

long been enigmatic to botanists, will be made more amenable to study when our knowledge of the anatomy of the mature organs is more complete. The main object at the moment is to assemble all the details in one volume.

Appendix. Palm Material Required for Anatomical Study

The following is a list of the palm genera (classification of Drude) of which material is required to make the anatomical survey as complete and useful as possible. Since most of the palms required are American it is thought that members of the Palm Society may be in a position to supply me with material, particularly of the less well known genera. Of course it may be difficult to obtain all parts of each species, that is stem, leaf and root, and it is understood that members may jib at the idea of tackling a 60-foot palm to gratify the wishes of a foreign scientist. However, as is emphasized earlier, it is the lamina of the palm which is of most value for systematic anatomy and it may be a simple matter to snip off a leaflet or two. The material should be fixed in spirit or preferably, in formalin-acetic-alcohol. It can be mailed in a sealed polythen bag, enclosing a wad of damp cotton wool. If these facilities are not available the leaf in a well dried state will be extremely useful. If any member of the

Society is willing to help I will be only too glad to supply further details.

TRIBE SABALEAE

Rhaphidophyllum *Brahea*
Nannorhops *Cryosophila*
Serenoa

TRIBE MAURITIEAE

Lepidocaryum *Mauritia*

TRIBE GEONOMEAE

Manicaria *Asterogyne*
Leopoldinia *Calyptrogyne*
Calyptronoma *Welfia*
Geonoma

TRIBE IRIARTEAE

Catoblastus *Wettenia*
Iriartea *Juania*

TRIBE MORENIEAE

Morenia *Pseudophoenix*
Kunthia *Reinhardtia*
Gaussia

TRIBE ATTALEEAE

Orbignya

TRIBE ELAEIDEAE

Barcella *Corozo*

TRIBE ARECEAE

Prestoea *Roscheria*
Gigliolia *Oenocarpus*
Linospadix *Cyphokentia*
Iguanura *Hydriastele*
Sommieria *Loxococcus*
Clinostigma *Cyphophoenix*
Jessenia

SUBFAMILY PHYTELEPHANTOIDEAE

Phytelephas

Pelagodoxa Henryana

Pelagodoxa Henryana is one of the most fascinating rarities among the cultivated palms. The species is rare even in its native habitat—valleys on Nuku Hiva (Nukahiva), Hiva Oa, and Tahuata. all volcanic islands in the Marquesas Islands lying some 700 miles northeast of Tahiti.

Our first published record of this unusual palm appears in a French horticultural journal, *Revue Horticole* (ser. 2, 15: 302. 1917). There, D. Bois incorporated a formal description, pro-

vided by Odoardo Beccari, with photographs of a small plant, seedlings, a drawing of fruits, and notes from Charles Henry, who discovered the palm on Nuku Hiva. According to Henry, the plants, of which he saw only twelve, grew at a low altitude in the shade of *Hibiscus tiliaceus* where they never saw the sun. In describing them, he wrote (translated) "I have rarely seen a more beautiful palm. Some individuals four to five years of age, straight of stem, have the appearance of adult specimens



PELAGODOXA HENRYANA photographed in the garden of Mme. Vve. De Flesselle in Papeete, Tahiti, 1937. The plant was found wild in the Typee Valley on Nuku Hiva, Marquesas Islands. Stilt roots have developed on this young tree but do not appear on plants grown in the Fiji Islands and in the Panama Canal Zone. The photograph was presented to Dr. L. H. Bailey by the late Captain A. Johnston.

of *Kentia*; the large, entire, pleated leaves, silvered below, give them a special quality."

Although mention was made of *Pelagodoxa Henryana* in the *Bulletin de la Société Botanique de France* (ser. 4, 19: 12, 1919), no additional information appeared until 1932 when Professor Ugolino Martelli, then at the University of Pisa, Italy, gave a much more detailed account in *Nuovo Giornale Botanico Italiano* (ser. 2, 39: 243-250). From Professor Martelli, we learn that Father Simeone Delmas, a French missionary, had supplied him with more material collected near Taiohae at the foot of the waterfall of Vai-pivai, seven kilometers from the coast of Nuku Hiva and probably the same place where Henry originally found *Pelagodoxa*. Father Delmas is also the authority for reports of the palm at Puawan on Hiva Oa and on Tahuata. Plants were cultivated by Father Delmas and by others but those grown near the sea did not survive. The species has also been grown in Tahiti as the accompanying photograph shows.

Pelagodoxa Henryana grows naturally at an altitude of about 80 meters (about 260 feet) on the banks of a torrent in the bottom of a valley only a short distance from a waterfall that drops from an altitude of 200 meters and fills the air with mist, thus providing a very humid atmosphere. It would appear, then, that shade and high humidity are important factors to be considered in growing the species. Attempts to grow it in Enrone were unsuccessful and although it has been tried in southern Florida I have not seen a mature specimen there. Conditions in the Panama Canal Zone, however, seem more favorable, for a handsome group of trees has reached maturity in the Experimental Gardens at Summit.

The description that follows below is taken largely from my notes, color photographs, and specimens made at Summit in 1953. The exact relationship

of *Pelagodoxa* with other palms of the arecan type is not yet fully understood although in many ways it seems close to *Manicaria*, especially so in the strange warty fruit. A second species, *Pelagodoxa mesocarpa*, is known only from some drawings and an empty fruit which supposedly came from New Caledonia. Burret, who described the species in 1928, doubted that New Caledonia was correct as a source and suggested that the Philippine Islands might be the possible place of origin.

Pelagodoxa Henryana has solitary brown trunks reaching a height of about 24 feet and often thickened or sometimes bearing stilt roots at the base. About ten leaves at first ascending and later spreading, form a graceful crown that lacks a crownshaft. When young, the broad green blade is undivided except for a rather deeply toothed margin. It has a yellowish midrib and stout lateral nerves but when older it tends to become deeply frayed into nearly separate one-to-several-nerved segments unless protected from the action of wind. The lower surface has a grayish-silvery cast. Blades may be as much as six feet or more long and somewhat less than half as wide with short stiff petioles about eight inches long, these being covered with a white "felt" at least on the lower side. The stiffish green panicles are borne among the leaves from the axils of a somewhat fibrous outer bract and a thin rounded pointed inner bract. Lower branches of the panicle are often again branched, the upper are usually unbranched. Female flowers appear after the male flowers have dropped but then only in the lower fourth of each rachilla where they are sunken in shallow pits. The upper three-fourths of each rachilla bears male flowers only, these small, yellowish, about one-eighth inch long, bearing six stamens, and usually paired in pits. Twelve to sixteen large, prominently warty, thick-skinned, round fruits as much as six inches in diameter are borne on each panicle. These fruits contain round seeds in which the ivory-white homogeneous endosperm surrounds a hollow center.

If viable seed can be located, *Pelagodoxa Henryana* would surely warrant the special treatment that would appear to be necessary to grow it in the United States. Living plants would not only add a handsome ornamental rarity to our lists of cultivated palms, but would provide the study material still needed before all aspects of the species are known to science.—H.E.M.