

Very slender small palm to 2 m. tall with practically evenly gray-green pinnate leaves with blade 25-35 cm. long and concavo-convex petiole of similar length: pinnæ 2 pairs and a terminal deeply bifid part, the bases broad at attachment to rachis and not always precisely opposite, length about 20-25 cm., breadth at middle 3-4 cm., long-tapering rather abruptly into a narrow end and usually (as on apical lobes) into a thread-like cauda 5-7 cm. long, veins pronounced and about 4-5 mm. apart and elevated on upper face, glabrous on both surfaces: spadix a simple slender glabrous spike 10-14 cm. long subtended by a sessile bract (upper spathe-valve) that leaves a ring when it falls, the very slender erect peduncle about 50 cm. long with glabrous striate sheathing spathe-valve at base; rachilla or spike 2-3 mm. thick at fruiting time, alveoles distinct and separate in about four rows, the narrow nearly or quite entire lower lip divaricate and prominent: fruit oblong-pyriform, 10-11 mm. long, somewhat narrowed to base, nearly obtuse at apex, glabrous, somewhat pimpled.

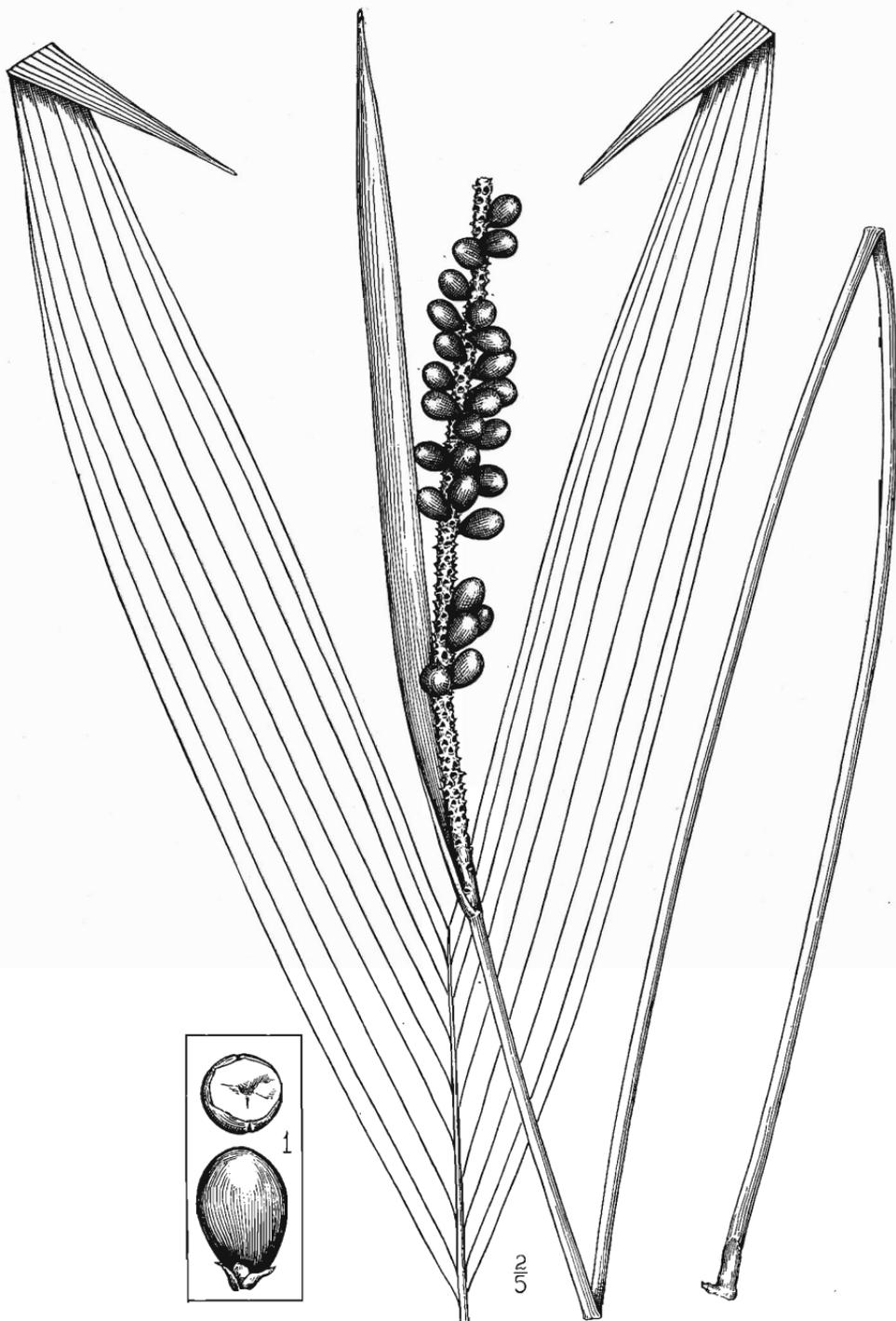
Hills north of El Valle de Anton, Province Coclé, 800 m. altitude, Allen 2947.

† *Geonoma costatifrons*, spec. nov. Fig. 105.

Gracilis, 3-4 m. alta, glabra: folia inæqualiter pinnata, juga terminalis interdum angustissima interdum latissima, aliæ 40-50 cm. longæ, 3-8 cm. latæ; petiolus 75 cm. longus, 5-10 mm. latus, planus subter, acutus supra; pinnæ alternæ et oppositæ, nonnullæ affixæ 10-12 cm. inter se distantes, angustatæ ad longum rectumque punctum, latæ basi, pluribus vel multis validissimis costis et sæpe inter has scindentis: spadix simplex spica 30 cm. vel plus longa, in gracillimo et erecto pedunculo longa et angusta spatha subtenta; axis spadiciis glaber, alveoli separati et distincti, labia reflexa et striata: fructus (non maturus) oblongo-pyriformis, 15-16 mm. longus, 10 mm. latus, apex obtusus, glaber, scaber cum siccus.

Slender, 3-4 m. tall, glabrous unless scurfy on petioles: leaves unequally pinnate; blade about 1 m. long; petiole 75 cm. to 1 m. long, firmly clasping for perhaps one-third its length, very slender, flattish on under side and 5-10 mm. across, sharply ridged on upper surface; pinnæ 40-50 cm. long and 3-8 cm. broad with narrower ones intervening or near the apex, alternate and opposite, about 2 or 3 main pairs aside from a terminal broad pair and sometimes terminal very narrow shred-like units, all of them with broad base from which extend several or many costæ or ribs prominent on both surfaces and yellowish underneath and between which the pinna tends to split lengthwise, all very gradually and straightly tapered to long narrow point, placement of the pinnæ often far apart on the rachis, often as much as 12 cm., so that the leaf may have an open or skeletonized look: spadix a simple spike to 30 cm. or more long on an angled glabrous peduncle two to three times as long and subtended at the base by a very long narrow leaf-like spathe; axis of spadix glabrous, the pits distinctly separated and its lower lip retrorse and striate after anthesis: fruit (yet immature although apparently about full size) oblong-pyriform, 15-17 mm. long, 10 mm. broad toward apex which is obtuse, glabrous, drying roughish.

Canal Zone region. Upper Rio Pequini, Madden Lake area, vicinity



105. APEX OF LEAF AND SIMPLE SPADIX of *Geonoma costatifrons*. Fruit at lower left.

of Police Station, *A. G. B. Fairchild and Daniel Jobbins 2639* (type); Quebrada Lopez, *Allen 2134*.

† *Geonoma condensata*, spec. nov. Fig. 106.

Parva arbor vel frutex, 1.6 m. alta: lamina circa 1 m. longa, satis viridis, glabra, valde costata, irregulariter pinnata, includens profunde bilobatam partem terminalem et unam jugam 10-12 cm. remotam; pinnæ vel lobi 40-50 cm. longi, 6-7 cm. lati, bases latissimæ; costæ 10-12 mm. inter se distantes, 2 vel 3 tenuiores inter eas, albescentes in parte inferiore pinnæ: spadix solitaria et simplex, 12-16 cm. longa, 4 mm. crassa anthesi, condensata, glabra, granularis; pedunculus 1 m. longus, compressus; alveoli compacti, labiæ non divaricatæ: fructus oblongus, 11-12 mm. longus, obtusus apice, glaber, 6 amplificatis, angustis, pæne separatis partibus floralibus affixis cum caducus.

Tree or bush 1.6 m. tall: leaf-blade about 1 m. long, dull green, irregularly pinnate, glabrous both surfaces, lighter colored underneath; pinnæ about 2 pairs including the bilobed apical part, and a few intermediaries or shreds (as splits of pinnæ) between the separation between the two pairs being perhaps 10-12 cm. of rachis, the wide bases irregularly opposite; terminal part divided into long-acuminate lobes 40-50 cm. long and 4-6 cm. broad; each of the other pair 40-50 cm. long and 6-7 cm. long; all pinnæ and lobes very strongly many-ribbed, the main ribs whitish on under surface and 10-12 mm. apart with 2 or 3 thinner nerves between; petiole and rachis slender, glabrous, sharply ridged on upper surface: spadix a single simple condensed spike 12-16 cm. long, borne on a flattened two-edged petiole-like peduncle 1 m. long; rachilla glabrous but granular, about 4 mm. thick; alveoles close together, broad and rather high before frutescence, the lips not prominently projecting: fruit oblong, 11-12 mm. long, only slightly contracted to base, obtuse at apex, glabrous, carrying the 6 enlarged nearly separate narrow floral envelopes with it when removed and leaving a chaffy cup of 3 projecting bracts.

Isla Colon, vicinity of Chiriqui Lagoon, Province Bocas del Toro, Panama, *H. von Wedel 2972*.

† *Aiphanes fuscopubens*, spec. nov. § Brachyanthera. Fig. 107.

Arbor ad 5 m. alta, truncus tectus spinis: folia 2 m. longa, irregulariter pinnata, aliquid lucida, glabra et espinosa supra et infra; petiolus brevis, multis fuscis plano-convexis spinis 4-8 cm. longis et hirsuto-pubescentibus; pinnæ 20 vel plures in utroque latere rachidis, 15-30 cm. longæ, 10 cm. vel minus latæ apice, nonnullæ divisæ ad basim, erosæ et truncatæ apice, multi-nervatæ et sine costis mediis; rachis spinifera et fusco-pubescentis: spadix erecta; cymba angusta, aliquid aculeata; pedunculus longissimus, gracilis, aculeatus et pubescens; rachillæ simplices, 30-40 cm. longæ; flores multi, contigui, pistillati flores 4 mm. lati et 5 mm. longi, flores staminati 3 mm. diam.; petala valvata, axis rachillæ angulata, fusco-pilosa vel fusco-pubescentis.

Tree 5 m. tall, apparently not soboliferous, trunk covered with spines: leaves 2 m. long, more or less glossy; petiole short, bearing blackish plano-convex spines of different lengths some of which are 8 cm. long, and also