

Fort Sherman plant here discussed, and the leaves are now apparently first described in detail although Sereno Watson gave a brief characterization of them in 1886; even so, the species is yet none too clear.

† *Bactris superior*, spec. nov. § Augustinea. Figs. 75, 76, 83 left.

Palma gracillima, ad 15 m. vel ultra alta, in sparsis coloniis: a *B. balanoidea* non conferta aggregatione differens truncis altioribus, petiolo multis spinis non modo parvis sed etiam longis, spinis minus compressis, pinnis minus crebre dispositis et multo latioribus (ad 4 cm.), apice longo et tenui-acuminato, rachi folii proxime vel tote glabra, fructu ovoideo-conoideo.

Attractive tall palm, in loose open not extensive colonies and sometimes seen as single tall slender trunks, to 50 feet or more tall, the trunks often leaning and upwardly bent, to nearly or quite 2 inches diameter, wood hard, with wide smooth annuli or blank spaces, spines blackish and only indistinctly compressed, to 2 inches long, on upper part of

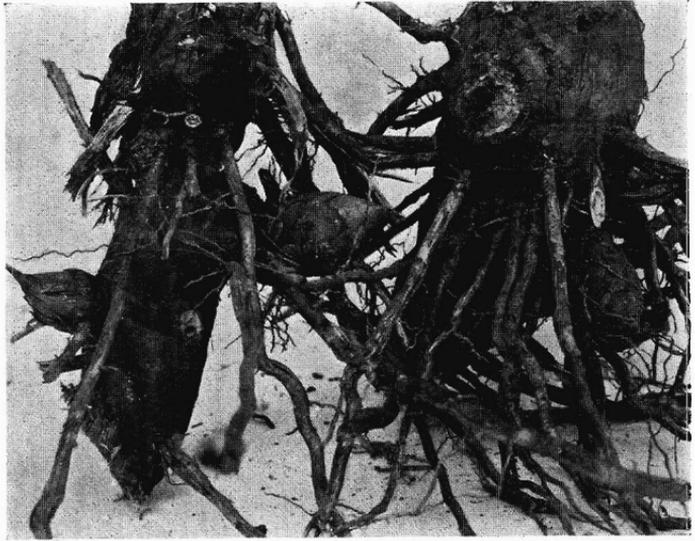


FIG. 75. SUBTERRANEAN BUDS ON CROWDS OF *Bactris superior*.

trunk and on leaf-sheaths ascending or horizontal and on lower part declined: leaves 4-6 feet or more long, evenly and continuously pinnate, of 30-40 pairs; petiole deeply channelled above, somewhat scurfy-pubescent, closely beset with light colored spines 1 inch or less long and a few others to 2 or 3 inches, the stout rachis broader than high, with strong ridges and upper part of it not noticeably pubescent or even glabrescent, bearing brownish or stramineous spines throughout; pinnæ widely spaced (1-2 inches apart), main ones 16-24 inches long and $1\frac{1}{2}$ inches broad at middle, one of the points narrowly produced to 2 or 5 inches, deep green but mostly dull, indifferently lighter colored underneath, glabrous, tapering toward base and prominently so to apex, margins setulose, about 2 main costæ either side of rib and approximately $\frac{1}{4}$ inch apart, with thinner veins between: spathe 12-16 inches long, pubescent, shaggy with blackish spines, not aculeate within, the shank unarmed and pubescent; spadix with 10-18 strands from 5-10 inches long attached near top of flattened eventually curving shank or peduncle which is hardly setose, pistillate flowers mostly nearly the entire length: fruit (Fig. 76) purple at maturity, somewhat fleshy, lightly scabrous,

$1\frac{1}{2}$ to nearly or quite 2 inches long and about 1 inch thick, oblong-turbinate to-obovoid, broad at top but attenuate when dry, with a rather prominent point or tip, cupule prominent and about $\frac{1}{3}$ inch high, with about 16 conspicuous lobes in the upper row; nut contained in brittle not hair-like fiber (when dry), about $1\frac{1}{4}$ inches long, slightly irregular, the three pores on upper third with one a little higher than the others.

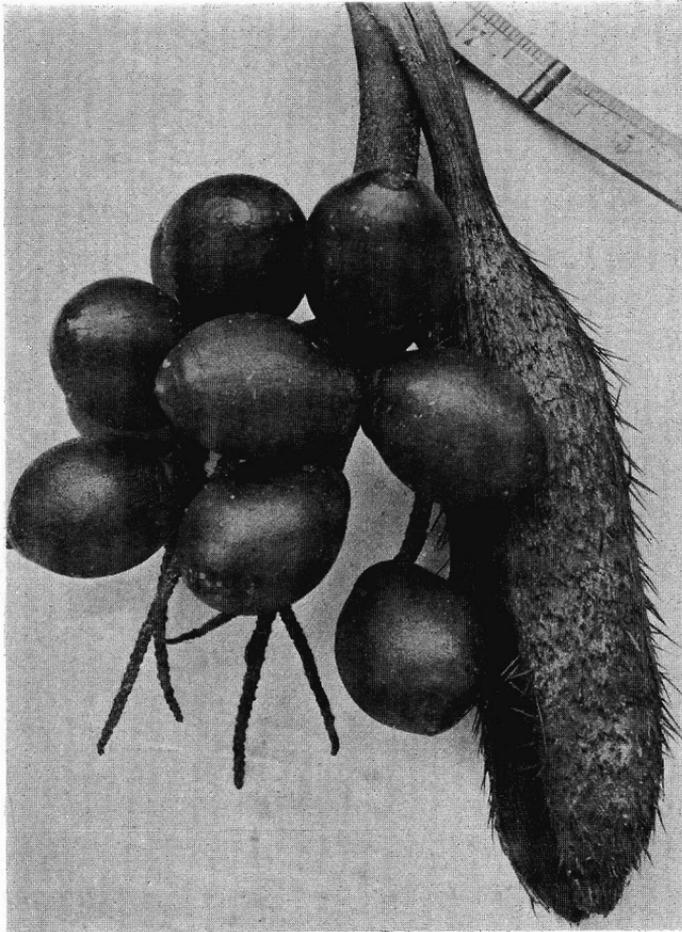


FIG. 76. FRUITING CLUSTER of *Bactris superior* ($\times\frac{1}{2}$). Point is broken from the spathe in this specimen.

Barro Colorado Island, called "caña brava." A colony stands not far from the entrance to Snyder-Molino trail in front of the prone great trunk under which one walks and where bats hang by day, and is abundant on the farther part of the Miller trail, and was seen elsewhere.

I hesitate to describe this prominent palm as a new species but I do not know what else to do with it. Generally it has been supposed to be *Bactris* (or *Pyrenoglyphis*) *major*, but when one analyzes that

historic species this disposition becomes doubtful or untenable. Confusion would be increased rather than diminished by referring the plant to *major* at present.

We have noted (page 92) the beginning of *Bactris major* in Jacquin. He states that *major* is similar in habit to *minor* which he describes and figures. We are none too certain of the plant intended as *minor* and the other is still more in doubt. Jacquin mentions the multicrenate cupule of

major formed by the calyx and corolla, the drupe being size and shape of a hen's egg, and figures fruit, nut and kernel, reproduced in Fig. 77. The picture was undoubtedly made from a dried specimen. Karsten in *Floræ Columbiae* gives us a full characterization of the plant he considers to be *major* (as *Pyrenoglyphis major*); he takes pains to figure both fresh and dried fruit; he displays a clump of the plant with several low growths and two tall trunks of which one is conspicuously curved or flexuose, quite unlike what one sees in the plants I know as *B. Augustinea* and *B. balanoidea*; how well the picture represents the natural habit, in the days before field photography, we do not know. New studies on the ground in the neighborhood of Cartagena and other parts of northern South America are necessary before we can clarify the two species of Jacquin; and until that time it is futile to speculate on the distribution of them. Karsten's *major* has obovate leaves, much narrower linear-lanceolate pinnæ than the plant I describe as *B. superior*, petiole and sheath white-tomentose, different spathe that is two-keeled, setose peduncle, narrower fruit, and other divergencies. All the specimens I have seen, reliably accounted to be the South American *B. major*, have narrow closely costate pinnæ with parallel and conspicuously setose margins, set close together, very unlike the pinnæ of *B. superior*.

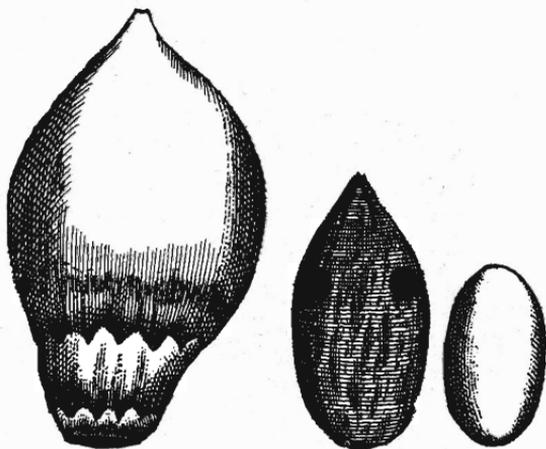


FIG. 77. ORIGINAL PICTURE of *Bactris major*. Jacquin, 1763, repeated in his edition of about 1780.

† *Bactris barronis*, spec. nov. § *Eubactris*. Figs. 78-80.

Palma humilis in cæspitibus parvis solitariisque: trunci 2-2½ m. alti, 5 cm. vel minus in diam., spinis atris 2-3 cm. longis: folia æqualiter pinnata, pinnæ in 30 vel pluribus jugis; pinnæ 40-60 cm. longæ, 2-4 cm. latæ, cinereo-virides, glabræ, aciculares in marginibus, valde venatæ, tenuiter reticulatæ, rachis espinosa, petiolus spinosus basi tantum, spatha sessilis, 15-30 cm. longa, pendens, atro-aculeata: fructus in spadice spisso brevique, durus, atro-virens, hirsutus, 10-12 cm. in diam.

Small palm in close clusters of a few trunks or sometimes only two or three (Fig. 78); trunks erect, to 8 feet high and 2 inches thick, prominently annulate with zones of upright or spreading black spines ½-1½ inches long beneath each ring: leaves mostly continuously pinnate but sometimes interrupted; petioles 3-4 feet long and strongly ascending, slender, deeply canaliculate on upper surface and convex on lower face, glabrous, lower