live up to what is expected of a good president.

It is apparent that in our Palm Society with members spread over 30 countries two factors are most important: 1) communications, 2) publications — issuance of a magazine of highest caliber, authentic, scientific, yet written in the language understandable by the layman. This magazine must be the tie between the members living throughout the globe. How fortunate The Palm Society is! We have both — and first class: communications, our Secretary Mrs. Lucita H. Wait; publications, Dr. Harold E. Moore, Jr., editor.

We ask the various chapters of The Palm Society to turn in regular reports on meetings to Lucita for PRINCIPES. We also ask the members in foreign countries to send to her notes of interest on palms for publication.

Seedbank. Let us be active, really active, that's where the fun comes in! We Californians, after this 1966 meeting in Florida, learned that we can use lots of palm seeds from Florida, but we also saw that the Floridians can use lots of seeds from California. We know which varieties, and we won't let you down when harvest comes around.

Let everyone of us spread the gospel of 'Principes', the 'First ones', wherever he can. Let us increase our membership; not for the sake of having as large one as possible, but for the sake of letting others share in the joy and enthusiasm which we derive ourselves.

I had a note from a Californian who was in Florida for this year's 'Biennial'. "I can't get over it yet" — he writes. "I'm still so thrilled." Well, let me add two words to that: "Me too".

For a good year with palms!

Sincerely,

OTTO MARTENS

Chamaedorea metallica — A New Species from Cultivation

HAROLD E. MOORE, JR.

The species described here as *Chamaedorea metallica* was collected as long ago as 1905 by O. F. Cook at Córdoba in the state of Veracruz, Mexico, and from plants cultivated in St. Louis, Missouri, and Los Angeles California, in 1907, 1912 and 1914. Cook recognized it as a distinct species, and suggested the epithet which I have adopted here as appropriate because the usually undivided leaves have a distinctive metallic sheen. They are also distinctive in being cupped upward toward the tip.

Chamaedorea metallica has recently become prominent in cultivation, where it is usually labelled *Chamaedorea tenella* in error. True *Chamaedorea tenella* is very similar to and perhaps no more than a form of *Chamaedorea geonomaeformis*. It is a more slender species than *C. metallica* with yellow flowers, 10-12-nerved leaves similar in shape but smaller, and with inflorescences which droop. Only a few plants are known in cultivation. The male flowers have the petals united at the tip, covering the slender pistillode, and open only by lateral slits, while the stamens have distinct filaments. The female flowers have petals which are overlapping at the margins. *Chamaedorea metallica*, on the other hand, can be distinguished by its ascending to erect inflorescences with bright orange flowers which, in the male, are open at the tip, exposing the angled

and toothed cap of the pistillode surrounded below by incurved essentially sessile anthers, and which, in the female, are sunken in the fleshy unbranched rachis and have valvate, hooded petals.

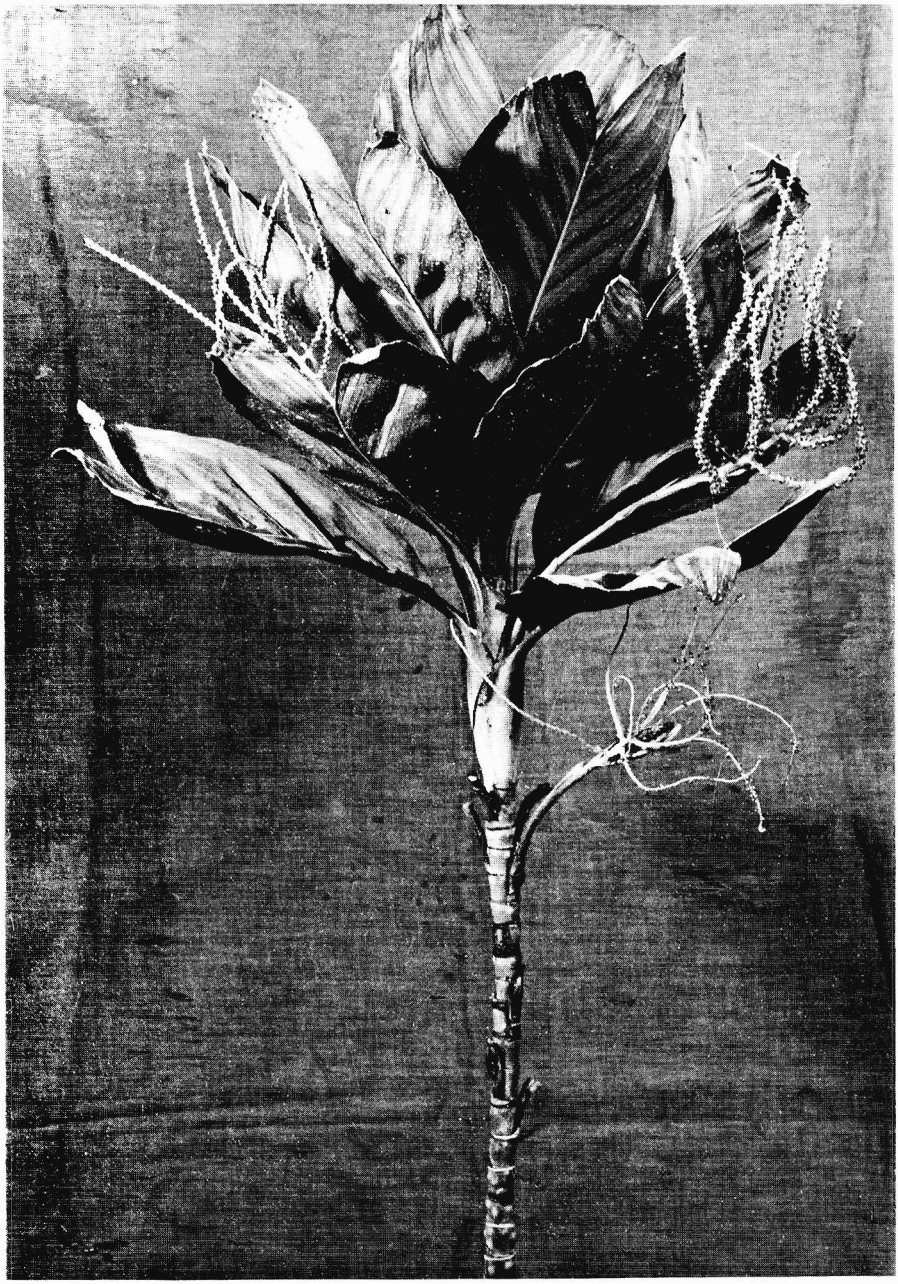
CHAMAEDORA (*Eleutheropetalum*) METALLICA O. F. Cook ex H. E. Moore, sp. nov.

Caudex solitarius, 1.3 - 1.5 cm. in diam. Folia 12-16, indivisa vel raro irregulariter pinnata, obscure viridia, 8-9-nervata, marginibus dentatis. Inflorescentia plantarum mascularum ramosa, floribus sessilibus bifidis, pistillodiis capitatis, plantarum foeminearum spicata, floribus impressis, petalis valvatis aurantiacis. Fructus globoso-ellipsoideus 12 mm. longus, 9 mm. in diam., niger.

Single-stemmed, the green stem 1.3-1.5 cm. in diam. with prominent nodes, and internodes 1.5-2.5 cm. long, adventitious roots at length appearing near the base. Leaves 12-16, rather stiffly ascending or ascending-spreading with blades cupped upward toward the apex, the sheaths ca. 7-8 cm. long, green becoming yellowish in age, split opposite the petiole to within 1-1.3 cm. of the base; petiole short, 2.5-4 cm. long, green and very slightly channelled above, rounded below with a yellowish-white center stripe; blades dark green with a metallic sheen, cuneate-obovate in outline, 21-25 cm. long, 14-16 cm. wide, 7-8 cm. long on upper margin, undivided except at the apex, with 8-9 primary nerves on each side, these prominent but not much elevated above, impressed below, the margin toothed at apex of each primary nerve, secondary nerves 5-6 on each side of primary nerves, not prominent in life, rachis 15.5-19 cm. long, green with pale central stripe, minutely and irregularly toothed along the margin, especially toward the base, or sometimes the blades irregularly divided into 3-5 sigmoid 1-3-nerved pinnae on each side, these toothed along the lower margin above the middle and 2.7-6.5 cm. wide, the rachis then extending to 22.5-23.5 cm. long. Inflorescences solitary at the nodes, spreading-erect, the staminate subtended by (3-) 4 bracts, the lowest bract ancipitous and only ca. 3 cm. long, the upper longer, split on one side at the apex and the uppermost exceeding the peduncle 10-20 cm. long or more; rachis 4-6 cm. long; rachillae 10-12, undivided, ascending to erect, 9-14 cm. long, 1.5-2 mm. wide at base, usually flexuous at the apex: the pistillate spicate, subtended by 6 closely sheathing bracts, the lowermost bract ancipitous, ca. 3 cm. long, the remainder 6-14 cm. long, the uppermost about reaching the base of the spike, this erect, pale green at anthesis, 12-14 cm. long, ca. 4 mm. in diam. becoming orange and to 7 mm. in diam. in fruit. Staminate flowers solitary, sessile and superficial on the rachillae, 3 mm. long at anthesis; calyx white, 1 mm. high, shallowly 3-lobed, the lobes rounded and sometimes irregularly split; petals dull purplish-brown in bud, bright orange at anthesis, 3 mm. long, connate and adnate to the receptacle for about half their length, distinct, valvate and subcucullate above; stamens 6, the filaments white, connate and adnate to the pistillode, the anthers essentially sessile on the filament-tube, incurved, deeply bifid at apex and base; pistillode white, columnar with a broad flat 3-angled irregularly toothed cap exposed among and equalling the tips of the petals: pistillate flowers solitary, sunken ca. 1 mm. in the axis, ca. 3.5 mm. long; sepals white distinct, imbricate, rounded, 1.5 mm. high, 2.5 mm. wide; petals bright orange, distinct, valvate, cucullate, fleshy; staminodes 6, subulate, white, nearly as long as the pistil, this globose, of 3 carpels connate

1. A female plant of *Chamaedorea metallica* from which the type specimen was taken. Note the angle at which the spike is borne. Photo by M. H. Stone.

in the lower half but readily separable, stigmas 3, recurved, ovules attached near the base of the locule. Fruit dull black at maturity, globose-ellipsoid when fresh, ca. 12 mm. long, 9 mm. in diam., drying 10-11 mm. long, 7-8 mm. in



2. A male plant of *Chamaedorea metallica*. Photo by M. H. Stone.

diam.; mesocarp thin, fleshy, green with slender elongate or branched flat fibers appressed against the thin endocarp; seed 10 mm. long, 7 mm. in diam., brown, with 2 arcuately ascending raphe-branches; embryo lateral, slightly below the middle; endosperm homogeneous.

MEXICO. Veracruz: Córdoba, May, 1905, *O. F. Cook, s. n.* (US 2086662). CULTIVATED: Cornell University, Ithaca, New York, from seed collected in Mexico, 20 June 1966, *H. E. Moore, Jr. 9373* (BH, holotype a pistillate plant) 9374 (BH, paratype, a staminate plant): *9375* (BH, paratype with divided leaves). Los Angeles, California, Doheny Estate, Nov. 1912, *O. F. Cook s. n.* (US 719354); Nov. 12, 1914, *O. F. Cook s. n.* (US 569722 & 2261357). St. Louis Missouri, 1907, *O. F. Cook 257/04/187* (US 2261341).

The relationship of *C. metallica* is with three other species, all now in cultivation, which have sometimes been separated in the genus *Eleutheropetalum* — *C. Ernesti-Augusti, C. Sartorii,* and *C. stolonifera.* These four, all with bright flowers and pistillate flowers with valvate, hooded petals, may be separated as follows:

1. Plants stoloniferous, forming colonies in the wild, the stems slender, 5-6 mm. in diam.; leaves not divided into pinnae; pistillate inflorescence spicate or furcate; fruit globose, 7-8 mm. in diam. Native in the state of Chiapas, Mexico.

C. stolonifera

1. Plants solitary; stems more than 1 cm. in diam.; leaves undivided or pinnate; fruit longer than broad.
   2. Pistillate inflorescence with more than 2 branches; leaves normally with about 9 sigmoid pinnae on each side, rarely the pinnae fewer and the terminal portion much broader than usual. Native from eastern Mexico to Honduras.

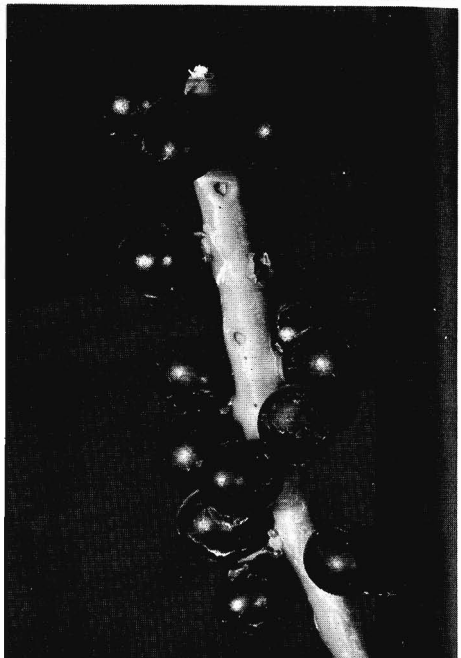
C. Sartorii

   2. Pistillate inflorescence thick, unbranched; leaves normally undivided or irregularly divided into 3-5 pinnae on each side.
      3. Mature leaves bright green, flat, or nearly so, with 13-16 primary nerves on each side prominently elevated on the upper surface in life; pistillate inflorescence erect, the spike not borne at an angle with the peduncle; fresh fruit 15-16 mm. long, 11 mm. wide on fruiting axis about 10 mm. in diam. Low elevations from southern Mexico to Honduras.

C. Ernesti-Augusti

      3. Mature leaves deep green with a metallic sheen, cupped upward toward the tip, with 8-9 primary nerves on each side, these only slightly elevated above in life; pistillate inflorescence spreading-erect with erect spike borne at an angle to the peduncle; fresh fruit about 12 mm. long, 9 mm. in diam. on fruiting axis about 7 mm. in diam. Eastern Mexico.

C. metallica



3. Fruits of *Chamaedorea metallica* at maturity. Photo by M. H. Stone.

4. A male plant of *Chamaedorea geonomaeformis* with pendulous inflorescences of yellow flowers. True *S. tenella* may be no more than an altitudinal form of this species with narrower leaves.

It is noteworthy that the leaves in *C. metallica* are normally undivided but rarely are divided into pinnae, as on one staminate plant at Ithaca and one or more in Miami, Florida. The description has been taken from living plants grown from seed collected in Mexico by Horace Anderson of Leucadia, Califor-

nia, and forwarded in November, 1960, by Nat J. DeLeon of Miami, Florida. Flowers were pollinated by hand in November, 1965, with fruit reaching maturity in May, 1966. One to three fruits developed from each flower so pollinated. The plants are now about 6 dm. high (2 ft.) and have been flowering for three years. Apart from the collection of Cook, no specimens of this plant collected in the wild have been located in herbaria, and it is obvious that it is not common, probably inhabiting a very restricted range in the state of Veracruz, Mexico.*

*Mr. Anderson has recently written to the effect that *Chamaedorea metallica* grows near large outcroppings of rock on rather steep hillsides near the town of Tezenapa on the rail line about 80 kilometers south of Córdoba very near the border of Oaxaca just north of Tierra Blanca.

Parasitic and Free-living Nematodes Collected from the Soil and Roots Of Sabal Palmetto

R. P. Esser and W. T. Walsh*

Cabbage palms (*Sabal Palmetto*) are among those plants largely disregarded by scientists in their investigation of pathological problems and search for plant pests. They are left, in fact, for the most part in Florida, to Darwin's "survival of the fittest" law, in short to their own devices. The reason for this disregard is that attention to and support for investigations of pathological problems tends to be restricted to plants of economic importance such as corn, tobacco, cotton and, among palms, the coconut when it is grown as a crop not as an ornamental. The chief edible product of the cabbage palms, swamp cabbage, is not of great economic importance and is obtained by botanical butchery, destroying the plant to obtain the relatively small heart, or terminal bud, rather than the more customary means of harvesting a product. The more important aesthetic value of cabbage palms, as can be expected, also fails to draw interest in the palm's existence by pest investigators.

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A search of available literature failed to reveal a single record of nematodes associated with *Sabal Palmetto*. The lack of published data indicates that few or no investigations have been made on nematodes of this plant. The first Division of Plant Industry, Florida Department of Agriculture record of a cabbage palm examination was in March 1955 when Dr. B. G. Chitwood identified root-knot nematode (*Meloidogyne incognita acrita*) from a cabbage palm sample taken near Plant City. Four collections were made in 1956 from various parts of Florida and the following parasitic nematodes were detected: sheath nematode (*Hemicycliophora* sp.) and dagger nematode (*Xiphinema* sp.). Free-living nematodes found included *Aglenchus* sp., *Cryptonchus* sp., *Aphelenchus* sp., *Dorylaimus* sp. and *Enchodelus* sp. In 1962, the first cabbage palm sample from a Florida ornamental nursery was examined. At this and subsequent dates, nematode processing techniques had improved considerably and many more nematodes were consequently found. In addition to the sheath, root-knot and dagger nematodes detected previously,