose unsurpassed work in the recent botanical exploration of the country has given many new species to science.

COMMENTS. *Bactris herrerana* is related to *B. glandulosa* Oerst., and *B. baileyana* H. E. Moore, which have in common the numerous filiform rachillae (> 40) of the inflorescence. Floral morphology of *B. glandulosa* is very similar to *B. herrerana*, but the former has more rachillae (ca. 60-80+), and develops more numerous, smaller fruits than *B. herrerana*. This group of related species grows sympatrically in Costa Rica, however *B. herrerana* can be distinguished in natural conditions by its long simple leaves with the strongly bifid apex, contrary to pinnate leaves in the other two species.

Some individuals of *B. herrerana* may seem to have pinnate leaves from a distance, but a close examination reveals that the leaf divisions do not follow a regular pattern, and are probably due to leaf age and effect of the wind.

Flowering of *B. herrerana* occurs during the ending of the dry season and beginning of the rainy season (March to May). This phenological pattern is shared with *B. glandulosa* and *B. baileyana* along its distribution range in Costa Rica, and it may be in response to the climatic pattern of the region.

In herbarium conditions the specimens of *B. herrerana* usually have leaf blades grayish above, and brownish underneath.

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