

served between populations throughout the valley. The effects of light exposure and edaphic factors probably obscure inherent genetic variation or variation related to altitude.

Phenology: Flowering has only been recorded during the wet season and the beginning of the dry season.

3.b.iii. *Phytelephas macrocarpa* Ruiz and Pavon ssp. tenui-caulis Barfod ssp. nov.

Type: Ecuador. Napo: Añangu south bank of Río Napo 95 km downstream from Coca, alt. 300 m, 28 Jul. – 9 Aug. 1985 (♂ and ♀, flws., incl. photos) Balslev, Barfod, Henderson, Skov and Arguëllo 60698 (AAU Holotype, OCA, QCNE, NY Isotypes).

Ab *Phytelephas macrocarpa* ssp. *macrocarpa* habitu delicato cum caule aereo erecto tenui differt. Ab *P. macrocarpa* ssp. *schottii* fructu quinquelocularis et caule aereo erecto caespitoso differt. Inflorescentiae semper caulibus aëris insidens.

Illustrations: Bodley & Benson, Rep. invest. no. 56, Fig. 32, 1979; Henderson, Bot. Rev. 52: 221–259, 4 a and b, 1986; Balslev & Barfod, Opera Bot. 92: 17–35, Figs 19–20, 1987.

Distribution: Occurring in the upper Amazon ranging from Colombia in the North to Iquitos in the South (Fig. 37).

Habit: The multistem habit typical of this subspecies may be correlated with the period of time that the substrate is inundated each year or in certain “catastrophic” years. Thus a lower proportion of multistemmed individuals are found on terra firme compared with populations on adjacent inundated soil types. In dense populations a multistemmed habit favors quick closing of gaps in the vegetation and thus could be a competitive advantage.

Variation: The little variation observed in vegetative characters is always related to light exposure. The crown is small on palms growing shaded, whereas it is larger and comprised of more leaves on palms growing in light open places. Flowering apparently occurs only on individuals with long stems.

Ecology: A niche specialist that completely can dominate its habitat especially where it grows on periodically inundated soils on the floodplain. It competes best where soils are waterlogged for a certain period of time each year, probably 1–2 months.

Phenology: According to vouchered and unvouchered observations covering several years at Añangu, Prov. of Napo, Ecuador this subspecies seems to flower throughout the year with a peak during the summer months.

Taxonomic notes: In the Iquitos area this subspecies occurs along with *Phytelephas macrocarpa* ssp. *macrocarpa*. Subspecies *tenui-caulis* is locally named “Yari-

Phytelephas seemannii

● *ssp. seemannii*

○ *ssp. brevipes*

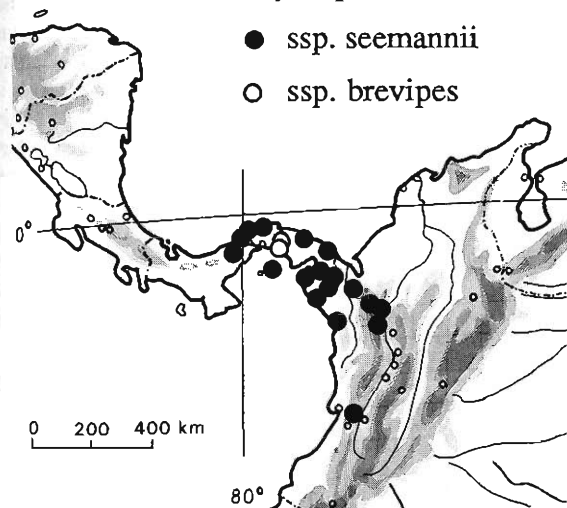


Fig. 43. Distribution of *Phytelephas seemannii*.

nilla”, the diminutive form of the name used in the area for subspecies *macrocarpa*, “Yarina”.

3.c. *Phytelephas seemannii* Cook.

Bull. U.S.D.A. Bur. Pl. Industr. 242: 68, 1912. – Orig. coll.: Colombia. Chocó: Bay of Cupica, 28–31 Sept. 1847 (sterile) Seemann s. n. (BM Lectotype designated here).

Typification: Based on *P. macrocarpa* in Seemann’s “The Botany of the Voyage of H. M. S. Herald” (1852–1857). Seemann observed it along the Pacific shore of Darien in Panama and the Northern part of Chocó in Colombia. He collected it in the bay of Cupica and one of his sheets, kept at the British Museum (BM), is designated lectotype.

Solitary rosette palm, with prostrate subterranean part of stem and aerial part wanting, or mid-sized palm tree with decumbent, or erect stem up to 4 m tall. Leaves 10–15, semierect to erect, evenly bending from base to apex; leaf sheath split to the base; leaf 60–100 cm long from point of insertion to blade; petiole 4–5 cm wide distally, deeply rounded abaxially, with shallow, sharply edged groove adaxially, or semiterete in cross-section, green on the adaxial face often with a drab-colored waxy covering tapering into a point below the rachis; rachis 350–550 cm long, green, with median ridge adaxially raising gradually from the distal end of the petiole, often with brown tomentum along the median adaxial ridge and the lateral faces bearing the pinnae; pinnae 75–110 per side, often drying to lustrous pale green, midnerve prominent, submarginal veins indistinct, transverse commissures often conspicuous; basal pinnae alternate, 30–60 × 0.3–0.5 cm, 1–3 cm apart or remote and pendent on long petiolate individuals, middle pinnae subalternate, 55–80 × 3.4–4.5 cm, 4–7 cm apart,

distal pinnae opposite, 15–25 × 0.8–1 cm, 3–4 cm apart. Staminate peduncle 60–80 cm long, glabrous, compressed, 3.5–5 × 2–2.5 cm in cross-section in the middle part; prophyll 35–65 × 7–10 cm; first peduncular bract inserted 25–35 cm above the peduncle base, 40–55 cm long, bicarinate distally, outside light brown, inside brownish-orange; incomplete peduncular bracts 3–5, oblique, deltoid or elliptic with attenuated base, plicated basally, the proximal one 4–6 cm long; rachis 50–110 cm, compressed, 2 × 3 cm in cross-section in the middle part; flowers sessile, closely inserted in groups of 4(–5), or fewer proximally on rachis, distal flowers solitary; receptacle covered by masses of 300–600 stamens, expanded in width and flattened, slightly raised, rounded in outline at early anthesis, later extending to ovate or fusiform, 1.5–2 × 1–1.5 cm; perianth fused basally to receptacle and elongated forming a narrow shiny zone, only tips of the perianth segments free; filament 6–12 × 0.2 mm, subulate; anther 2–6 × 0.4–0.6 mm, shortly apiculate. Pistillate peduncle 15–25 cm long, compressed, 1.5–2.5 × 2–3.5 cm in cross-section in the middle part; prophyll 25–35 × 5–7 cm, smooth, drab-colored; first peduncular bract inserted 10–17 cm above the base, 20–30 cm long; incomplete peduncular bract 5–7, spirally arranged and covering 1.5–2.5 cm of peduncle below the bracts subtending flowers, 3–8 × 1.5–2 cm, obliquely ovate to deltoid, the proximal one with short acumen, the others increasingly narrow towards the bracts subtending flowers; flower-bearing zone 1–2 cm long, with 5–8 flowers; floral subtending bracts deltoid 3–5 × 1–1.5 cm, with long acumen; sepals 6–7, 4–6 cm long, narrowly deltoid with long acumen to strap shaped; tepals 6–7, 15–18 cm long, 1–1.5 cm wide basally; non-functional stamens 25–35, 10–25 mm long; anther 6–9 mm long, obliquely sagitate basally, apiculum usually absent; pistil obliquely pyriform, bulky, smooth, with 6–9 locules; style 11–13 cm long; stigmas 5–6, 5–7 cm long. Infructescences usually numerous, up to 25 on one palm, 17–25 cm in diam.; peduncle 20–30 cm long, 3–4 × 1–2 cm in cross-section in the middle part; prophyll and first peduncular bract 10–15 cm apart, partly resolved; incomplete peduncular bracts with persistent base or caducous; fruit-bearing zone 2–3 cm long, fruits 4–8, perianth early caducous; fruits 6–10 cm long, tangential face rounded in outline, 12–16 cm in diam., flat with central depression, with spiny processes of variable length from 0.5 to 2.5 cm, style residuals usually absent, abscission scar to 3.5 cm in diam.; inner mesocarp thin, with network of flattened fibres adherent to pyrene and exposed upon drying; seeds 6–9 in fully developed fruits; pyrenes rounded with blunt edges; rostrum absent or short; umbo basally on median blunt ridge, occasionally raised considerably, flattened or ridged, ovate in outline with the narrow end pointing up or upper margin emarginate. Seedling robust with three scale leaves, of which two are usually exposed above the ground; eophyll with 32–36 opposite pinnae. – Figs 39, 40, 41 and 42. – Two subspecies.