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NOTE

Supplements to the Orchid Flora of Taiwan (II): A Newly Recorded Species *Goodyera bomiensis* K. Y. Lang

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ABSTRACT: *Goodyera bomiensis* K. Y. Lang, a new record of *Goodyera* (Orchidaceae) in Taiwan, is reported. This species is similar to *G. repens* but differs in leave and floral characters. The features of *G. bomiensis* are described and illustrated. The somatic chromosome number, 2n=30, is reported for the first time.

KEY WORDS: Orchidaceae, *Goodyera bomiensis*, new record, Taiwan, Taxonomy.

INTRODUCTION

The genus *Goodyera* (Orchidaceae), which comprises about 80-100 species (Pridgeon et al., 2003), is one of the largest genera of terrestrial orchids. Recently, an unknown *Goodyera* species was discovered by our friend Sheng-Kun Yu, an amateur plant photographer, in a northern mountainous region of Taiwan. This species was different from the 20 *Goodyera* species previously described from Taiwan (Leou, 2000; Chung, 2002) and was later recognized as a newly recorded species, *Goodyera bomiensis* K. Y. Lang. Morphology of *G. bomiensis* is similar to *G. repens*, but *G. bomeinsis* can be distinguished from *G. repens* by is tufted leaves with extremely short petioles (ca. 5 mm), narrowly elliptic lateral sepals, and the basal sac of the lip which is papillose along the midvein. A morphological description, line drawing, color photos and leaf anatomy of *Goodyera bomiensis* are presented below. The chromosome number of this species is also reported here for the first time.

TAXOMNMIC TREATMENTS

Goodyera bomiensis K. Y. Lang, Acta. Phytotax. Sin. 16(4): 128. *f.* 3. 1978; Chen & Tsi, Orchids China: 32. 1998; Lang et al., Fl. Reipubl. Popularis Sin. 17: 138. *pl*. 18: 3-4. 1999. Chen & Tsi, Native Orchids China Col.: 239. *f*. 1999. 波密斑葉蘭 Figs. 1 & 2.

Terrestrials herbs. Stems creeping below, ascending at apex. Leaves 3-6, basally tufted in a rosette, petiole extremely short, ca. 5 mm. Leaves ovate or ovate-orbicular, 1.8-3.2 cm long, 1.5-2.3 cm wide, apex obtuse or acute, base cordate, rounded, or broadly cuneate, green, with irregular and more or less reticulate white stripes on upper surface, pale green on lower surface. Peduncle and rachis 18-30 cm, slender, glandular pubescent, lower part with 3-5 sterile bracts; raceme 5-10 cm, with 10-12 flowers; floral bracts ovate-lanceolate, 5-6 mm, apex acuminate; ovary fusiform, including pedicel 6-7 mm long, white glandular pubescent. Flowers half-opening, small; dorsal sepals connivent with petals forming a hood, 3.8-4 mm long, 1-1.3 mm wide, whitish tinged with pale brown abaxially, apex obtuse, with white glandular pubescent at base, glabrous at apex; lateral sepals whitish, brownish along midribs, narrowly elliptic, slightly spreading, 1-veined, glabrous; petals white tinged with pale brown along upper margins, rhombic-spatulate, 3.5-4 mm long, 1-1.5 mm wide, 1-veined, glabrous, apex obtuse; lip ovate-elliptic, 3.5-4 mm long, 1-2.2 mm wide, base saccate, basal sac papillose along middle part of midvein, limb cymbiform, apex obtuse, recurved; column 1.7-2 mm long; pollinarium yellow, 0.9 mm long.

Distribution: China (Hubei, Xizang, Yunnan) and Taiwan (Hsinchu Co.).

Ecology: Mountain slopes at elevation ca. 1100 m., mixed evergreen forests, semi-open environment, often clouded in the afternoon.

Phenology: Flowering mainly in June and fruiting from July to August.

Leaf anatomy*:* The shape of leaf epidermal cells are polygonal or irregular, anticlinal walls are straight (Figs. 1I & L). The stomata were cyclocytic type and only present on the abaxial epidermis, anomocytic, elliptic (Figs. 1K & N). Leaf epidermal with granular bulge (Fig. 1M). Length/width of cell: 1.33. Length/width of stoma: 1.14.

Chromosome number: Its somatic chromosome number is 2n = 30.

Specimens examined: TAIWAN. Hsinchu Co.: Jianshih Township, Xiakeluo Ancient Path, 20 Jun 2007, *T. C. Hsu 849* (TAIF). CHINA. Hubei Prov.: Shennongjia, 9 July 1976, *unknown collector* (PE 1167169); 3 Jul 1976, *unknown collector* (PE 1168837).

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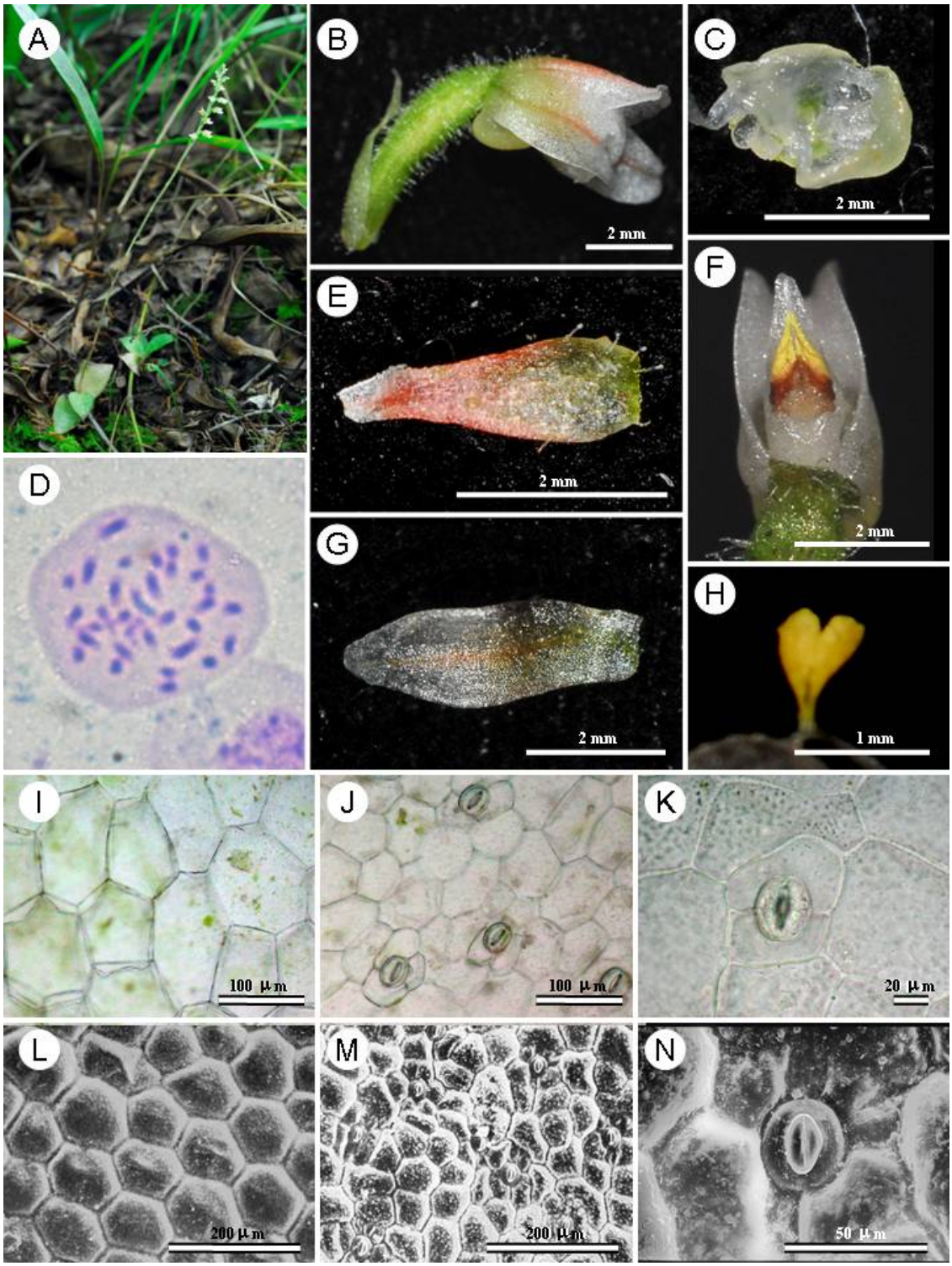


Fig. 1. ***Goodyera bomiensis*** **K. Y. Lang. A: Habitat and habit. B: Flower. C. Basal portion of the lip. D. Mitotic chromosome spread (2n = 30, from** ***Chung 11222*****). E. Dorsal sepal, abaxial view. F. Column and lip, dorsal view. G. Lateral sepal, abaxial view. H. Pollinarium. I. Leaf epidermal cells of adaxial surface. J-K: Leaf epidermal cells and stomata of abaxial surface. L. Leaf epidermal cells of adaxial surface (SEM). M-N: Leaf epidermal cells and stomata of abaxial surface (SEM).**

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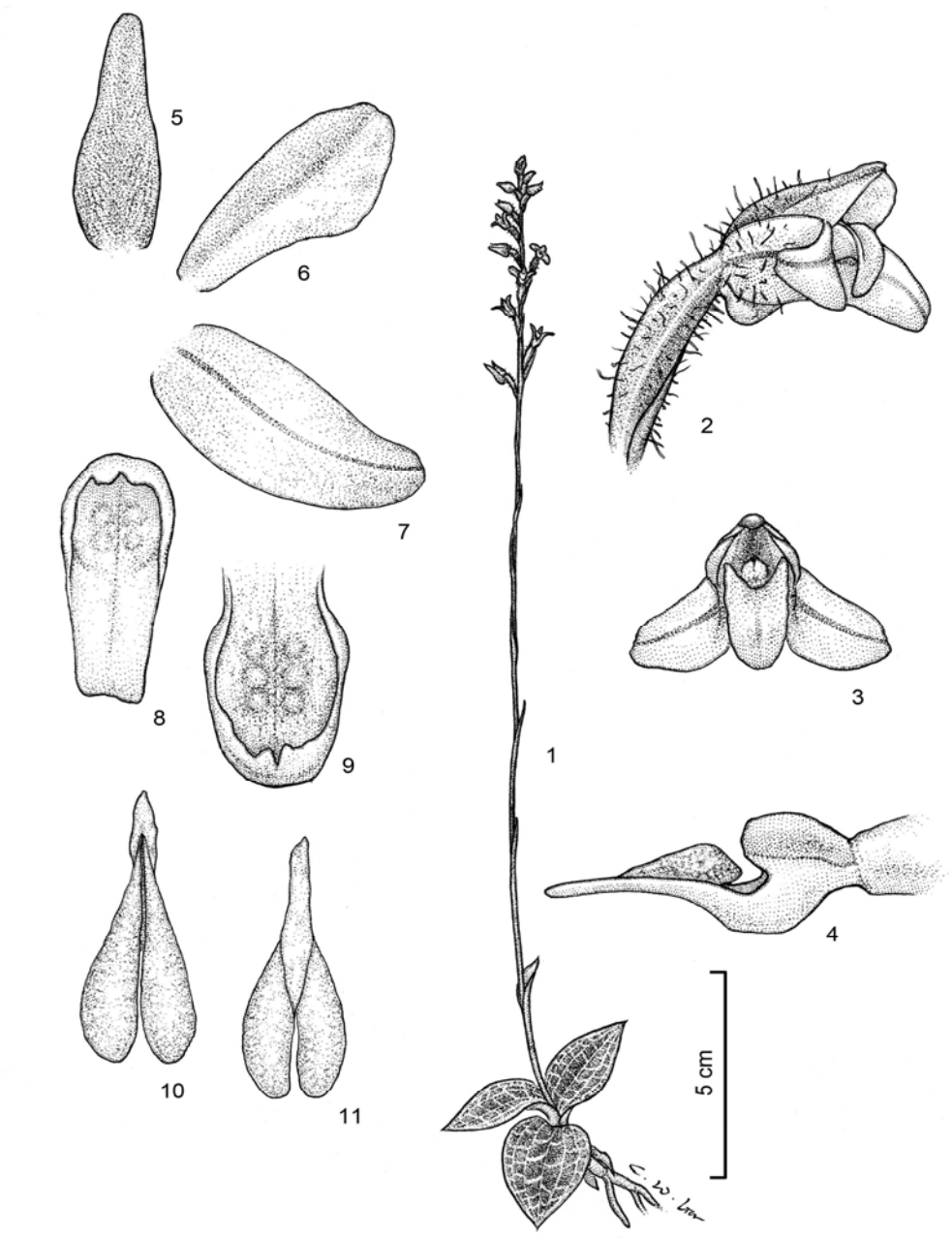


Fig. 2. *Goodyera bomiensis* K. Y. Lang. 1: Habit. 2: Flower, lateral view. 3: Flower, ventral view. 4: Column, lateral view. 5: Dorsal sepal. 6: Lateral sepal. 7: Petal. 8: Lip. 9: Lip basal sac and papillose. 10: pollinarium, dorsal view. 11: Pollinarium, ventral view.

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LITERATURE CITED

Chung, S.-W. 2002. *Goodyera pendula* Maxim. (Orchidaceae), A Neglected Species in the Flora of Taiwan. Taiwania **47**: 259-263.

Leou, C.-S. 2000. *Goodyera*. In: Huang, T.-C. et al. (eds.), Flora of Taiwan, 2nd ed. **5**: 898-914. Editorial Committee, Dept. Bot., NTU, Taipei, Taiwan.

Pridgeon, A. M., P. J. Cribb, M. W. Chase and F. N. Rasmussen. 2003. Genera Orchidacearum **3**: 95. Orchidoideae (Part Two). Oxford University Press, Oxford, UK.

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臺灣蘭科植物誌補註(二)：新紀錄種波密斑葉蘭

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摘要：本文報導臺灣蘭科斑葉蘭屬一新紀錄種波密斑葉蘭 (*Goodyera bomiensis*)，除描述其型態特徵，並首次報導其染色體數為 2n = 30。本種近似匍莖斑葉蘭 (*G. repens*) 但可藉由葉片與花部特徵區辨。

關鍵詞：蘭科、波密斑葉蘭、新紀錄、分類、臺灣。

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