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TAXONOMY

Tricyrtis ravenii (Liliaceae), a new species from Taiwan

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ABSTRACT. *Tricyrtis ravenii* (Liliaceae) is reported here as a new species endemic to Taiwan. It belongs to sect. *Hirtae*, which comprises three species heretofore, namely *T. hirta* (Japan mainland, mainly on the Pacific side), *T. formosana* (Taiwan and Iriomote, Japan) and *T. lasiocarpa* (Taiwan). Bearing a superficial resemblance to *Tricyrtis formosana*, specimens of *T. ravenii* in most herbaria were nearly always erroneously annotated as the former or its synonyms such as *T. stolonifera*. Careful morphological studies of these plants both from the field and in the experimental greenhouse reveal that they differ from *T. formosana* significantly in floral details, habit, occur at higher elevations and deserve recognition of a new species. A taxonomic treatment, line drawings, field and micro-photographs of epidermal characters, karyotype analysis, and a map showing their distribution on this island is provided. A key is prepared to aid in the identification of all four species of *Tricyrtis* sect. *Hirtae*.

Keywords: Chromosome number; Endemic species; Karyotype; Liliaceae; New species; sect. *Hirtae*; Taiwan; Taxonomy; *Tricyrtis hirta; Tricyrtis formosana*; *Tricyrtis imeldae*; *Tricyrtis ravenii*; *Tricyrtis lasiocarpa*.

INTRODUCTION

Tricyrtis (Liliaceae) is a genus of about 20 species that are classified in four sections in eastern Asia, ranging from the Himalayas to Japan, Taiwan, and the Philippines (Gutierrez, 1974; Jessop, 1979; Takahashi, 1987; Mabberley, 1997; Chen and Takahashi, 2000). The taxonomy of the genus *Tricyrtis* in Taiwan has been difficult (Shimizu, 1962; Takahashi, 1976). Five species with one additional variety were recognized in the 1st edition of Flora of Taiwan (Liu and Ying, 1978) while two species with four additional varieties were recognized in the 2nd edition of Flora of Taiwan (Ying, 2000). Almost concurrently, four species (with no indication of infraspecific taxa) were treated by Yang et al. (2001). Abundant field examination and a thorough biosystematic study of the genus *Tricyrtis* in Taiwan led us to recognize four distinct species, namely *T. formosana* Baker, *T. lasiocarpa* Matsumura, *T. ravenii* C.-I Peng & C. L. Tiang, sp. nov., and *T. suzukii* Masamune on this island. *Tricyrtis ravenii* resembles *T. formosana* in general aspects. However, a detailed comparison reveals significant differences in habit, altitudinal distribution, phenology, trichome types and distribution pattern of purplish-red speckles on perianth, sizes of stamen and seed, spur size and characteristics, which support their recognition as a new species.

The four Taiwanese species of *Tricyrtis* belong to two sections, namely sect. *Hirtae* (*T. formosana*, *T. lasiocarpa*, *T. ravenii*) and sect. *Tricyrtis* (*T. suzukii*). All but *T. formosana* are endemic to the island. *Tricyrtis formosana* was recorded also from Iriomote Island of the Ryukyu Archipelago, which is adjacent to the east coast of Taiwan (Shimabuku, 1997). Gutierrez (1974) reported a remarkable finding of a new species, *Tricyrtis imeldae* H. G. Gutierrez, from Midanao, Philippines, well over 1,500 km south of the genus' main distribution in East Asia. Based on the original description, line drawing and the image of the type specimen of *Tricyrtis imeldae*, we agree with Takahashi (1980) and Flores (1997) that *T. imeldae* is hardly distinguishable from *T. formosana* and probably should be reduced to its synonymy. A key to the species of *Tricyrtis* sect. *Hirtae* is given below.

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KEY TO SPECIES OF *TRICYRTIS* SECT. *HIRTAE*

1a. Stem pendent; flowers axillary throughout most of the stem; seeds black purple; plant of Japan ..... *T. hirta*

1b. Stem erect or ascending; flowers in bifurcate racemes on summit and upper axils of stem; seeds brown; plant of Taiwan.

2a. Plant evergreen; ovary/capsule entirely glabrous or rarely with a few glandular hairs basally; perianths and pedicels covered with both glandular and hirtellous hairs ..... *T. formosana*

2b. Plant deciduous; ovary/capsule hirtellous or covered with glandular hairs throughout; perianths and pedicels covered with either glandular or hirtellous hairs.

3a. Lower leaves usually obovate-spatulate; ovary/capsule hirtellous along septicidal furrows; capsules dehiscent by tranverse slits; spurs 6-6.4 mm long, in divergent pair; stamens 2.4-2.6 mm long; perianths and pedicels hirtellous ..... *T. lasiocarpa*

3b. Lower leaves elliptic; ovary/capsule covered with glandular hairs on bulging locular surfaces; capsules septicidal dehiscent; spurs 2-2.9 mm long, in coalescent pairs; stamens 3.2-4.9 mm long; perianths and pedicels covered with glandular hairs ..... *T. ravenii*

Tricyrtis ravenii C.-I Peng & C. L. Tiang, sp. nov.—TYPE: TAIWAN. Nantou Hsien: Yushan National Park, along trail from Tatachia Saddle to Paiyun Lodge, 120° 57' E, 23°28' N, ca. 2,800 m alt., 6 Sep 1991, *Ching-I Peng 14337* (with B. Bartholomew, T. G. Lammers and T. K. Lowrey). Holotype: HAST; isotypes: A, CAS, E, HAST, K, KYO, MO, PE, TAIF, TI, TNM, TUS, US.

高山油點草 Figures 1, 2

Haec species quoad aspectum *T. formosanae* similis, sed ab ea habitu deciduo (vs. sempervirente), perianthio pedicellisque trichomatibus glandularibus tantum (vs. glandularibus hirtellisque) vestitis, perianthio maculis rubropurpureis confertis fascias horizontales parallelas saepe formantibus (vs. fortuito dispersis) ornato, staminibus longioribus (3.2-4.9 vs. 2.1-3.3 mm), seminibus majoribus (14-25.6 × 7-21.5 vs. 11.5-21 × 5.5-13 mm), calcaribus brevioribus (2-2.9 vs. 4-5.5 mm) in paria coalescentia (vs. divergentia) dispositis atque ovario trichomatibus glandularibus ad superficiem locularem aequaliter dispersis (vs. omnino glabro vel raro trichomatibus glandularibus ad basem) ornato distinguitur; etiam altitudines altiores (1,100-2,800 vs. 100-1,500 m) plerumque habitat.

Erect perennial herb with stolons; stem (35-) 55-115 (-147) cm tall, leafy and usually unbranched, glabrous. Stolons slender, several from stem base, to 23-40 cm long, 0.2-0.35 cm thick, glabrous. Leaves alternate, 7-16 (-18) cm long, 1-5 cm wide, glabrous except along venations beneath. Lower leaves narrowly elliptic-oblanceolate, cuneate at base; upper leaves broadly lanceolate to elliptic, cordate at base. Inflorescence terminal and lateral, bifurcate racemes each (3.5-) 8-13 (-18.9) cm long, pedicels glandular. Flowers erect; corolla infundibuliform, glabrous inside, with glandular hairs outside. Tepals 6, in 2 whorls, with purplish-red speckles that often clustered, forming horizontal bands against a white to pinkish background on upper surfaces, with a yellowish-orangish patch toward the base; outer tepals narrowly elliptic, 1.7-2.65 cm long, 5-8.5 mm wide, with a pair of saccate spurs at base, spurs subglobose, ca. 2-2.9 mm long, 2.2-4 mm wide; inner tepals lanceolate, 1.75-2.65 cm long, 3-5.5 mm wide, without basal spurs. Filaments white with reddish spots, 1.57-2.43 cm long, with minute glandular hairs at base; anthers yellowish, elliptic, 2.2-4.2 mm long. Ovaries 0.9-1.33 cm long, covered with glandular hairs. Capsules septicidal-dehiscent. Seeds many, brownish, elliptic and flat, 1.5-2.6 mm long, (0.7-) 1-2.2 mm wide. Somatic chromosome number, $2n = 26$. Flowering and fruiting Jul-Dec.

Additional specimens examined. **TAIWAN.** ILAN HSIEN: Nanao Hsiang, Taipingshan Forest Recreation Area, along path side near Chan-An temple, ca. 2,000 m, *Leong 2384* (HAST); Taroko National Park, vicinity of 710 truck rd., ca. 2,400 m, *Wagner 6559* (HAST); Tatung Hsiang, Nanshan Ssuyuan, 1,480 m, *Wang & Lin 2302* (TAIF); Su-yuan along highway, *Huang 7311, 7329* (TAI); Tatung Hsiang, Mingchih to Chilan, on moist soil wall beside road, ca. 1,100 m, *Wang 10791* (TAIF); Northen Cross-island Highway, at entrance of Forest Road 100, ca. 1,100 m, *Yang & Chiou 5141* (TAIF); at Kefa Bridge, branched road of Central Cross-island Highway, 1,300 m, *Chen 7545* (TAIF); Taipingshan, ca. 1,850-1,900 m, *Liou et al. 530* (TAIF); Chilanshan, Forest Road ('Highway') 100, starting point, ca. 1,190 m, *Clarke & Gardner et al. 306* (TAIF). HSINCHU HSIEN: Chienshih Hsiang, Yuanyang Lake Nature Preserve, at road marker ca. 1.5 km on Forest Trail 160, ca. 1,880 m, *Leong 2344* (HAST). TAICHUNG HSIEN: Hoping Hsiang, abundant along the Forest Road #710, 121°21'21'' E, 24°23'13'' N, ca. 2,000 m alt. On gentle slope in mixed coniferous-broadleaf forest. Herb at peak anthesis, flowers pink. At a semishaded, wet trailside by a creek. 15 Aug 2001, *Leong 2403* (HAST); Lishan ("Mt. Leeshan"), hillside wet place, *Feung & Kao 5014* (TAI); Ssuyuan, *Lu 12803* (TAIF); Ssuyuan, ca. 1,900 m, *Chiang 1504* (TAIF); Chingshan, *Chiang 734* (TAIF). NANTOU HSIEN: Jenai Hsiang, Juiyenchi Forests Nature Protected area, ca. 2,300 m, *Leong 1341* (HAST); along trail to Paiyun lodge in Yushan National Park, 0.5-1.5 km above Tatachia Saddle, ca. 2,700-2,850 m, *Lammers 8436* (HAST); Yushan National

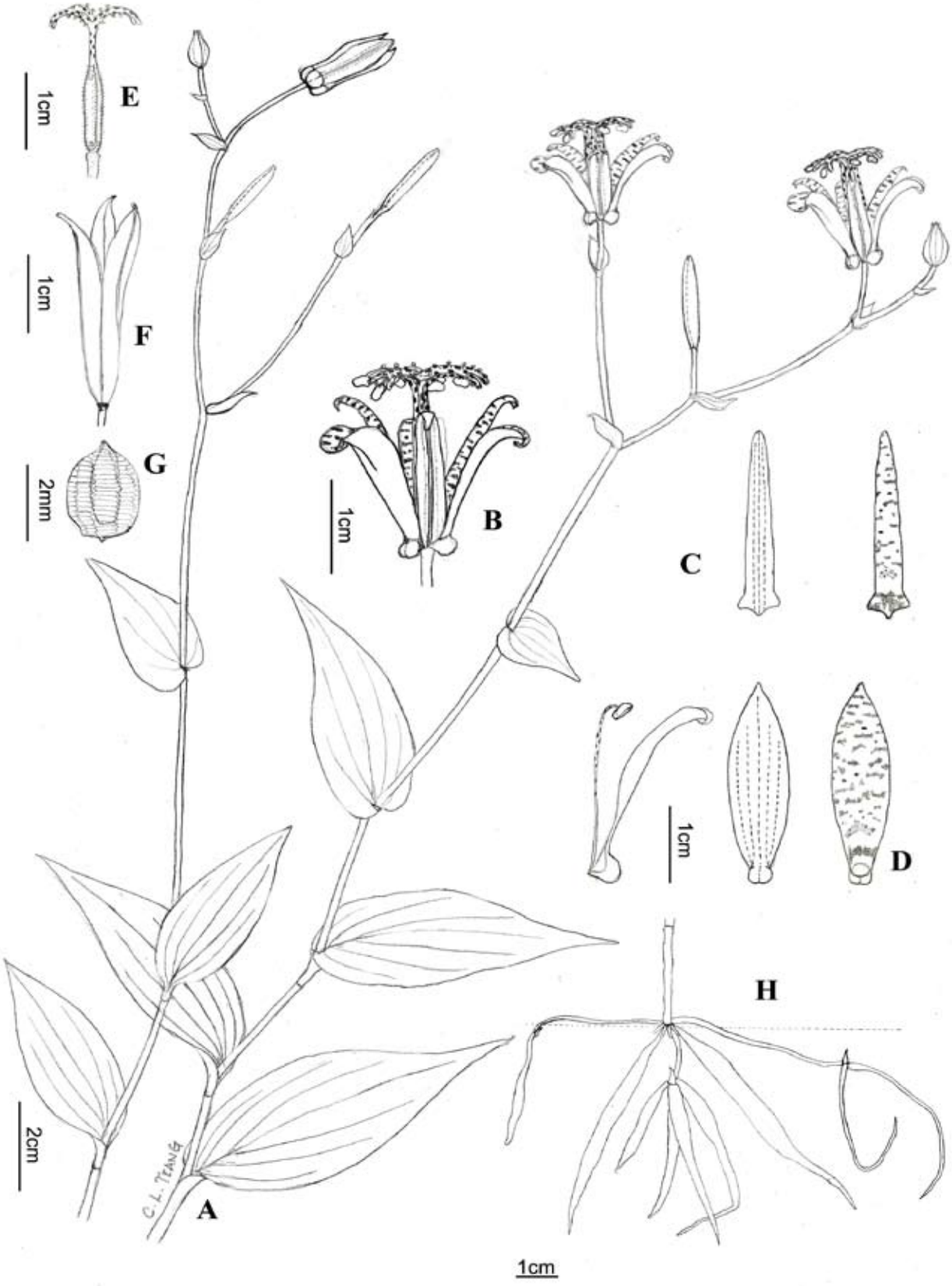

Figure 1. *Tricyrtis ravenii.* A, Habit; B, Flower; C, Inner perianth; D, Outer perianth; E, Gynoecium; F, Fully mature and dehiscent capsule; G. Seed; H, Stem base, showing stolons and thick roots (fibrous roots not shown).

Park, by Tungpu Shanchuang, ca. 2,600 m alt., *Peng 14413* (HAST); swampy roadside, ca. 1,950-2,200 m, *Huang & Hsieh 4863* (TAI); Tungpu to Yushanchienshan, 2,500-2,800 m, *Hsu et Hsu 3960* (TAI); Yuanfeng, 2,200-2,400 m, *Lin 581* (TAIF); Nanshan to Szuyuan, 1,200-1,800 m, *Wu et al. 1464* (TAIF); Hsinlunkang, *Lin 322* (TAIF); Tanta, Tanta forest trail, 1,800-2,400 m, *Li 157* (TAIF). HUALIEN HSIEN: en route from summit of Chingshuishan to Taroko National park Headquarters, ca. 1,540-2,300 m, *Ho 1295* (HAST); Hohuanshan open grassland, ca. 2,000 m, *Hsieh 1003* (TAI); Hsiulin Hsiang, Taroko Natl. Park, en route from Tatung to (hiking) entrance of Chingshuishan, broadleaf forest, 1,200-1,350 m, *Chen & Hung 1135* (TAIF); Hsiulin Hsiang, Hoping logging trail roadside under the broadleaf forest, 1,200-1,600 m, *Lin et al. L1218* (TAIF); Hoping logging tract between 41 & 46 km, ca. 1,900-2,000 m, *Wang et al. 8523* (TAIF).

Distribution. *Tricyrtis ravenii* is endemic to Taiwan. Plants of *T. ravenii* occur commonly at 1,100 to 2,800 m elevation in *Machilus-Castanopsis* and *Tsuga-Picea* vegetation zones in Taiwan (cf. Su, 1992) in the Central Mountain Range, but are found also in some limestone mountains of eastern Taiwan (Figure 3). They usually grow on soil slope at forest margin or along semi-exposed road cut or trails in forest, often near small mountain creeks.

Etymology. The specific epithet commemorates Prof. Peter H. Raven, mentor of the senior author, for his enduring support, guidance, and friendship.

Phenology. *Tricyrtis ravenii* is a deciduous perennial. Plants set flowers and fruits from July to early December. The erect main stem produces one to several stolons at ground level (often covered by grasses) or underground during the growth season. From the node on the stolon

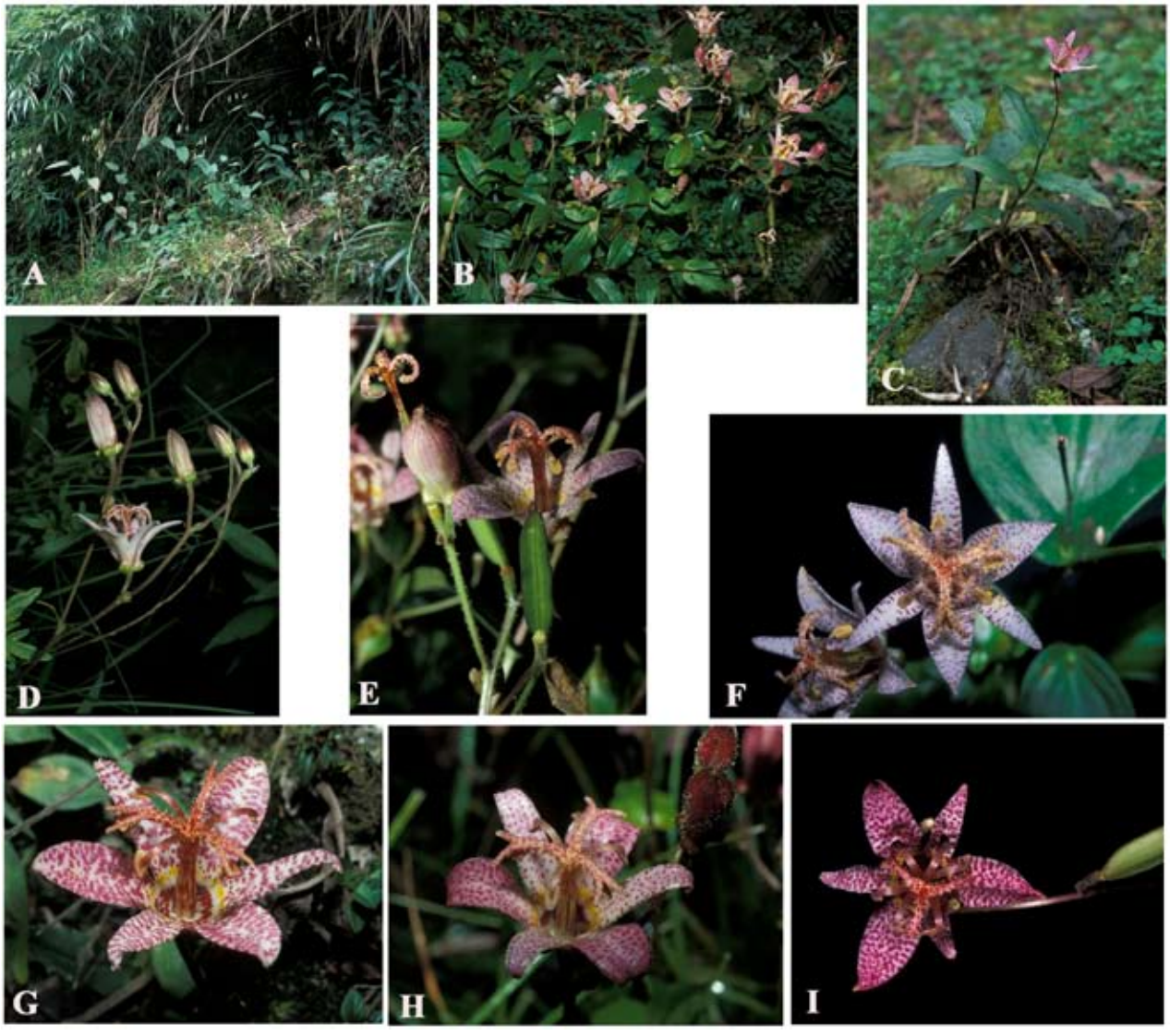

Figure 2. *Tricyrtis ravenii*. A, Habitat (*Huang 326*); B, Habit (*Peng 14413*); C, Freshly dug up plant (*Huang 326*); D, Inflorescence, in part (*Peng 5561*); E, Flowers and developing fruits (*Peng 14413*); F-I, Flowers; F, *Leong 2403*; G, *Peng 14504*; H, *Peng 14337*; I, *Huang 100*.

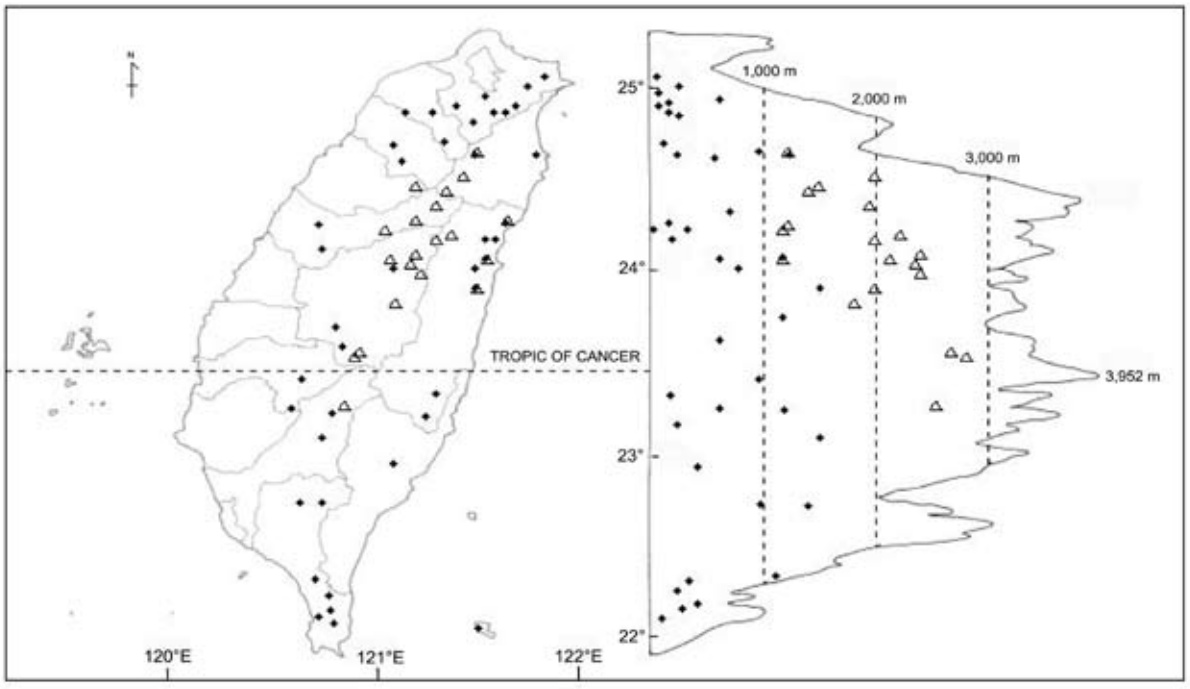

Figure 3. Latitudinal and altitudinal distributions of *Tircyrtis ravenii* (open triangles) and *T. formosana* (black dots) in Taiwan.

produces a young bud with thick roots (3-6 mm in diam.) beneath (Figures 1-H; 2-C). The young bud develops into an aerial shoot that are sterile the first year and may flower the next year in an experimental shade house. Similarly, plants from seeds begin to flower in the second year under cultivated condition. On each shoot small prop roots occur at the node near ground. Both aerial stems and stolons wither during the winter, leaving several underground dormant buds with thick storage roots. Such buds may be physically detached from the mother plant and grow up into an independent plant in the next season. The deciduous habit is shared by another endemic species, *T. lasiocarpa* Matsumura, in Taiwan (Peng and Hsu, 2003).

Tricyrtis ravenii is restricted to 1,100 to 2,800 m elevation and flowers only from summer through late autumn. By contrast, *Tricyrtis formosana*, with which it is often confused, is widely distributed in Taiwan, occurring from as low as 100 to 1,500 m above sea level (Figure 3). *Tricyrtis formosana* is an evergreen perennial that flowers nearly all year round in southern Taiwan and Lanyu, a small islet off the southeastern coast of Taiwan. We observed plants of both *T. ravenii* and *T. formosana* along a mountain trail, separated by 5-6 km, in Chingshuishan, a metamorphosed limestone mountain in eastern Taiwan. Natural hybrids, however, were not found.

Morphological notes. Specimens we examined of *Tricyrtis ravenii* in nearly all herbaria were erroneously annotated as *T. formosana* or its synonym, *T. stolonifera*. *Tricyrtis ravenii* resembles *T. formosana* in general aspect, but is distinct in that the perianths and pedicels are covered only with glandular (vs. both glandular and hirtellous) hairs; purple-red speckles on perianth are clustered, often forming parallel, horizontal bands (vs. speckles scatteredly and randomly distributed); longer stamens (3.2-4.9 vs. 2.1-3.3 mm); larger seeds (14-26.5 × 7-21.5 vs. 11.5-21 × 5.5-13 mm); shorter spurs (2-2.9 vs. 4-5.5 mm) that are coalescent (vs. divergent); glandular hairs evenly distributed on bulging locular surface of the ovary (vs. glabrous throughout or rarely with a few glandular hairs at ovary base) (Figures 4, 5).

Chromosome Cytology. The basic chromosome number of the genus *Tricyrtis* is X = 13 with diploids being prevalent (Takahashi, 1980). Diploid chromosome number of $2n = 26$ was previously reported for two species of *Tricyrtis* in Taiwan, namely *T. formosana* (Nawa, 1928; Sinoto and Kikkawa, 1932; Sato, 1939 [as '*T. formosana* var. *amethystina*' and '*T. formosana* var. *kotoensis*']; Takahashi, 1980) and *T. lasiocarpa* (as '*T. formosana* var. *lasiocarpa*,' Sato, 1939, 1942). Sato (1942) reported a tetraploid mitotic chromosome count of $2n = 52$ for a plant produced by experimentally treating seeds with colchicine solution. Hsu (1971), while reporting "…The material (*Tricyrtis formosana*) collected at Kueihu (southern Taiwan) is a diploid, $2n = 26$ with large chromosomes," indicated in the figure legend of his plate I "*Tricyrtis formosana* Bak., diakinesis with 26 bivalents" and listed $n = 26$ for *T. formosana* in his Table 1. The discrepency in this report confuses readers. In 1972, Hsu re-published the chromosome count of *Tricyrtis formosana* (as $n = 26$), based on the same voucher. Based on literature review and our cytological sampling of *T. formosana* throughout its range in Taiwan, we suspect that Hsu's report of $n = 26$ is erroneous.

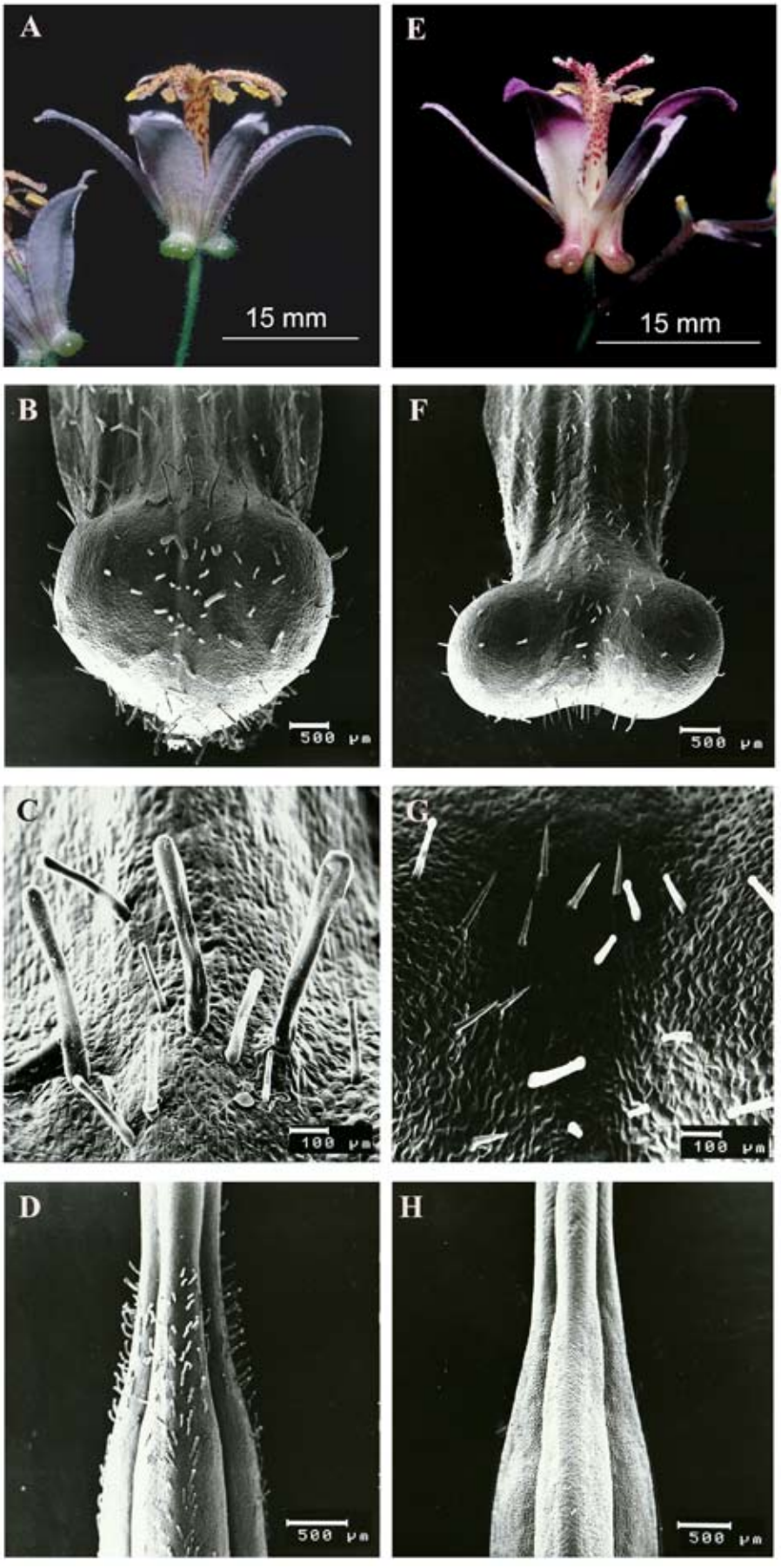

Figure 4. Comparison of flowers of *Tircyrtis ravenii* (A-D) and *T. formosana* (E-H). A,E. Flower (side view). Note glandular hairs on perianths and pedicels in *Tircyrtis ravenii* (A) and glandular and hirtellous hairs on perianths in *T. formosana* (E). B, C, F, G. Scanning electron micrographs of a pair of coalescent spurs covered with glandular hairs in *T. ravenii* (B, C) and a pair of divergent spurs covered with both glandular and hirtellous hairs in *T. formosana* (F, G). D, H. Scanning electron micrographs of a part of ovary, showing glandular hairs on locular surface in *T. ravenii* (D) and completely glabrous ovary in *T. formosana* (H).

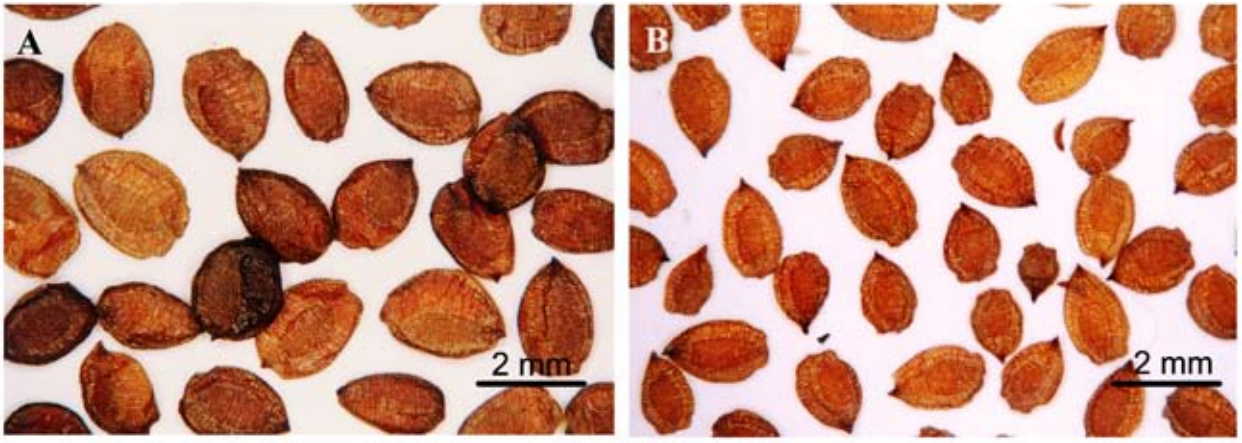

Figure 5. Comparison of seeds. A, Seeds of *Tircyrtis ravenii*; B, Seeds of *Tircyrtis formosana*.

Figure 6. Microphotograph of somatic metaphase chromosomes of *Tricyrtis ravenii* (2*n* = 26: *Leong 2403*, HAST).

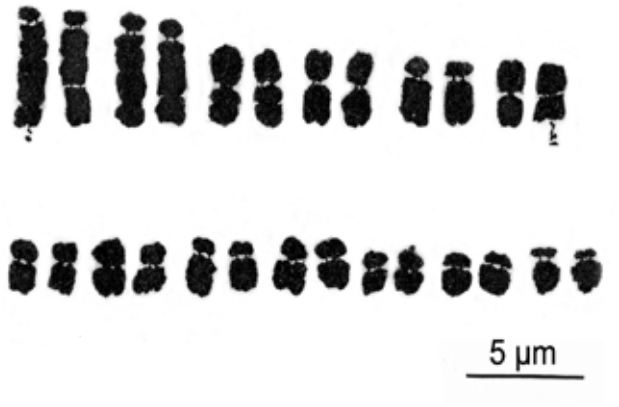

Figure 7. Alignment of somatic metaphase chromosomes of *Tricyrtis ravenii* (2*n* = 26: *Leong 2403*, HAST).

Our examination of mitosis in *T. ravenii* revealed that it is a diploid with 2*n* = 26 (Figure 6), which agrees with most of cytological reports on species of *Tricyrtis* (cf. Takahashi, 1980). Chromosomes of *T. ravenii* range from 1.5 to 4.6 µm. The karyotype of *T. ravenii* is asymmetric. The largest chromosomes (ca. 4.6 µm, 2 pairs) in the complement of *T. ravenii* are approximately 3 times as long as the smallest ones (ca. 1.5 µm, one pair). The two pairs of the largest chromosomes and one pair of the smallest chromosomes are subtelocentric. In the rest of the chromosome complement seven pairs are metacentric and three pairs are submetacentric. Based on the nomenclature of chromosomes of Levin et al. (1964), *T. ravenii* has 4Lst + 14m + 6sm + 2Sst (Figure 7).

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LITERATURE CITED

Chen, X. and H. Takahashi. 2000. *Tricrytis*. *In* Z. Y. Wu and P. H. Raven (eds.), Flora of China **24:** 151-153.

Flores, R.A.Q. 1997. Determination of the rank and position of a species of *Tricyrtis*. Undergraduate thesis, Institute of Biology, College of Science, University of the Philippines Diliman, Diliman, Quezon City.

Gutierrez, H.G. 1974. *Tricyrtis imeldae*, a new Philippine Lily. Philipp. J. Sci. **103(3):** 171-173.

Hsu, C.C. 1971. Preliminary chromosome studies on the vascular plants of Taiwan (IV). Counts and systematic notes on some monocotyledons. Taiwania **16(1):** 123-136.

Hsu, C.C. 1972. Preliminary chromosome studies on the vascular plants of Taiwan (V). Cytotaxonomy on some monocotyledons. Taiwania **17:** 48-65.

Jessop, J. P. 1979. Liliaceae. *In* C.G.G.J. van Steenis (ed.), Flora of Malesiana **9 (pt. 1):** 189-235.

Levan, A., K. Fredga, and A.A. Sandberg. 1964. Nomenclature for centromeric position on chromosomes. Hereditas **52:** 201-220.

Liu, T.S. and S.S. Ying. 1978. Liliaceae. *In* H.L. Li, T.S. Liu, T.C. Huang, T. Koyama and C.E. DeVol (eds.), Flora of Taiwan, Vol. 5. Epoch Publ. Co., Ltd., Taipei, pp. 40-84.

Mabberley, D.J. 1997. The Plant-Book, 2nd Edition. Cambridge Univ. Press, Cambridge, New York, Melbourne, pp. 724.

Nawa, N. 1928. Some cytological observations in *Tricyrtis*, *Sagittaria* and *Lilium*. Bot. Mag. (Tokyo) **42(493):** 33-38.

Peng, J.J. and T.W. Hsu. 2003. Adaption of *Tricyrtis lasiocarpa* Matsumura to arid environment. Nat. Conserv. Quart. (Taiwan) **41:** 56-59.

Sato, D. 1939. Cyto-genetical studies on *Tricyrtis*, II. Karyotype analysis in *Tircyrtis* and *Brachycyrtis* with special reference to SAT- and nucleolar chromosomes. Cytologia **10:** 127-157.

Sato, D. 1942. Karyotype alternation and phylogeny in Liliaceae and allied families. Jap. J. Bot. **12:** 57-161.

Shimabuku, K.I. 1997. Check List Vascular Flora of the Ryukyu Islands, Revised Edition. Kyushu University Press, 855 pp.

Shimizu, T. 1962. A note on *Tricyrtis* of Taiwan. Bot. Bull. Acad. Sin. **3:** 35-37.

Sinoto Y. and R. Kikkawa. 1932. Cyto-genetical studies on *Tricyrtis*. I. Chromosomes in *Tricyrtis*. Jap. J. Genet. **7(4):** 194-198.

Su, H.J. 1992. Vegetation of Taiwan: altitudinal vegetation zones and geographical climatic regions. *In* C.-I Peng (ed.), The Biological Resources of Taiwan: a Status Report. Inst. Bot., Acad. Sin. Monogr. Ser. **11:** 39-53.

Takahashi, H. 1976. Studies in *Tricyrtis* (Liliaceae) 2. On the Formosan species. Acta Phytotax. Geobot. **27:** 169-173. (in Japanese)

Takahashi, H. 1980. A taxonomic study on the genus *Tricyrtis*. Sci. Rep. Fac. Educ., Gifu Univ. (Nat. Sci.) **6:** 583-635.

Takahashi, H. 1987. Distribution of *Tricyrtis* and its phytogeographical problems. Acta Phytotax. Geobot. **38:** 123-132. (in Japanese)

Yang, Y.P., H.Y. Liu, and T.P. Lin (eds.) 2001. Manual of Taiwan Vascular Plants, Vol. 5. Council of Agriculture, Executive Yuan, Taipei, pp. 19-32. (in Chinese)

Ying, S.S. 2000. Liliaceae. *In* D.E. Boufford, C.F. Hsieh, T.C. Huang, C.S. Kuoh, H. Ohashi, and H.J. Su (eds.), Flora of Taiwan, 2nd Edition. Vol. 5. Editorial Committee of the Flora of Taiwan, Department of Botany, National Taiwan Univerisity, Taipei, pp. 35-71.

台灣產百合科一新種植物：高山油點草

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本文報導台灣特有的百合科新種植物：高山油點草 (*Tricyrtis ravenii*)。它屬於油點草屬 *Hirta* 組，該組過去已發表的植物僅毛油點草（特產日本），台灣油點草（產台灣及琉球）以及毛果油點草（特產台灣）三種。由於高山油點草外表略似台灣油點草，典藏於台灣各標本館的高山油點草標本幾乎全都被訂名為後者；但野外採樣及實驗溫室栽培植物形態觀察顯示這兩種植物的花部特徵，習性，海拔分佈等都有許多明顯差異，因此發表高山油點草為新種。本文提供高山油點草的分類處理，線繪圖，野外照片及花部之顯微特徵，染色體核型分析以及台灣的地理分布圖，並製做油點草屬 *Hirta* 組的檢索表，以利辨識。

關鍵詞：染色體數；核型分析；百合科；新種；特有種；台灣；分類；台灣油點草；高山油點草；毛果油點草；油點草屬毛油點草組；油點草屬油點草組；鈴木氏油點草。