

abortion of two locules, $1-1\frac{1}{4}$ inches long including the short base representing the receptacle and indurated envelopes, about $\frac{3}{4}$ inch broad, dark green becoming dull brown (Fig. 48); seed single, oblong, loose in the integument but filling it, gray, albumen very hard and chalky white with small cavity or crack in center, plain (not ruminate).

Frequent in the forests of Barro Colorado Island, and elsewhere in the Canal Zone.

ÆNOCARPUS

The palm known as "maquenque" is common on Barro Colorado Island and elsewhere in the Canal Zone forests. It is tall and graceful, with several boles in a clump (Fig. 50), the younger trunks usually giving a leafy effect to the group. The main trunks become very tall, mounting high into the roof of the forest, with well-spaced bands about the boles, and a prominent black-green crownshaft at the summit. The hanging fruiting clusters (Fig. 52) have



FIG. 50. COLONY OF ÆNOCARPUS, *Æ. panamanus*. The trunks are smooth and banded.

brilliant red strands, and bear profusely of black hard plum-like fruits.

This is undoubtedly the royal palm or *Oreodoxa regia* of Seeman and other early writers (see page 34). The *regia* itself is not known on the Isthmus except as an introduced planted tree.

This well-known palm is apparently without a botanical name. I gave it a tentative field-number nomen, and comparison abroad has now shown its distinctness from other species of the genus, its nearest ally probably being the recently described *Ænocarpus Huebneri*, Burret, from Brazil; I therefore confirm and publish the name.

† *Ænocarpus panamanus*, spec. nov. § Bacaba.
Figs. 50-53.

Palma alta gregaria distincto culmine superiore, inflorescentia infrafoliaris: flores minimi, fere non longiores quam 5 mm.: apex nudus ramorum floriferorum 2-5 cm. longus, non filiformis: fructus breviovoideus 2-2½ cm. longus, 15-18 mm. latus, triplo longior quam cupula perianthii: ab *Æ. Huebneri* in apice comparate brevi ramorum floriferorum, ab *Æ. intermedio* fructu majore et perianthio fructifero, ab *Æ. multicauli* minoribus floribus staminatis differens.

Beautiful tall and slender unarmed monœcious palm to 70 feet and more, sometimes overtopping the surrounding vegetation, gregarious with few or several trunks in a cluster, the smooth boles 5-6 inches diameter at the base and bamboo-like with the rings far apart and not indented or notched; crownshaft high up, black-green, very smooth: leaves attractively long-pinnate, smooth and glabrous, 6 feet and more long, the regular narrow alternate closely placed pinnæ in a single row of about 60 either side the rachis; pinnæ long and narrow, 2-2½ feet long, ½-1½ inches broad, tip unequally bifid, strongly 2-3-ribbed either side the midrib and with intermediate parallel nerves; petiole 2-3 feet long, slender, terete with a narrow deep groove on upper side: spathe borne well below the crownshaft, consisting of single cylindrical curved tomentose sleeve 15 inches or more long that ruptures on one side, subtended at base by 2 keeled ear-like more or less connate woody bracts about 9 inches long, serrated on the keel: spadix a simple axis 6-9 inches long from which depend numerous slender sinuous lash-like scurfy-pubescent strands 15-24 inches long and ⅛ inch thick (Fig. 51) that bear flowers in their curves and a naked tip 1 or 2 inches long: flowers many and very small, 3-5 mm. long, trinal, the central one pistillate and lateral two staminate, but at the base of the strand only the pistillate may be developed and toward the center and top only the staminate (and often irregularly) so that

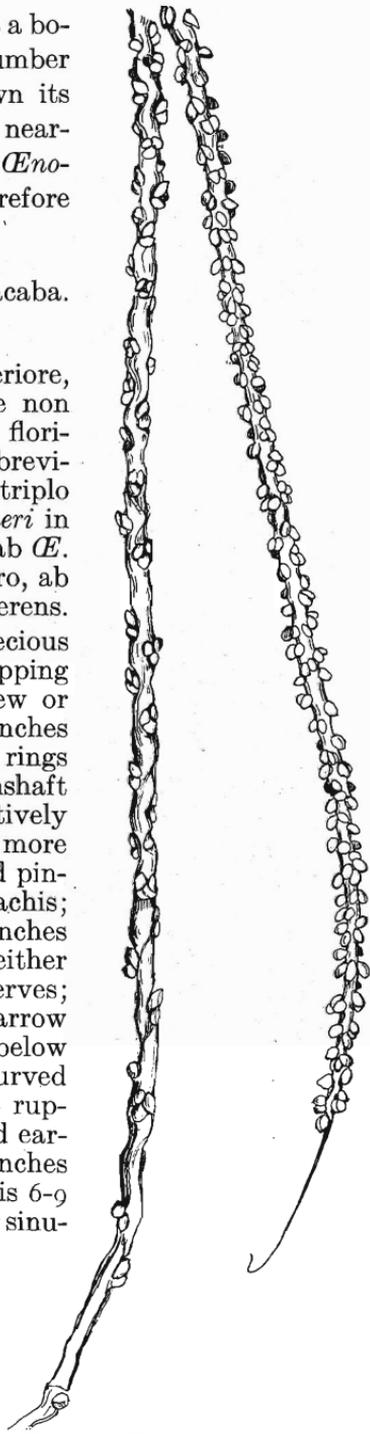


FIG. 51. FLOWER STRAND OF *Enocarpus panamanus*, about one-half full size.

the fruit is borne well toward the base or not beyond the middle of the hanging strings (Fig. 52); floral envelopes 6 in two series, stamens 6 with very short filaments and large versatile anthers: fruits usually a half dozen or less to a strand, short-ovoid to somewhat obovoid, $\frac{7}{8}$ -1 inch long and

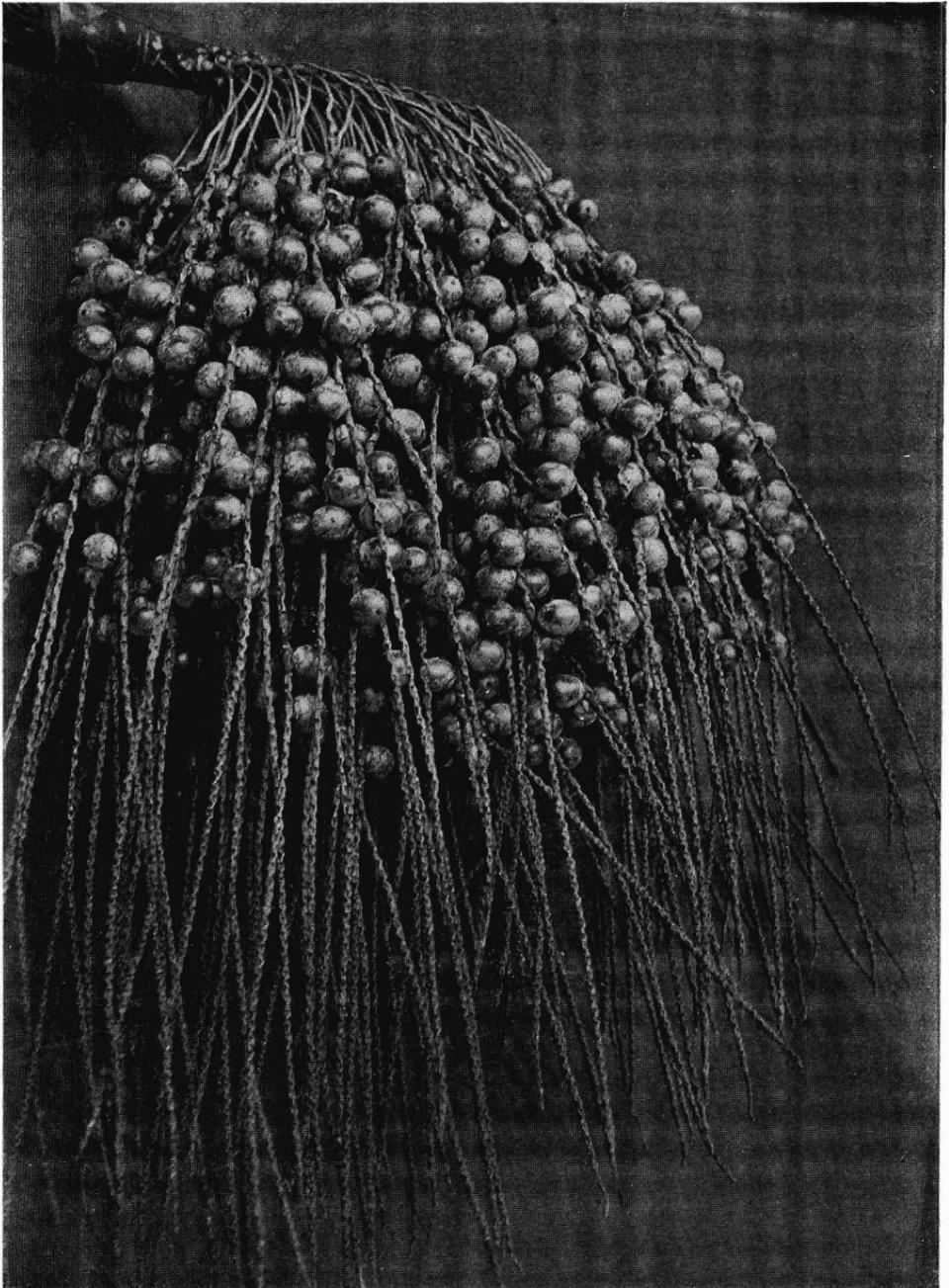


FIG. 52. FRUIT-CLUSTER of *Ænocarpus panamanus*.

$\frac{5}{8}$ - $\frac{3}{4}$ inch broad (Fig. 53), hard, black, epicarp thin and dry, glabrous but slightly scabrous, point very short, the brown cup $\frac{1}{4}$ - $\frac{1}{2}$ inch high and either remaining on the rachis or going with the fruit; nut single, equal to the integument, tightly inclosed in longitudinal fibers, albumen plain, white and hard with cavity in center.

The genus *Cenocarpus* (Greek, *wine-fruit*, from uses developed by the Indians) starts with Martius in his monumental *Historia Naturalis Palmarum*, 1823 (vol. ii, 21) with five species from equatorial Brazil. The latest treatment

is by Burret in 1928 (*Notizblatt des Botanischen Gartens und Museums zu Berlin-Dahlem*, x, 291 et seq.) who admits eleven species of Brazil, Peru, Bolivia, Venezuela, Colombia, three of them being new. *C. panamanus* belongs in Drude's section *Bacaba*, in which the leaves are spirally disposed in the crown, as usual in palms, rather than distichously, and to the group *Caudices caespitosi* in which three species are heretofore recognized.

The *Cenocarpaceae* are striking arboreous pinnate monoecious palms of strictly tropical regions. No technical account has heretofore been made of the occurrence of the genus in Panama or northward. The genus as now accepted is not homogeneous even though small in number of species. Much collecting and close field observation must yet be completed before the group is well understood or the limits of species clarified.

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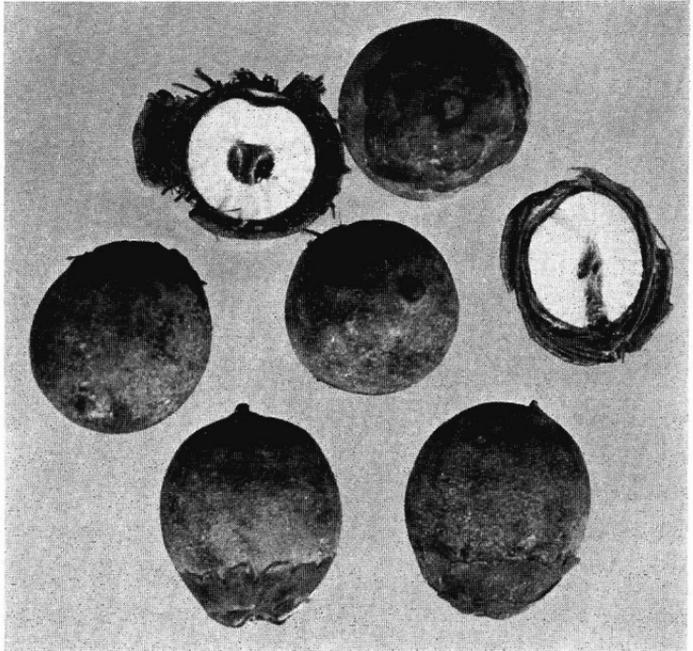


FIG. 53. FRUITS OF *CENOCARPUS*, natural size. *Cenocarpus panamanus*.

GEONOMA

Three *Geonomas* were taken on Barro Colorado Island. No other species were seen on the Canal Zone. These are small undergrowth woods palms, flowers unisexual. These three are Central American species, not