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Notes on *Phoenix hanceana* var. *philippinensis* in the Batanes Islands, Philippines

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The Batanes Islands are the northernmost island group in the Philippine archipelago (Fig. 1, inset). They form a group of 10 small islands extending from near the north coast of Luzon to within 160 km of the southern point of Taiwan (Ferguson 1908). The islands are relatively poor in palms, with only five indigenous taxa (three erect, two climbing) thus far recorded (Beccari 1908; Merrill 1908). Of these five, at least three are thought to be endemic to the islands. One interesting endemic is a Phoenicoid palm—*Phoenix hanceana* Naud. var. *philippinensis* Becc. The taxonomic affinity of this taxon has been rather obscure. A recently reprinted article by Guzman-Rivas (1984), in which genera and species have been corrected to conform to currently accepted names, refers to the palm as *Phoenix loureirii* Kunth, with which it is thought to be conspecific. However, no actual and formal taxonomic reduction to synonymy has yet been published.

Phoenix hanceana var. *philippinensis* was described by Beccari in 1908 based from a single collection (B.S. 3744) made on June 1907 by Mr. Eugenio Fenix of the then Bureau of Science, Manila. The type locality was simply stated as Sabtan (= Sabtang) Island, Batanes—"growing along streams well up on the mountains" (Beccari 1908). Since then there has apparently been no intensive collection of this quite interesting palm resulting in its

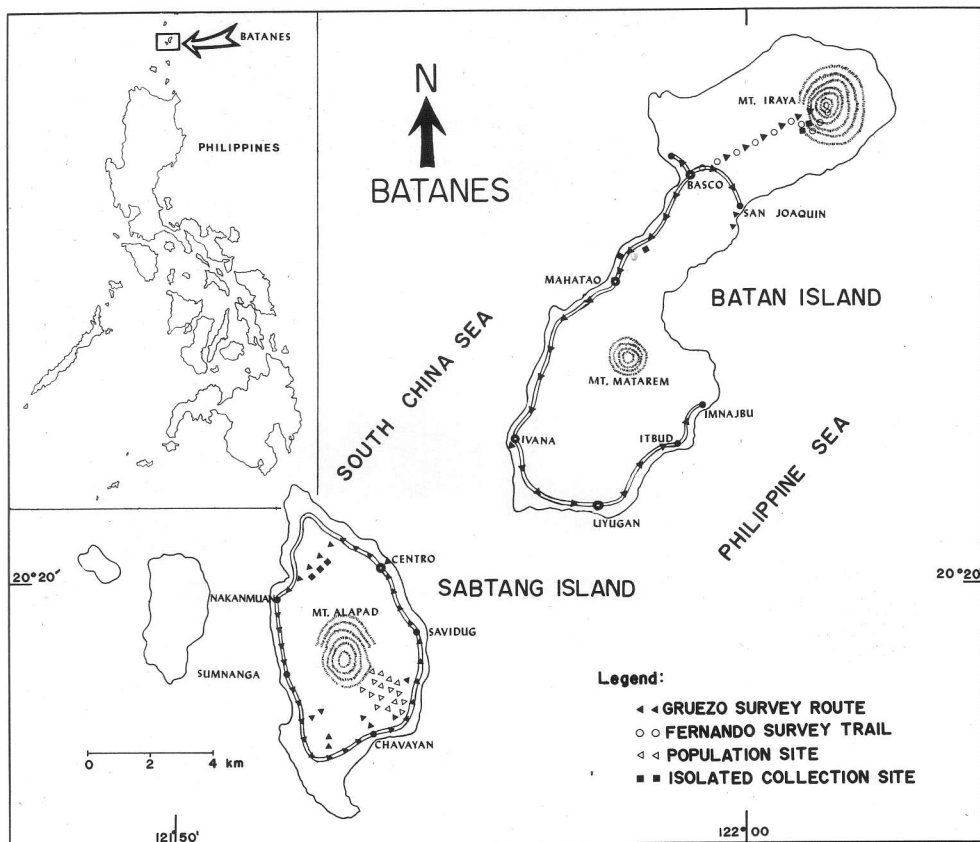
inclusion in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) as one of the three threatened Philippine palms.

The present paper discusses the ethnobotanical aspects and ecology and conservation status of this reportedly endangered Philippine palm.

In March–April 1983, one of us (WSG) conducted an intensive germplasm survey and collection of crop species and other wild potential food plants on Batan and Sabtang Islands, Batanes Province (Fig. 1). Simultaneously, a floristic assessment was made with emphasis on endemic species or species whose type locality is one of the two islands. In May 1984, palm exploration on Batan Island by E. S. Fernando yielded additional information.

Ethnobotany

Of the three erect palms recorded from the Batanes Islands, *Phoenix hanceana* var. *philippinensis*, locally called "Voyavoy" (Ivatan name) receives special attention from the local people, the Ivatans, because it is the main source of raw materials for making raincoats. The raincoat, known locally as "Suot" (see also Merrill 1908) or "Vakol" (both Ivatan terms) (Fig. 2) is characteristically woven from the shredded, sun-dried juvenile leaves of *Phoenix hanceana* var. *philip-*



1. Survey routes and collection sites of *Phoenix hanceana* var. *philippinensis* on Batan and Sabtang Islands, Batanes, Philippines.

pinensis (see also Brown and Merrill 1920). A full-size raincoat measures approximately 78 cm long and 42 cm wide. In many instances, this coat is also used by the Ivatans on sunny days while working out in the open fields. On the other hand, local travellers and foreign tourists occasionally buy miniature or regular size raincoats for souvenirs.

Ecology and Present Status

In the course of germplasm survey and collection on Batan and Sabtang Islands, Batanes, a sufficiently large but localized population of *Phoenix hanceana* var.

philippinensis was found between Barangays Chavayan and Savidug (Fig. 1). The population consists of numerous individuals in various stages of development and maturity growing luxuriantly on rolling grasslands, rock outcrops and hillslopes (Figs. 3,4B). The grassland species present in the area and associated with *Phoenix hanceana* var. *philippinensis* are sporadic patches of *Imperata cylindrica* (L.) Beauv. var. *koenigii* (Retz.) Dur. & Schinz. (Fig. 4B), *Miscanthus japonicus* (Thunb.) Anders., *Saccharum spontaneum* L., and a cushionlike growth of *Panicum repens* L., *Eragrostis tenella* (L.) Beauv. ex Roem. & Schult., *Ischae-*



2. Native raincoat characteristically made from juvenile leaves of *Phoenix hanceana* var. *philippinensis* worn by the inhabitants of Sabtang and Batan Islands, Batanes, Philippines. A. Dorsal view. B. Lateral view. C. Ventral view showing strapping foundation made from leafstalks of *Musa textilis* Nee. (Photo by Wm. Sm. Gruezo, 6 April 1983).



3. Population of *Phoenix hanceana* var. *philippinensis* growing on rolling grasslands, rock outcrops and hill slopes at Sitio Chamantad, ca. 2.5 km from Barangay Savidug, right side of rough road to Barangay Chavayan, Sabtang Island, Batanes. (Photo by Wm. Sm. Gruezo, 6 April 1983).



4. Fruiting specimens of *Phoenix hanceana* var. *philippinensis*. A. Specimen growing on the slope of Mt. Iraya, Batan Island, alt. ca. 250 m, coll. no. EF404. (Photo by E. S. Fernando, 11 May 1984). B. Specimen growing along rough road to Barangay Chavayan, Sabtang Island. (Photo by Wm. Sm. Gruezo, 6 April 1983).

mum indicum (Houtt.) Merr., and *Digitaria sanguinalis* (L.) Scop. (Fig. 3), among others over a considerable tract of open, rugged land. Scattered small fields of corn (*Zea mays* L.), sweet potato (*Ipomoea batatas* L.) or an intercropping of these two species are found on the lower, moderately level grounds, alongside of the rough road and up to near the shores.

In other sites on Sabtang and Batan Islands, only a few isolated individual plants were seen (Figs. 1,4A,5). One large pistillate plant was found growing on the slopes of Mt. Iraya on Batan Island (Fig. 4A), together with some isolated clustering staminate plants (Fig. 5) a few meters away. Some plants were also seen cultivated in home gardens in Basco, the capital town of Batanes Province.

Foresters in Basco also report having seen populations of *Phoenix hanceana* var. *philippinensis* on nearby Itbayat Island (A. Bermudez, Jr., pers. comm.).

The presence of plants of *Phoenix hanceana* var. *philippinensis* in various stages on Sabtang Island (Figs. 3,4B) does indicate natural regeneration. There is also the apparently increasing trend by the native Ivatans to cultivate the palm. Its utilization for making raincoats for the Ivatans' own use, therefore, does not appear immediately incompatible with its survival. There is, however, the need for continued protection of its habitats from conversion to other uses.

Herbarium (voucher) and ethnobotanical materials were collected, with the former items now deposited at the Botanical



5. *Phoenix hanceana* var. *philippinensis*. A. Staminate plant showing inflorescences at various stages of development. B. Staminate inflorescence at anthesis, same as plant A, Mt. Iraya, ca. 250 m alt. (Photo by E. S. Fernando, 11 May 1984, coll. no. EF403).

Herbarium (CAHP) and Forestry Herbarium (LBC), Museum of Natural History, University of the Philippines at Los Banos, College, Laguna, while the latter are in the authors' possession.

The herbarium and ethnobotanical specimens are: SBTANG ISLAND: Sitio Tayatuan, along foot trail to Batangay Nakanmuan, alt. ca. 120 m, only juvenile leaves collected and made into Ivatan raincoat (miniature), 5 April 1983, *Gruezo WM10886*; Sitio Chamantad, ca. 2.5 km from Barangay Chavayan, left side of rough road to Barangay Savidug, on rolling grassland associated with *Imperata cylindrica* (L.) Beauv. var. *koenigii* (Retz.) Dur. & Schinz., and other grass species, alt. ca. 5 m, 6 April 1983, plant

pistillate, ca. 0.5 m tall, fl. and fr., only immature fruits collected, *Gruezo WM10885* (CAHP).—BATAN ISLAND: Mahatao, along road left side facing the town, near cemetery, alt. ca. 50 m, 30 March 1983, *Gruezo and Hernaez 3820* (CAHP 29349—leaves; CAHP 29350—staminate inflorescence), slide photo taken *in situ*; Mt. Iraya, alt. ca. 250 m, along margins of cleared forest on very steep slope, male plant ca. 60 cm tall, clustering with up to 4 offshoots, inflorescence creamy white at anthesis to 30 cm long, 11 May 1984, *Fernando EF403* (LBC, K); same locality and date, pistillate plant, ca. 2 m tall, 26 cm diameter, infructescence up to 80 cm long, peduncle green, rachillae orangish, fruits yellow-orange



6. *Phoenix hanceana* var. *philippinensis*. A. Newly-fruiting plant. B. Inflorescences of A at various stages of development, same locality as Fig. 3. (Photo by Wm. Sm. Gruezo, 6 April 1983, coll. no. WM10885).

turning deep purple when ripe, 1.8 cm long \times 0.9 cm wide, only infructescence specimens collected with seeds glossy, light brown (1.2 cm \times 0.7 cm), *Fernando EF404* (LBC, K).

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Know Your Palms

A. *Livistona decipiens*; B. *Oenocarpus mapora*; C. *Prestoea montana*; D. *Chamaedorea brachypoda*.