

Notes on the Flora of Taiwan (26)—*Neptunia gracilis* Benth. (Leguminosae)

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ABSTRACT: Specimens of *Neptunia gracilis* Benth. was collected from Taiwan for the first time on open grassland near coral reef at the southern tip of Taiwan. A description and a line drawing are presented. Its pollen features are also provided. They are monadiform, 3-colporate with striate ornamentation, which are consistent within the genus *Neptunia*.

KEYWORDS: Leguminosae, *Neptunia gracilis*, Morphology, Pollen feature, Taiwan.

INTRODUCTION

The genus *Neptunia* Lour., belonging to the tribe Mimoseae, subfamily Mimosoideae and family Leguminosae, contains two sections and 11 species. The section *Neptunia*, grouped taxa of 10 stamens, distributes in tropical to warm temperate zones; and the section *Pentanthera*, grouped taxa of 5 stamens, distributes in Australia including *N. gracilis* Benth.. *N. gracilis* is a native species of Australia with disjunct distribution in the Philippines (Wendler, 1966). Recently *N. gracilis* was collected from the southern tip of Taiwan, which represents a new record of genus and species for the flora of Taiwan. This is also an additional element of Malesian origin.

A line drawing of the plant is provided. Since no pollen data of this species are available (Sorsa, 1969), its pollen features are also described.

MATERIALS AND METHODS

Specimens of this species collected from Hengchun were carefully examined and compared with the published literature (Wendler, 1966). Pollen grains were acetolyzed (Erdtman, 1952), dehydrated in an ethanol series, coated with gold, and then examined with SEM, Hitachi S520. Micrographs of pollen grains were also taken.

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RESULTS

Neptunia gracilis Benth. in J. Bot. Hook. 4: 355. 1842; Wendler in Austr. J. Bot. 14: 412, f. 18. 1966.

Fig. 1 細枝水合歡

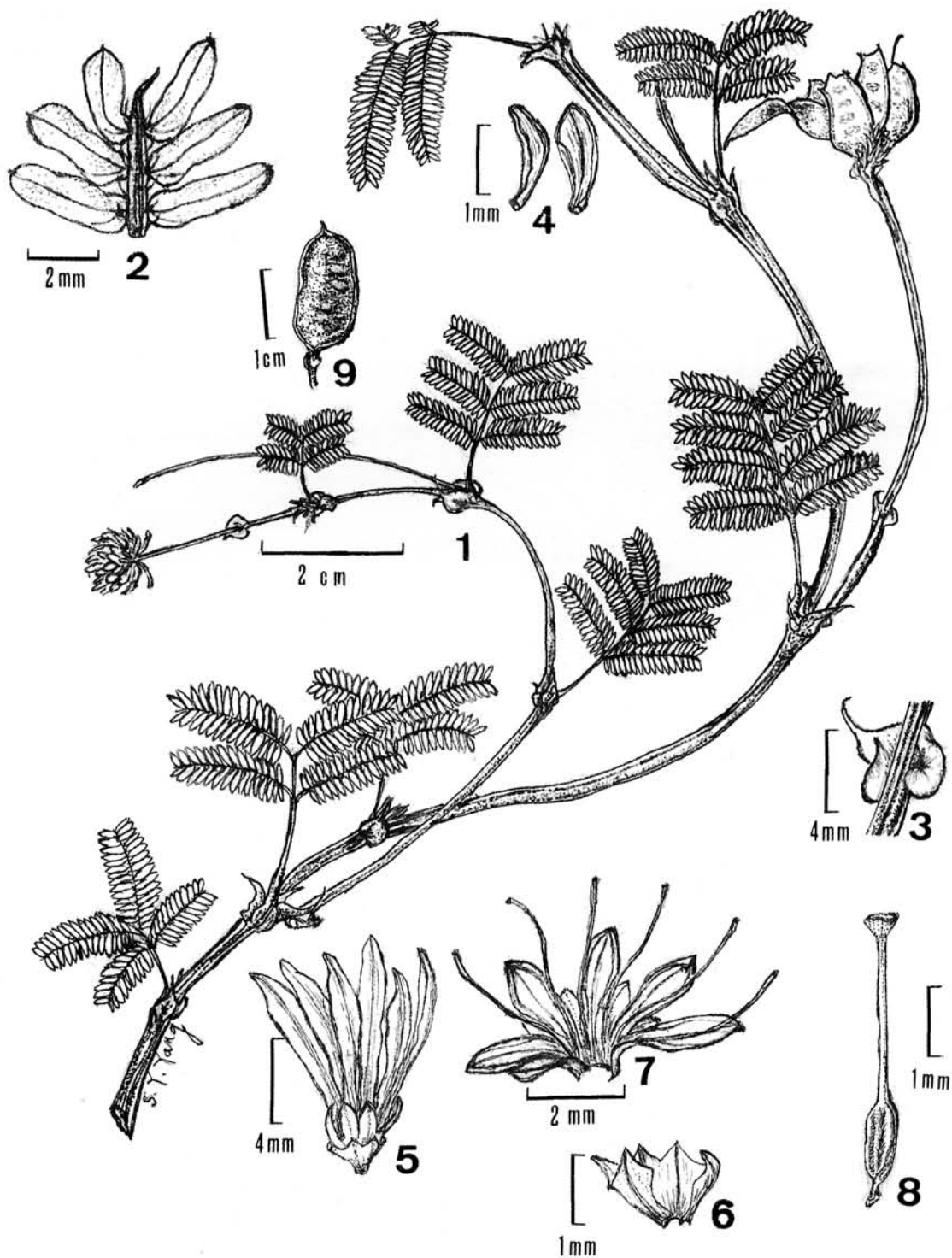
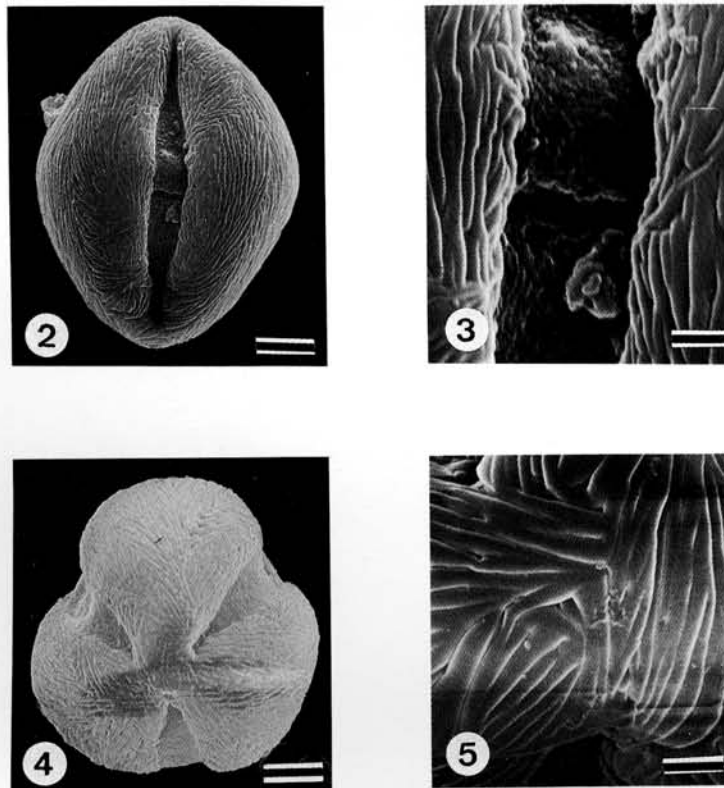


Fig. 1: *Neptunia gracilis* Benth. (T. C. Huang et al., 1985). 1. habit; 2. under surface of upper portion of a pinna; 3. bract on peduncle; 4. different views of bracteole; 5. neutral flower; 6. dissected calyx; 7. dissected staminate flower; 8. pistil; 9. pod.

Herbs, prostrate or weakly ascending. Stems slender, angulate, woody at base, many branched, glabrous. Stipules ovate, obliquely cordate at base, striate, 3-4 mm long, 2-3 mm broad, with margin sparsely ciliate or glabrous. Leaves bipinnate; petioles 9-11 mm long, angled, glabrous, eglandular, pulvinate at base; rachis angled, glabrous, prolonged; pinnae even, 2-4 pairs; stipels 2, subtending each pair of pinnae, subulate, sparsely ciliate at margin; pinna petiolules pulvinate, hairy; rachis of pinnae winged, prolonged, sparsely ciliate at margin; leaflets sessile, 10-16 pairs per pinna, 4-6 mm long, oblong, obtuse or acute at apex, oblique at base, glabrous with minute punctation on surface, sparsely ciliate at margin, with 2 distinctive veins beneath. Inflorescence globose, pedunculate; peduncles 3-6 cm long in fruit, angled, glabrous; bract solitary at the lower middle portion of peduncle, persistent, broadly ovate, cordate or auriculate at base, 4-6 mm long, 3-3.5 mm broad, sparsely ciliate at margin. Flowers sessile, each subtended by a arched bracteole, the upper flowers perfect, the middle ones staminate, the lower ones neutral. Calyx campanulate, 5-lobed, green, about 1.2-2 mm long. Petals 5, green, valvate in bud, free, oblanceolate, about 2.5-3 mm long. Stamens 5(-6), the neutral ones petaloid, yellow, oblanceolate, about 1 cm long, the normal ones, exerted; filaments slender, white; anthers dorsifixed, bearing a terminal deciduous stalked gland. Pistils glabrous, exerted in perfect flowers, aborted and inserted in staminate ones, absent in neutral ones; ovary oblong, about 2 mm long, short stipitate; style slender, straight; stigma truncate, concave. Pollen grains monadiform, 3-colporate, subprolate to prolate, 45-50 μm (c. 34 μm in SEM) long and 32.5-37.5 μm (c. 28 μm in SEM) broad in equatorial view; exine 2.5-3.7 μm thick, with striate ornamentation (Figs. 2-5). Legumes oblong, 15-24 mm long, 6-9 mm broad, glabrous, reticulate-veined, punctate when young.



Figs. 2-5: Pollen grains of *Neptunia gracilis* Benth. (T. C. Huang et al., 1985). 2. equatorial view, showing the 3-colporate aperture and striate ornamentation; 3. aperture, showing the ora colpi transversally parallel; 4. polar view, showing the amb circular-lobate; 5. apocolpium area showing the striate ornamentation. Figs. 2, 4 Scale bar=6 μ ; figs. 3, 5 scale bar=1.5 μ .

Distribution: Australia, the Philippines and Taiwan.

Habitat: On open grassland near the water hole for the immersion of water buffalos about 10-50m away from the coral reef.

TAIWAN: Pingtung Co.: Hengchun, Lienchin, T. C. Huang, S. F. Huang & H. W. Lin 16851 in Aug. 30, 1996 (flowers and fruits, TAI).

Our specimens match very well with the description of Wendler(1966) except their peduncles bearing one persistent bract against two deciduous ones.

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台灣植物誌之觀察(26)-細枝水合歡(豆科)

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摘 要

細枝水合歡 (*Neptunia gracilis* Benth.) 分布於澳洲及菲律賓，首次在台灣鵝鑾鼻一帶珊瑚礁海岸之草地採到。本文提供植物圖以利辨識，並提供花粉形態，供為本種之基本資料。本種為台灣之新紀錄屬及新紀錄種。

關鍵詞：豆科，細枝水合歡，形態，花粉，台灣。

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