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A Taxonomic Study of the Orchis from Alamagan, the Northern Mariana Islands, Micronesia

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Abstract *Malaxis alamaganensis* (Orchidaceae) is described as a new species from Alamagan in the northern Mariana Islands, Micronesia, with illusrations and photographs. It is closely related to *Malaixs boninensis* from Chichijima, the Ogasawara Islands.

Key words: Species novae, Orchidaceae, *Malaxis*, northern Mariana Islands.

The expedition to the northern Mariana Islands in 1992 was carried out by the staff of the Natural History Museum and Institute, Chiba, in cooperation with the Department of Natural Resources (Commonwealth of the Northern Mariana Islands) and the University of Guam Marine Laboratory. During the expedition, Dr. Tatsuyuki Ohba discovered and collected a small flowering orchid on the higher part of the island of Alamagan. He gave me the chance to observe the specimen.

This plant is very small, and is closely related to *Malaxis boninensis* (Koidz.) Nackejima (basionym: *Microstyls boninensis* Koidz., Bot. Mag. Tokyo 32: 137, 1918), endemic to the Ogasawara Islands (Chichijima), which is now in danger of extinction. In the present study, I make the morphological description of the Mariana species and compare it with *M. boninensis*.

Malaxis alamaganensis S. Kobayashi, sp. nov.

(Figs. 1–2)

Herba terrestris, radicibus paucis emittens. Caulis erectus brevis teres glaber ad 13–15 cm altus, 3–4-foliatus. Folia glabra tenuiter membrancea ovato-vel lanceolato-oblonga, 3.5–4.5 cm longa 1.5–3.0 cm lata, basi in petiolum 2–3 mm longum attenuata. Spica laxa 15–20 flora elongata, bracteis lanceolatis acutis deflexis, inferioribus circ 3–4 mm longis, superioribus multo-brevioribus. Flores inversi minores viriduli, 4–6 mm longi horizontaliter patentes. Sepalum medianum oblongum. Sepala lateralia oblonga vel ovato-elliptica, omnia apice acuta trinervia reflexa. Petala anguste vel lineari-oblonga obtusa uninervia reflex sepalis breviora. Labellum valde concavum basi utrinque reflexi-auriculatum, auriculis magnis apice acutiusculis, lobo

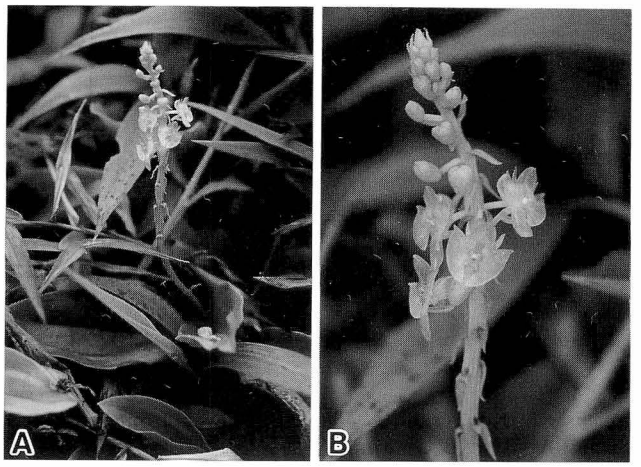

Fig. 1. *Malaxis alamaganensis* S. Kobayashi. A, Plant. B, Flowers. Photo by T. Ohba.

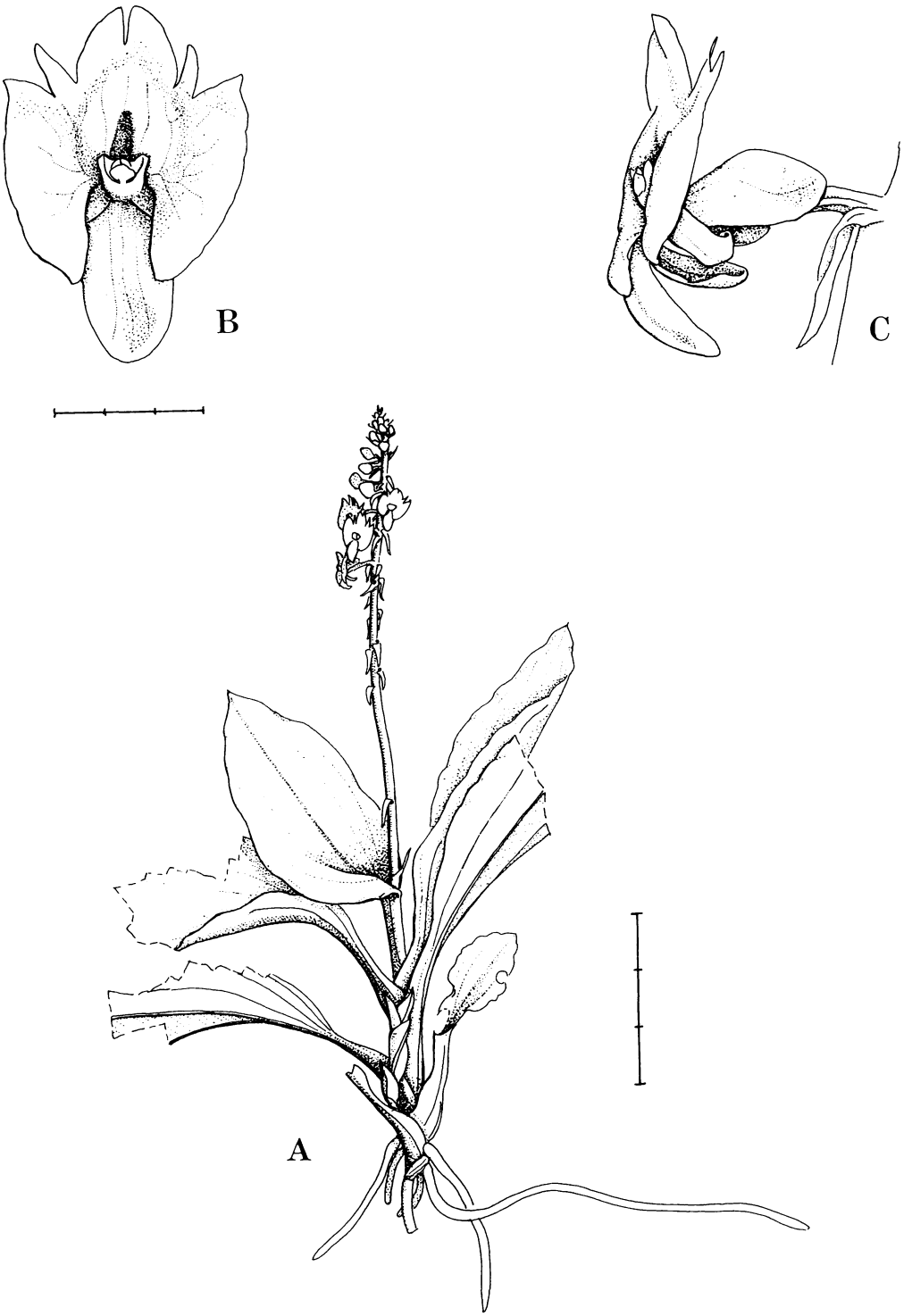

Fig. 2. *Malaxis almaganensis* S. Kobayashi. A, Plant. B, Flower, front view. C, Flower, lateral view. All drawn from holotype. Scales: A=3 cm; B, C=3 mm.

Table 1. Comparison of habitat and diagnostic characters of *Malaxis alamaganensis* and *M. boninensis*.

	M. alamaganensis	*M. boninensis*
Habitat	crater cliff, ca. 640 m alt. (17°35′N, 145°51′E)	semi-humid forest near river (27°05′N, 142°13′E)
Morphology		
height	ca. 15 cm	ca. 30 mm
leaf	1.5–3.0/3.5–4.5 cm	3.0–3.5/9.5–10.0 cm
petiole	2–3 cm long	3–5 cm long
inflorescence	15–20 cm	25–30 cm
spica	3–4 mm	ca. 10 mm
flower	4.0/6.0 mm	4.5/9.5 mm
among the lip	long acute tooth	small tooth

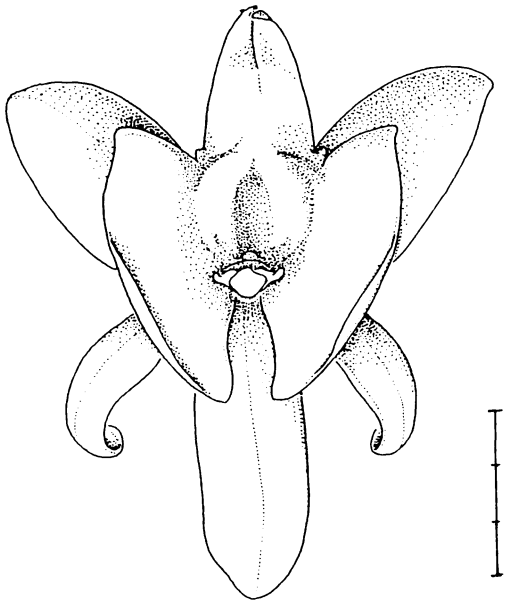

Fig. 3. Front view of the flower of *Malaxis boninensis* (Koidz.) Nackejima. Scale = 3 mm.

antico elliptico vel ovato obtuso apice leviter bifido, circa basin lobi antici utrinque lobulo angusto unico insidente.

Nom. Jap. Alamagan-hozakiran (nov.).

Typus. Northern Mariana Islands. Alamagan, ca. 640 m alt. crater cliff, 17°35′N, 145°51′E, June 9, 1992, leg. Tatsuyuki Ohba, CBM-BS-59238 in the herbarium of Natural History Museum and Institute, Chiba (CBM).

Distribution. Endemic.

I recognize *Malaxis alamaganensis* as a new species based on its size and morphological differences from *M. boninensis*, which was described in detail with colour photograhs by Kobayashi (1980). The diagnostic characters for the two species are given in Table 1.

Most other *Malaxis* species show the equatorial distribution pattern (Kobayashi, 1988). That is, they are distributed from south eastern to southern Asia, sometimes further to Micronesia, Melanesia and Polynesia. *M. alamaganensis* and *M. boninensis* are at the northern end of the distribution range of the micronesian group of genus *Malaxis*. Cytogenetic analysis of both species is needed to explain the route of distribution and the specialization of them.

Acknowledgments

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