

tions described above, in producing new forms, have allowed new habitats to be explored.

Literature Cited

Furtado, C. X. 1956. *Palmae Malesicae XIX—The Genus Calamus in the Malayan Peninsula. Garden's Bulletin, Singapore* 15: 32-265.

Holtum, R. E. 1955. Growth-habits of Monocotyledons — Variations on a Theme. *Phytomorphology* 5: 399-413.

Tomlinson, P. B. 1960. Essays on the Morphology of Palms, II. The Early Growth of the Palm. *Principes* 4: 140-143.

———. 1961. IV. The Leaf. *Principes* 5: 46-53.

Linospadix monostachya — An Attractive Australian Ornamental

W. H. HODGE

Longwood Gardens, Kennett Square, Pennsylvania

To palm enthusiasts with limited space for gardening, dwarf species are always of interest. *Linospadix monostachya* (Mart.) H. Wendl, is just such a dwarf palm. The writer first observed this species in 1958 growing in state botanic gardens at Melbourne and Sydney, the only two cities of the continent "down under" that have outstanding palm collections. It is an unfortunate fact that Australian horticulture still makes but rather limited use of the wide range of ornamental material available in the palm family and this is well illustrated by the present species, which is known solely as obscure specimen plants in the botanic gardens mentioned.

Linospadix monostachya, which sometimes passes incorrectly under the later name *Bacularia monostachya*, is a native of Australia ranging from northern New South Wales into Queensland. As can be seen from the illustrations this is a slender palm with stems from 1 to 1½ inches in diameter. Plants in cultivation average about 5 feet tall, but undoubtedly they attain greater heights in nature. Numerous 2- to 3-foot-long interfoliar flowering spikes were present

during October (which is mid-spring in Australia). These arch gracefully out from the axils of attractive dark green pinnate leaves. The inflorescences in this genus are also characterized by the presence of a tubular bract at the base of the spike, similar to that found in the New World genus *Calyptrogyne*.

The dark green foliage, slender habit, and diminutive size are indications that *Linospadix* is an understory palm of moist woodland or forest. In cultivation it apparently thrives best in partial to full shade and in this respect is similar in its cultural needs to such New World genera as *Chamaedorea* and *Geonoma*. Because of its obvious ornamental merit, seed of *Linospadix* was subsequently obtained through the courtesy of the Director of the Melbourne Garden and as a result the establishment of this rare species in the New World has been assured. According to De Leon (in *Principes* 2:96. 1958) the seeds of this genus, which are the size and shape of wheat grains, are very short-lived, remaining viable only for periods of from two to three weeks, after which germination falls off sharply. At Longwood Gardens, fresh seed sown in sand and



47. *Linospadix monostachya* in Botanic Garden, Sydney, Australia. Photograph by W. H. Hodge.

placed in a greenhouse sweat-box under temperatures ranging from 75°-95°F., required 142 days to germinate.

This small palm should be a worthwhile addition for shady or partially shaded gardens in the tropics or subtropics. In this country it should be tested in those areas of sub-tropical Florida and southern California which are relatively or completely frost-free. A healthy lot of young seedlings is presently ready for test at the Fairchild Tropical Garden in Miami while similar plants raised in the experimental greenhouse range at Longwood Gardens will, it is hoped, prove the merit of *Linospadix monostachya* as a new palm subject for conservatory culture.

Foster Botanical Garden

PAUL R. WEISSICH

In 1855 William Hillebrand, the German-born physician to the Hawaiian royal family, purchased a four-acre piece of property just two blocks from modern downtown Honolulu, Hawaii, and began the plantings that were to become the nucleus of Foster Botanical Garden. The garden, bequeathed to the City and County of Honolulu in 1930 by Mrs. Mary Foster, then owner, now comprises some sixteen acres. The area includes a scenic portion of Nuuanu Stream and the beautiful Waikahalulu Falls once a garden spot planted in honor of Queen Liliuokalani.

The palm collection at Foster Botanical Garden includes, a hundred and eleven species in fifty-two genera. The palms are not concentrated in any one planting but are spread throughout the garden wherever growth conditions are optimum. Special attention has been given the native species of *Pritchardia*. It is interesting to note that the specimen of *Pritchardia macrocarpa* is approximately a hundred years old and was undoubtedly one of the first subjects to be planted by Dr. Hillebrand.

At the present time the Foster Botanical Garden is host to some ninety thousand visitors a year. The Garden operates a trial planting program in cooperation with forty private gardens on Oahu. These gardens are located at various elevations and enjoy widely varying temperatures, rainfall, soils, and exposures to sun, wind, and salt spray. An active seed exchange program is carried on with botanic gardens and private individuals all over the tropics. Top priority in the new capital improvement program is the construction of fa-

48. Foster Botanical Garden, Honolulu, Hawaii. *Pritchardia arecina*, 23 years old (upper left); *P. Hillebrandii*, 100 years old (upper right); *P. remota*, 27 years old (lower left); *P. macrocarpa*, 100 years old (lower right). Photographs by Paul R. Weissich.