



FIG. 3. *S. coronata*. Longitudinal, cross, and external views of mature fruit. Glassman & Costa 8702.

In Pernambuco, *S. oleracea* occurs by itself between Tapera and Pombos, in the eastern part of the state. West of Pombos, near Garanhuns, *S. coronata* makes its appearance and is abundant between this locality and Arco Verde. It is in this general region where the ranges of the two species overlap that most of the hybrids were seen.

Although this palm was thought to exist as a distinct taxon for a long time (Burret annotated some of the herbarium sheets at Instituto de Pesquisas Agronomicas as *S. pickellii*), no one had described it formally. Therefore, I am naming it as a new hybrid in honor of Mr. Costa, who directed me to the exact location where the current populations are found.

Syagrus x *costae* Glassman, hybr. nov. Figures 9-14.

Palma hybrida ca. 6-9 m. alta; rachis ca. 228 cm. longis pinnae utrinque 124 in gregibus dispositus pinnis ca. 80 cm. longis 2.8-3.9 cm. latis; spatha pars inflata 79 cm. longa 21 cm. lata; spadix pars ramosa 66-73 cm. longa rachillis 43-53, 34-53 cm. longis; flores masculi 9-12 mm. et 13-16 mm. longi; flores feminei 15-18 mm. longi 6-8 mm. lati; fructus 2.8-3.2 cm. longus 1.9-2.0 cm. diam.

Hybrid palm 6-9 m. tall. Petiole up to 60 cm. long, margins covered at first for most of its length with a webbing, later separating out into individual soft or stiff fibers of narrow or intermediate width, sheathing base up to 23 cm. long; rachis of leaf up to 228 cm. long, up to 124 pairs of pinnae, mostly in clusters of 2-4, slightly glaucous on both surfaces, middle ones up to 80 cm. long and 2.8-3.9 cm. wide, with acuminate or oblique tips; expanded part of spathe up to 79 cm. long and 21 cm. wide; branched part of spadix 66-73 cm. long, branches 43-53 in number, lower branches 34-53 cm. long; male flowers 9-12 mm. long on upper part, 13-16 mm. long on lower part; female flowers 15-18 mm. long, 6-8 mm. wide;



FIG. 7. *S. oleracea*. External, cross, and longitudinal views of mature fruit. *Glassman & Costa 8701*.

fruit 2.8–3.2 cm. long, 1.9–2.0 cm. in diameter, short beaked, endocarp 3–4 mm. thick along sides, 3–5 mm. thick above, 5–8 mm. thick below, cavity smooth inside, angular truncate at base; seed (somewhat shrivelled) 1.4–1.5 cm. long, 0.7–0.8 cm. in diameter, cavity 3–6 mm. wide.

BRAZIL: State of Pernambuco, 2 km. W. of Neves, in agreste, tree 9 m. tall, June 24, 1969, *Glassman & Costa 8707* (CHI, holotype); Garahuns, Cagados, in agreste, tree 6 m. tall, with about 200 fruits, June 24, 1969, *8705* (CHI); same locality and date, *8704* (CHI). DOUBTFUL SPECIMEN: Garanhuns, estrada para Brejão, October 18, 1967, *J. T. Costa 67-0056* (IPA).

The following chart (Table 1) shows similarities and differences between the hybrid and its two parents. Measurements are made from specimens collected in Pernambuco, however, extremes for specimens of *S. oleracea* and *S. coronata* collected elsewhere are shown in parentheses. Extremes for *S. coronata* are not complete because specimens collected in 1969 from Bahia were not available for examination at the time this paper was prepared.

In the field it is difficult at a first glance to distinguish between trees of *S. x costae* and *S. oleracea* because both are similar in appearance since they lack the grouping of leaves into five spiral rows around the trunk and are without the conspicuous flat, spine-like fibers on the petioles so characteristic of *S. coronata*. The chart indicates that the hybrid is intermediate between the two parent species in armature of the petiole margins, taste of the terminal bud



FIG. 11. *S. x costae*. Longitudinal, cross, and external views of mature fruit. *Glassman & Costa 8707* (holotype). Slightly reduced in scale.

("palmito"), length of the female flowers, number of spadix branches, and in size of the fruits. *Syagrus x costae* appears to be more vigorous or perhaps better adapted to the habitat where all three taxa grow because it is generally taller, has more pinnae per leaf, and has a longer spadix and longer spadix branches than either parent. It seems to be much more common than *S. oleracea* between Garahunz and Arco Verde, but less common than *S. coronata*. As mentioned before, *S. oleracea* forms smaller stands and is less vigorous in Pernambuco than in São Paulo.

To my knowledge, this is the first example of species of *Syagrus* forming hybrid stands or swarms. The other known hybrids in this genus are usually rare and are mostly represented by only one or two individuals in any particular area. Because of the frequent occurrence of *S. x costae*, it could be assumed that fewer barriers for hybridization exist between *S. coronata* and *S. oleracea* than for some other species. Another possible explanation for this may be that the F_1 hybrids are backcrossing with one or both parents, but probably more frequently with *S. coronata* because of its abundance. There is some evidence for this idea even though insufficient specimens were collected to be reasonably conclusive. In *Glassman & Costa 8707*, the taste of "palmito" is neither sweet nor bitter, whereas in 8704 and 8705 it is sweet like *S. coronata*. There also seems to be some variation in the width and pliability of the fibers found on the petiole margins. Most of the specimens are intermediate between the two parent species, but 8705 seems to approach *S. coronata* in width of fibers, but are not as stiff.

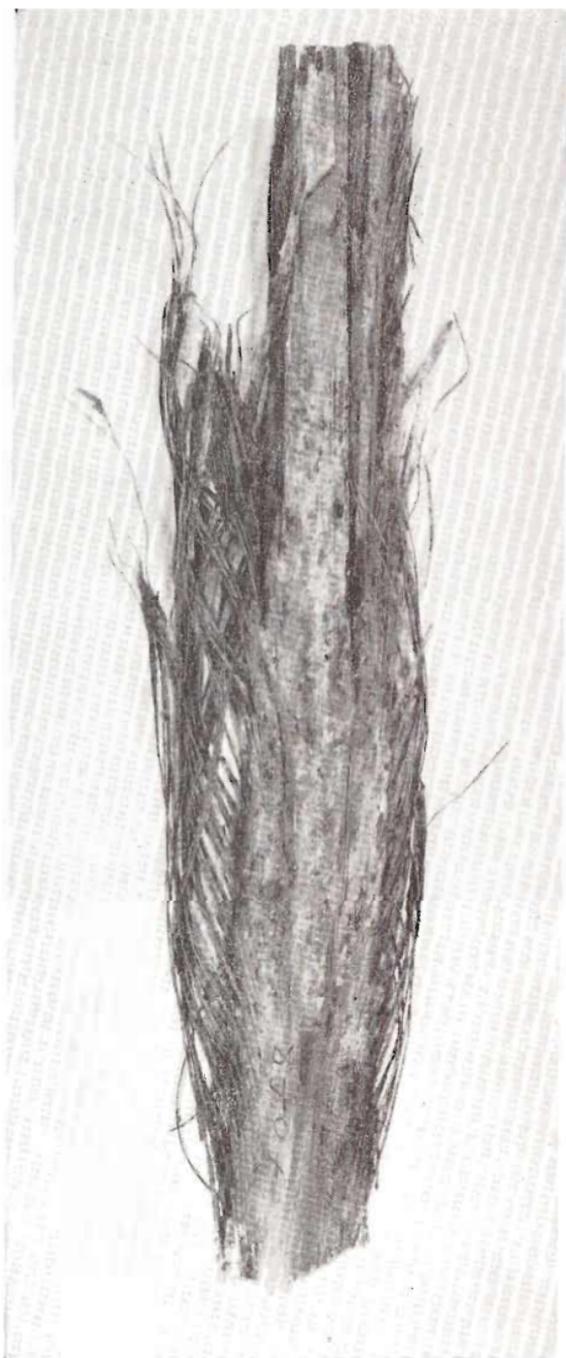


FIG. 9. *S. x costae*. Lower part of petiole showing medium-sized fibers on margin. *Glassman & Costa 8707* (holotype).



FIG. 10. *S. x costae*. Part of spadix with single male (above) and female (below) flowers. *Glassman & Costa 8707* (holotype).

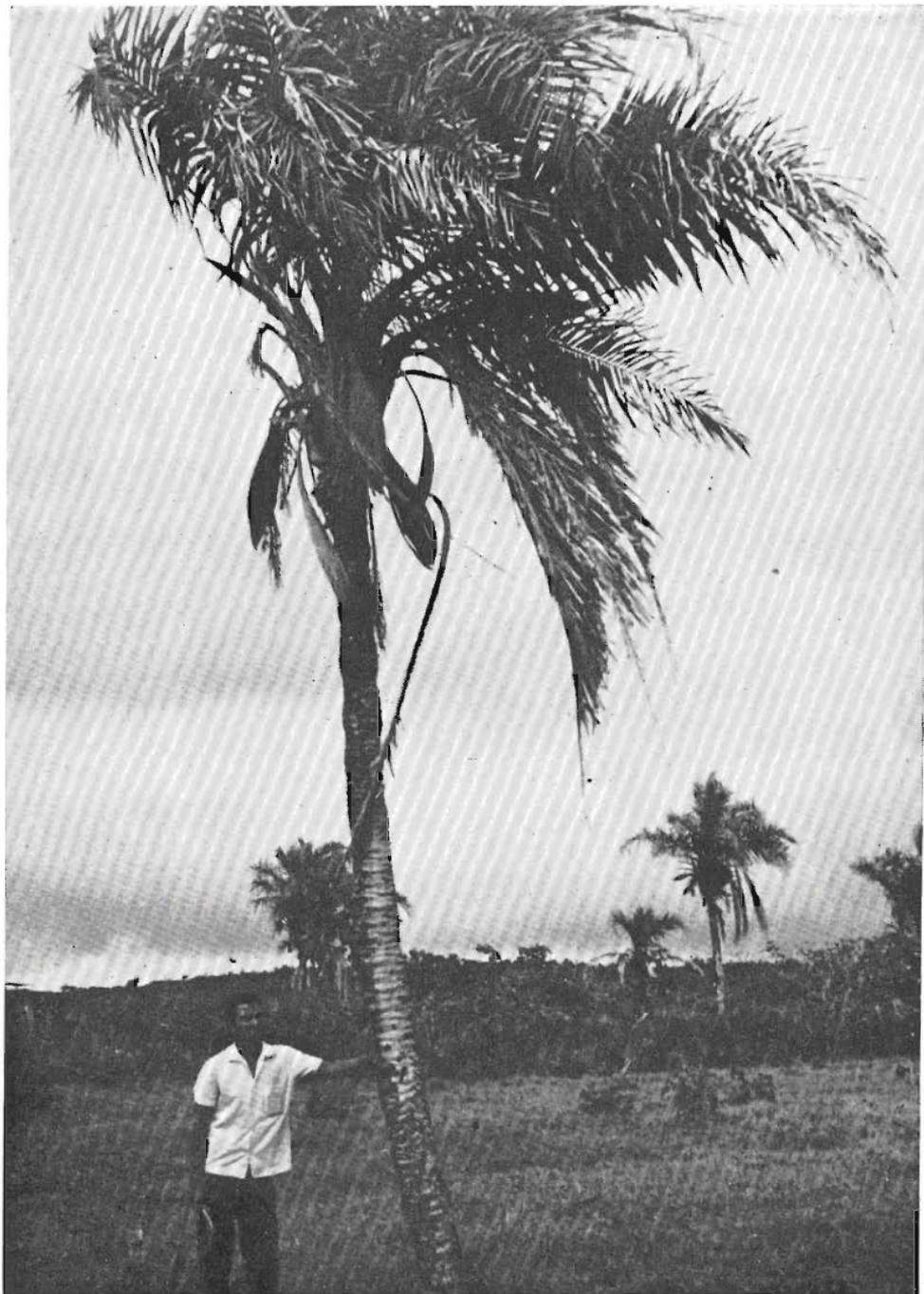


FIG. 12. *S. x costae*. Single tree showing spathes and spadices at base of leaves. Near Neves.

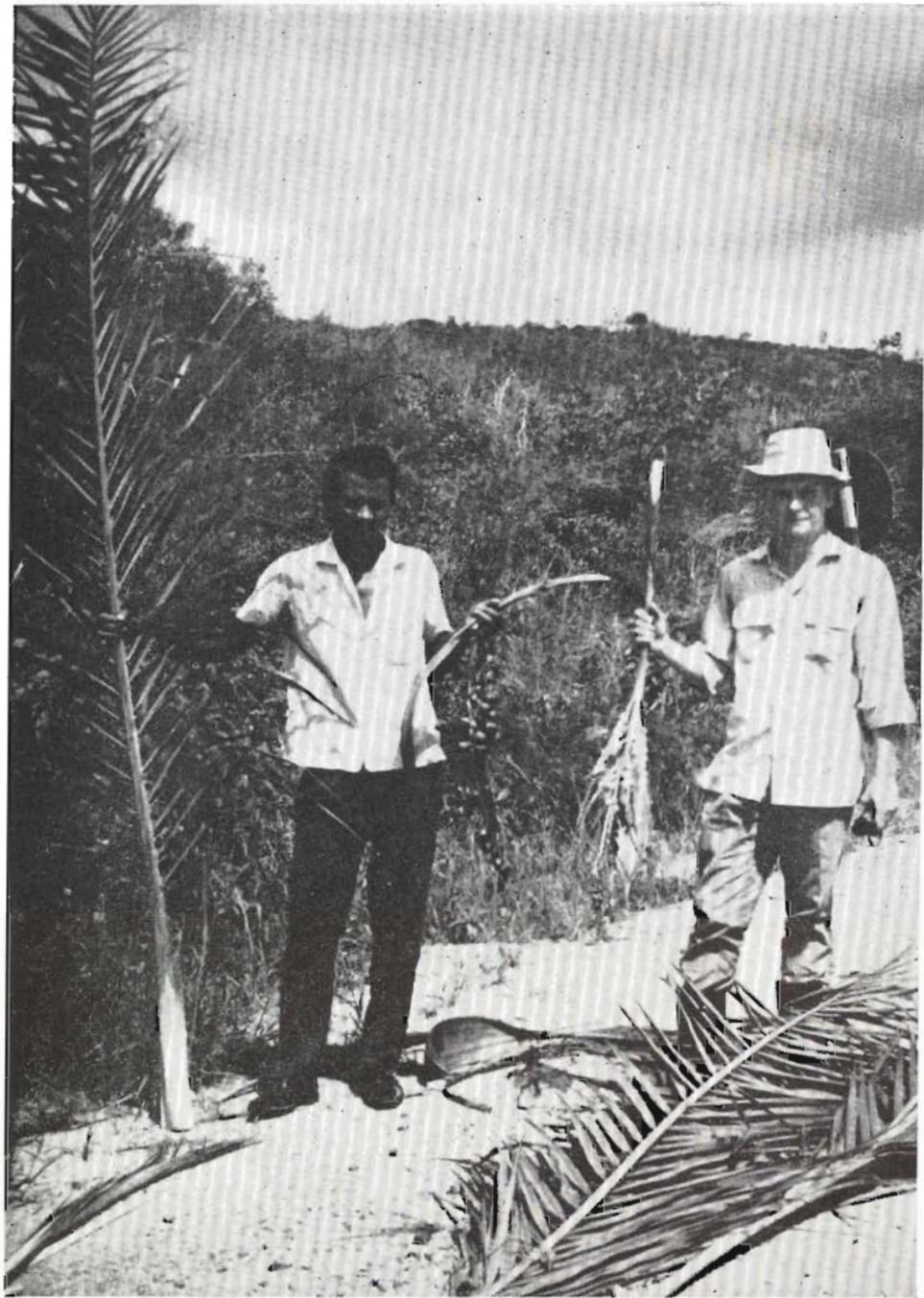


FIG. 13. *S. x costae*. Edgar, our driver (left), and Costa holding leaf, infructescence, and inflorescence. Near Neves.



FIG. 14. *S. x costae* (middle) and *S. coronata* (right) in pasture near Garanhuns.

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