

## The Genus *Pandanus* in Micronesia

### III. *Pandanus patina* Martelli

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On a few mountain summits of Ponape Island in the Eastern Carolines there occurs *Pandanus patina* Martelli, which is undoubtedly the most interesting and unusual species in Micronesia. It is treated here in Part III of this series<sup>2</sup> because it so far has baffled any certain assignment to a section of the genus and thus deserves special attention. In view of the one-seeded character of the drupes it may, perhaps, reasonably follow Sect. *Microstigma*, which was taken up in Part II of this series. However, the staminate inflorescences of *P. patina* have apparently never been collected, and their contribution to an understanding of the proper sectional disposition of this species is thus a matter for future work. By calling attention to this it is hoped that collectors will especially search for male flowering trees of this species.

As intimated earlier it might be that a section will have to be based on *P. patina*. Martelli originally placed it in Section *Lophostigma*, but the stigmatic structure seems wrong and there is no evidence for transverse-linear carpel connation, which is of general occurrence in the species which are undoubted members of that section.

*Pandanus patina* Martelli, *In* Kanehira, Bot. Mag. (Tokyo) 48: 127, f. 8, 1934. Kanehira, Flora Micronesica 67, 1933 (nom. nud.). Glassman, Bishop Mus. Bull. 209: 30, fig. 14, 112, 1952. Stone, Pacif. Sci. 14(4): 409–410. Nom. vernac. “peet” (Ponapean).

Type: *Kanehira 1668*, Ponape, “Naanaraut-zan” alt. 700 m (FUKUOKA).

Thicket-forming small trees to about 4–6 m tall or less, rather richly branched, with erect stems basally supported on proproots; branches often curved or twisted upward. Leaves ascending and their tips drooping in a shallow curve, mostly 1–1.5 m long or somewhat more or less, up to about 6.5 cm broad, linear, attenuate, closely venose-striate, in life markedly pallidglaucous beneath especially at base, hidden sheathing bases white to dull orange. Leaf apex drawn out, its margins minutely denticulate; ventral pleats usually unarmed but often with a few small teeth. Margins toward base with rather small teeth about 1 mm long, 0.2 mm wide, and 5–7 per cm. Medial area of leaf margins mostly unarmed. Female cephalium solitary, at last pendent, at first with bracts, these at last caducous. Peduncle 20–30 cm long, about 2 cm thick, somewhat trigonous, orange when fruit is ripe. Bracts about 15, the outermost transitional with foliage leaves, their apices

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<sup>2</sup> Part I: *Micronesica* 3(2): 105–128, 1967; Part II: *Micronesica* 7(1–2): 000–000, 1971.

*Micronesica* 7 (1-2):95-98. 1971 (July).

green, but bases apparently orange. Outermost (transitional) bract  $66 \times 6$  cm; innermost bracts  $10-20 \times 1-9$  cm, (See Table I), ovate, slightly flanging at base, margins and distal costa minutely denticulate, the teeth nearly 1 mm long. Fruit subglobose, when fully ripe dark magenta color, of about 50-60 drupes; about  $13-16 \times 9-14$  cm (of three fruits measured one was  $16 \times 13.5$ , one  $15 \times 13.5$ , and the third  $12.5 \times 9$  cm). Drupes obovoid, invariably one-seeded, mostly 5.5-6.5 cm long and 3-3.5 cm thick, rounded-subtruncate or slightly depressed at apex, gently pentagonal or hexagonal. Apex bearing large corky stigma in apical depression; stigma rounded reniform, brownish, with slightly elevated rim, about  $1-1.5 \times 0.5-0.8$  cm; groove evident, continuing as a lyre-shaped cleft. Drupe apex (external to stigma) often with short corky sublinear scars. Lower mesocarp/exocarp in slightly immature drupes pinkish-magenta. Seed chamber tear-drop shaped to subglobose,  $18 \times 23$  mm; the endocarp reddish, osseous, but only 2 mm thick. Seed with copious white endosperm, edible and palatable (the taste resembles coconut-meat). Apical mesocarp fibrous, not chambered. Lower mesocarp fibrous.

Table 1

Bract sizes (from <i>Stone 2033</i> ), all in cm*			
Bract No.	Size	Bract No.	Size
1	$66 \times 6$	8	$20 \times 9$
2	$50 \times 5.8$	9	$18 \times 8$
3	$40 \times 6$	10	$16 \times 7.5$
4	$32 \times 9$	11	$15 \times 5$
5	$27 \times 10$	12	$13 \times 4$
6	$23.5 \times 10$	13	$12 \times 2$
7	$21 \times 9.5$	14	$10 \times 1$

\* Width measured 1/3 up from base of bract; bract flattened out.

#### Specimens examined:

PONAPE: Mt. Niinani, 2500 ft., 15 Aug. 1929, *Kanehira 836* (NY). July 1931, *Kanehira 1668* (type FI). 17 Aug. 1949, *Glassman 2883* (BISH). Mt. Nanalaut, 2550 ft. alt., 9 June 1957, *Stone 2033* (BISH); 8 Feb. 1965, *Stone 5461* (GUAM).

Glassman reports seeing thickets of these trees on Mt. Tolenwalik, Mt. Beirut, in three areas on Mt. Nananlaut, and in ten areas on Mt. Nginani. He considers them as comprising a consociation. The understory and epiphytic plants are very few, or even absent, in these thickets, in which the fallen leaves of the pandans are slow in decaying and accumulate in loose layers.

Hosokawa [*Micronesica* 3(1): 23, 1967] considers *Pandanus patina* as a co-dominant, with *Alsophila ponapeana*, of a special association found in Ponape from 600-780 m alt., with the pandans forming, within this association, a distinct consociation.

In 1957 the author was able to bring some living seeds into cultivation. These, if still surviving, are in the Foster Botanical Gardens in Honolulu. This is a beautiful

species, especially in the pale glaucous leaves and the handsome magenta color of the fruit, but it is liable to be very particular in habitat and climatic requirements.



Plate I. *Pandanus patina* Martelli, ripe fruit. Ponape, Mt. Nanalaut, Stone 2033.  
About two-thirds natural size.

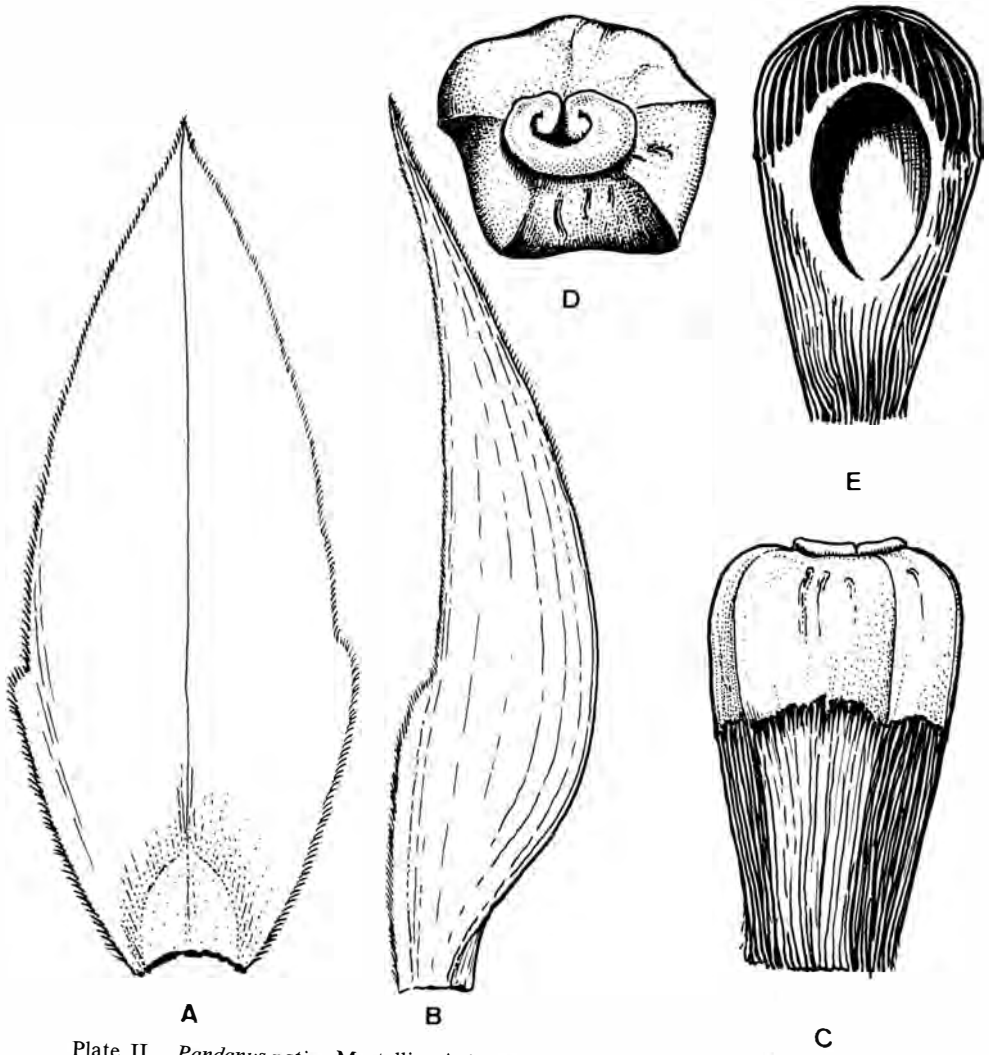


Plate II. *Pandanus patina* Martelli. A, B. Two views of 8th bract of a pistillate inflorescence (Stone 2033). C, D, E. Side, top, and longitudinal view of a ripe drupe (2033).