

Fig. 40 - *Astrocarium scopatum* - a. rachilla; b. staminate flower; c. calyx; d. petal; e. stamen; f. pistillate flower; g. calyx; h. corolla; i. staminodial ring in corolla; j. pistil; k. fruit; l. perianth in fruit: corolla with staminodial ring. (b-j with same scale. Material used: Kahn & Borchsenius 2563)

15. *Astrocarium carnosum* F. Kahn et B. Millán, sp. nov. (Fig. 41).

Palma caespitosa, floris pistillati calyce tubulari hirsuto, mesocarpio carnosu; differt a *Astrocarium huicungo* Burret annulo staminodiali dentato deminuto, epicarpium aculeis longioribus et irregulariter longis.

Kahn F. 1839, Peru (Holotype: P; Isotypes: K, USM).

A *subacaulescent, multistemmed* palm. *Stem* in old trees up to 2 m high, 18 cm in diameter, unarmed with prominent leaf scars; sheaths of dead leaves persistent on about 1 m under the crown. *Leaves* 8-12, up to 7.5 m long; *sheath* up to 1.5 m long, with margins fibrous, densely setose, abaxial side densely armed with black, fulvo-tomentose, up to 20 cm long spines; *petiole* up to 1.2 m long, armed with 3-6 cm long spines, more or less arranged in linear groups; *rachis* 3.0-6.3 m long, red brown-tomentose and shortly black-setose with flattened, black, 3-5 cm long spines in the basal half; *pinnae* 85-120 per side, regularly arranged in one plane; *basal pinnae* 61-124 cm long, 1-2.5 cm wide; *median pinnae* 80-144 cm long, 4-6 cm wide; *apical pinnae* 28-60 cm long, 2.5-7.5 cm wide. *Inflorescence* and *infructescence* erect; *prophyll* up to 1 m long, 12 cm wide, flattened, densely setose, light to dark brown; *peduncular bract* to 1 m long inserted 35-50 cm from rachis, densely covered with light brown setae basally, other more rigid, and intermixed dark brown spines in the upper two thirds, and with up to 5 cm long spines at apex; *peduncle* up to 1.7 m long, usually shorter, section oval, 4 x 3 cm at base, 2.5 x 2 cm near rachis, not very spiny; *rachis* 15-40 cm long; *rachillae* many, proximal part 1.5-4.5 cm long, glabrous, distal part bearing staminate flowers 4.5-10 cm long, hirsute with clavate hairs, one pistillate flower at base inserted on rachis. *Staminate flower* with *sepals* minute, 0.7 to 1.2 ± 0.1 mm long, slightly carinate; *petals* brown, slightly connate basally, 2.7 ± 0.2 to 3.0 ± 0.3 mm long; *stamens* 6; *anthers* 1.2-1.3 mm long; *filament* up to 1.5 mm long; *pistillode* small, 3-parted. *Pistillate flower* not totally covered with a bract at rachis base; *calyx* tubular, slightly 3-dentate, dilated and pleated at extremity, 10.8 to 13.4 ± 1 mm long, hirsute, with many yellowish to brown, 1-3 mm long spines; *corolla* subequal or slightly shorter than calyx, oblong to tubular, pleated at extremity, slightly 3-dentate, 10.8 to 12.4 ± 0.7 mm long, covered with brown to black, 3-5 mm long spines; *staminodial ring* entire, membranous, 6-dentate, 1.4-2 mm long, often with setae at margin; *pistil* conoidal, floccose, with whitish to brown, 2 mm long spines; *stigmas* 3, 4-5 mm long. *Fruit* turbinate, 6.6-7.4 cm long including a 0.8-1.1 cm long rostrum, 3.5-4.2 cm wide; *pericarp* brown-tomentose, with flexuous, irregular in size, up to 7 mm long spines; *mesocarp* orange, 4 mm thick, fleshy at maturity; *endocarp* round at top, pointed basally, slightly asymmetrical, 5.2-5.8 cm long, 2.1-2.5 cm in diameter, 3 mm thick; *perianth* with *corolla* funnel-shaped, laciniate, 15-22 mm long, densely covered in the upper part with brown, 2-4 mm long spines, *staminodial ring* entire or 6-dentate, 7 mm long, *calyx* several-lobed, 9-15 mm long, hirsute with brown, 2-3 mm long spines in the upper part.

Specimens observed:

PERU - *Kahn* 1839 (K, P, USM), 1840 (CAY, P), Dec 1985; 1933 (P), 1934 (CAY), Sep 1986; 2031 (NY, P), Apr 1987: 76°26'W, 8°17'S, 500 m, San Martín, Mariscal Cáceres, in the upper Huallaga River valley, near Uchiza, Palmas del Espino's oil palm plantation.

Distribution: In the central eastern Andean piedmont of Peru.

Ecology: In forests on periodically flooded alluvial soils (Kahn & Mejia, 1990; Kahn & Granville, 1992).

Uses: Liquid endosperm of unripe fruit is drunk.

Vernacular names : huicungo (P).

Notes : This species is akin to *Astrocaryum huicungo* and *Astrocaryum javarense*. The main differences are the calyx pleated at limb and longer to subequal to corolla and the staminodial

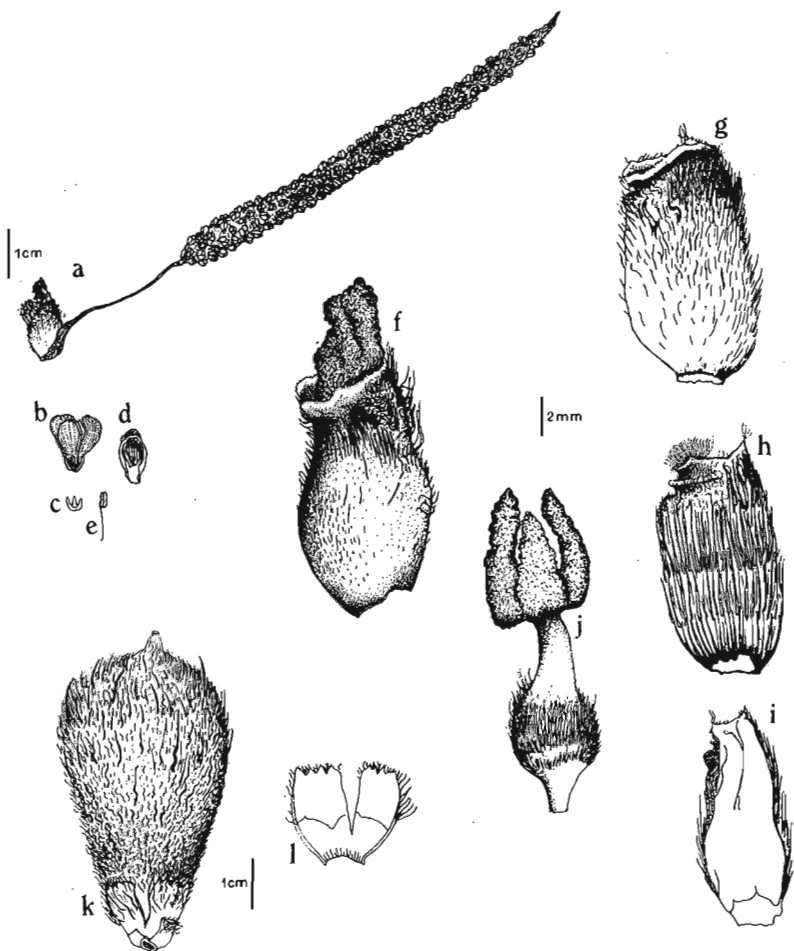


Fig. 41 - *Astrocaryum carnosum* - a. rachilla; b. staminate flower; c. calyx; d. petal; e. stamen; f. pistillate flower; g. calyx; h. corolla; i. staminodial ring in corolla; j. pistil; k. fruit; l. perianth in fruit: corolla with staminodial ring. (b-j with same scale. Material used: Kahn 1839, 1933, 2031)

ring membranous and low in corolla. From the former, the fruit of which is setose, it also differs in its dense, unequal-sized spines on the pericarp. From the latter which is single-stemmed with dry mesocarp, it differs in its multistemmed habit and its mesocarp fleshy at maturity.