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Newly Discovered Native Orchids of Taiwan (III)

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ABSTRACT: In this report, 10 new native orchids (*Brachycorythis peitawuensis, Bulbophyllum electrinum* var. *calvum*, *Bulbophyllum kuanwuensis* var. *luchuensis*, *Bulbophyllum kuanwuensis* var. *rutilum, Cheirostylis rubrifolius, Corybas puniceus, Erythrodes blumei* var. *aggregatus*, *Nervilia tahanshanensis, Oberonia pumilum* var. *rotundum,* and *Tainia caterva*), two newly recorded species (*Vexillabium nakaianum* and *Chiloschista parishii*) and three new names (*Bulbophyllum electrnum* var. *sui*, *Corybas taliensis* and *Flickingeria parietiformis*) are presented. Description and figures are also provided.

KEY WORDS: Taiwan, native orchids, *Brachycorythis*, *Bulbophyllum*, *Cheirostylis*, *Corybas*, *Erythrodes*, *Nervilia*, *Oberonia*, *Tainia.*

INTRODUCTION

The junior author continues to spend time searching for native orchids in Taiwan, especially in the much-ignored southern part of Taiwan. The Central Mountain Ridge (CMR) is a continuous ridge which trends north-south, and is constituted of more than 200 peaks exceeding 3000 m in elevation. The dramatic topological differences combined with influences of tropical and subtropical climates have fostered high habitat diversity at local scales. The various geographical topologies of Taiwan have allowed habitats and lineages to persist through elevational shifts during glacial/interglacial cycles. The richness of habitats in terms of variations in elevation, rainfall, temperature, and wind flow have promoted the rate of speciation and created numerous possibilities even on nearby mountain peaks. A vibrant economy, improved health conditions, and widespread internet use have produced many amateur collectors of orchids from different parts of Taiwan, and this will ensure the detailed exploration of our orchid flora. Thus we frequently received information on native orchids from many unfamiliar faces and old acquaintances alike. This is the impetus behind our continuing to report species that have never been recorded. Herein, we present 13 species of new plants. Because we have limited access to many orchid journals and old publications which are usually not available on the websites, we tentatively created new names, but further confirmation is required.

Romanization was provided for the Chinese characters in this paper according the new Lin Yutang Chinese-English dictionary.

TAXONOMIC TREATMENTS

Brachycorythis peitawuensis *sp. nov.*
北大武苞葉蘭 Fig. 1

Affinis *Brachycorythis galeandra* (Reichb. F.) Summerh. sed floribus viridis et singularis differt.—Typus: Yi-Fu Wang *s.n.* (holo TAI268953, Mt. Peitawu, Pingtung Co.)

Plants ca. 20 cm tall. Tuberous root ovoid, up to 2.2 cm long, 1.6 cm in diameter. Stems terete, glabrous, ca. 3 mm in diameter. Leaves sessile, fleshy, elongate-elliptic, up to 9.3 cm long, 2.3 cm wide, green but pale-green underneath, acute at apex, keeled underneath, contracted into a sheath at base and embracing stem. Inflorescence bearing a single flower arising from axillary bud; bract much greater in size than flower, elongate-elliptic, 5.6 cm long,1.8 cm wide, acute; pedicel and ovary green, 12 mm long, 3 mm wide, curved, covered with extremely minute white pubescence. Flower solitary, 2.3 cm across, almost 4 cm long including spur; perianths green, not spreading, reflexed at tips; upper sepal ovate, 18 mm long, 7 mm wide, obtuse at apex, thickened at base; lateral sepals ovate, curved, 20 mm long, 7 mm wide, obtuse at apex; petals falcate, lying closely underneath upper sepal, 18 mm long, 5.5 mm wide, obtuse; lip more or less campanulate, obovate-orbicular when expanded, side margins incurved but not meeting each other, forming a tube with an open mouth about 2.3 cm across, acute, 2.6 cm long by 3 cm wide when lip expanded, basal part produced into a compressed spur 9 mm long and 5 mm wide at base; lip disc glabrous, yellow on basal part, central lane greenish, front limb white. Column about 5 mm tall, adnate with lip; anther erect, adnate to column, staminodes obvious on both sides of column; pollinia 2, attached to a viscid disc through a wide transparent thin stipe; stigma flat, underneath rostellum.

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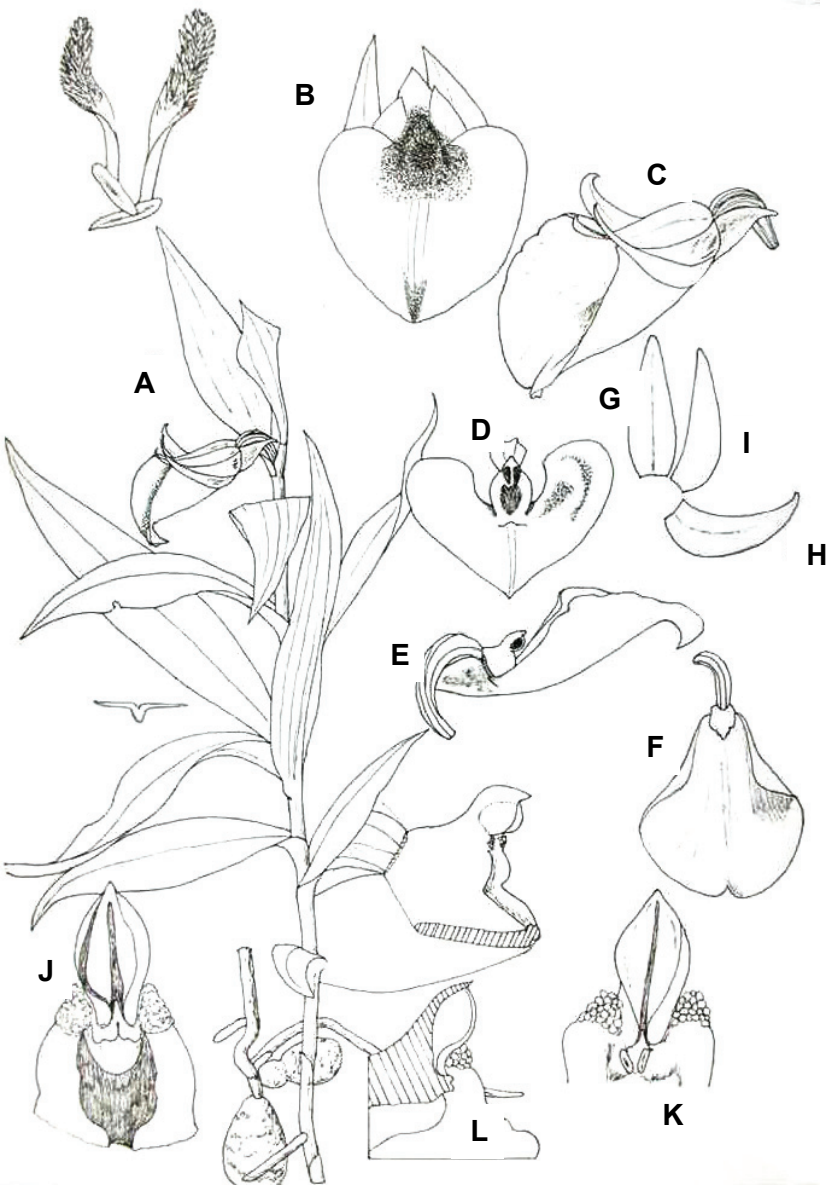


Fig. 1. ***Brachycorythis peitawuensis sp. nov.*** **A: Plant body and inflorescence. B: Front view of flower. C: Side view of flower. D: Front view of lip and column. E: Side view of flower without perianths. F: Top view of lip and column. G: Upper sepal. H: Lateral sepal. I: Petal. J: Front view of column with pollinia removed. K: Front view of column. L: Longitudinal section of column.**

Flowering time: August.

Ecology: *B. peitawuensis* grows in a broadleaf forest of Mt. Peitawu at an elevation of 1500 m.

Note: This herb was originally found by Mr. Yi-Fu Wang and Shyh-Shiarn Lin in December 2008, and flowered in cultivation recorded in August 2009. This astonishing orchid is well characterized by its single showy flower and is the second species in the genus of *Brachycorythis* recorded in Taiwan.

Bulbophyllum electrinum Seidenf. var. ***sui*** *var. nov*
長軸捲瓣蘭 Fig. 2A

Bulbophyllum electrinum var. *electrinum auct. non.* Seidenf.: Su in Q. J. Chin. Forest. 22: 20. *pl.1.* 1989.

Affinis *Bulbophyllum electrinum* Seidenf. var. *electrinum* sed sepalis lateralibus floribus pubescentibus (non glabris), et minor floribus differt.- Typus: Su 162 (holo NTUF, Chingshuiying, Taitung Co.)

This variety is named after Dr. H. J. Su. Since the publication of *B. electrinum* by Su (1989), many variations of *B. electrinum* var. *sui* have been discovered in Taiwan in terms of flower color. We consider that the

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status of *B. electrinum* of Su (1989) should be adjusted to prevent confusion. According to the original description of *B. electrinum* of Yunnan, China by Seidenfaden (1973), the flower is characterized by hairless on the margins of lateral sepals, while var. *sui* has a flower 1.8 cm long and short club-like ciliate on the lateral sepals which is also demonstrated in the line drawing of *B. electrinum* by Su (1989). Here we designate Su 162 (NTUF) from Chingshuiying as holotype. The ciliate on the lateral sepals can have some variation. For example, the plant collected from Tien-Chyr, Southern Cross-Island Highway in forests at 2,100 m. has thinner pubescence (TAI268962, Fig. 2A). Recently we have seen *B. electrinum* var. *electrinum* imported from Yunnan, China exhibited greenish yellow flower about 3 cm long. We also expect the occurrence of morphological similar plant to *B. electrinum* of China but it must be rare in Taiwan.

Bulbophyllum electrinum var. ***calvum*** *var. nov.*
無毛捲瓣蘭 Fig. 2B

Affinis *Bulbophyllum electrinum* Seidenf. var. *electrinum* sed floribus rutilus et sepalis lateralibus floribus differo exemplar differt.— Typus: Weimin Lin *s.n.* (holo TAI268955, Shouka, Southern Cross-Island Highway, Pingtung Co.)

Epiphytic. Pseudobulbs <0.3 cm apart, ovoid-globose, 7 mm in diam. Leaves solitary at apex of pseudobulbs, elliptic to oblong, up to 3.8 cm long, 2 cm wide, obtuse to retuse, cuneate at base, thickly coriaceous. Scape arising from base of pseudobulbs, 11 cm long, ca. 1 mm thick, slender; bracts ovate-lanceolate, 3.2 mm long; pedicel and ovary 10 mm long, orangish-red. Flowers 5, umbellate, orangish-red, 1.8~3 cm long; upper sepal orangish-red, concave, ovate, 4 mm long, 3 mm wide, acuminate, long ciliate especially towards apex; lateral sepals orangish-red, meeting their length except terminal 1/3, obliquely linear-lanceolate, 18~30 mm long, acuminate, glabrous on margins or sparely hirsute on upper margin at base; petals obliquely ovate, orangish-red with darker-red veins, 4 mm long, 2 mm wide, acute at apex, contracted at base, long ciliate; lip attached to tip of column foot, orangish-red but white on lower side, thickly hornlike, ca. 3 mm long, recurved from erect base, disc glabrous, shallowly grooved, with a wide groove on lower side; column yellowish, 2 mm long, with 2 slender stylids at apex; anther cap semiglobose; pollinia 2, each with unequal connate partitions.

Flowering time: May.

Ecology: This plant was found in broad-leaf forests of Shouka (壽卡), Pingtung Co. at 350 m. In nearby trees, *B. taiwaniana* and *B. hirundinis* were also found.

Var. *calvum* shows variations in flower size and shape, which suggest the possibility of hybridization between *B. taiwaniana* and *B. hirundinis.*

Notes: This new name means “bald”. Even though the margins of the lateral sepals of var. *calvum* and var. *electrinum* of China (Seidenfaden 1973) are glabrous and the flower is the same size, our new plant differs by the orangish-red flower, and the terminal part of the lateral sepals free for a length of about 1/3, while var. *electrinum* has a yellowish-green flower and touches for most of the length of the lateral sepals. In fact, terminal parts of the lateral sepals of var. *calvum* open up to about 30°. Recently we have seen another variant in the market that the flower could be smaller, 1 cm long, otherwise same as the regular var. *calvum*.

Bulbophyllum kuanwuensis var. ***luchuensis*** *var. nov.*
克森豆蘭 Fig. 2C

Affinis *Bulbophyllum kuanwuensis* Chung et Hsu var. *kuanwuensis* sed sepalis lateralibus floribus intumesco et obtusis et glabris (non pubescentibus) differt.— Typus: Wei-Min Lin *s.n.* (holo TAI256487, Luchushan, Nantou Co.)

Rhizomes long creeping, terete, stiff, 1.5~1.8 mm in diameter. Pseudobulbs arranged ca. 0.3~1.2 cm apart, ovoid-conic, pale-green, often oblique, rugose, 6~11 mm long, 6~10 mm in diameter. Leaves solitary, short-petioled, oblong, thick-coriacious, 1.5~3.0 cm long, 8~11 mm wide, cuneate at base. Scapes from base of pseudobulb, 1~2 cm long, thick; bracts elongate-triangular, 4 mm long; pedicel and ovary 6 mm long, ovary forming an angle of at least 100° with the pedicel. Flowers 4~7 in a very short raceme, umbellate, 9~10 mm long, 4 mm across, brown in the beginning of anthesis, transforming to reddish-brown and finally bright-red; upper sepal ovate, acute, reddish but veins even deeper, concave, 5 mm long, 3.5 mm wide, with long white cilia on margins, much longer towards apex (ca. 3 mm long); lateral sepals scarlet, touching the entire length and only free at end, rugose on surface, obliquely linear-lanceolate, 10 mm long, obtuse or rounded, incurved, hairless on upper and lower margins; petals obliquely elliptical, scarlet, 3.5 mm long, 1.5 mm wide, with long white cilia; lip attached to tip of column foot, scarlet, horn-like, 2.5 mm long, rounded at apex, recurved, disc shallowly grooved, also grooved on lower side; column semiterete, 2 mm tall, column-foot without appendage, upcurved. Stylids (stelidia) with a slender tooth; anther operculate; pollinia 4, in 2 pairs.

Flowering time: Flowering observed sporadically but mainly in August.

Ecology: This species grows in aggregations on trunks of conifers on the windy and chilly ridge of

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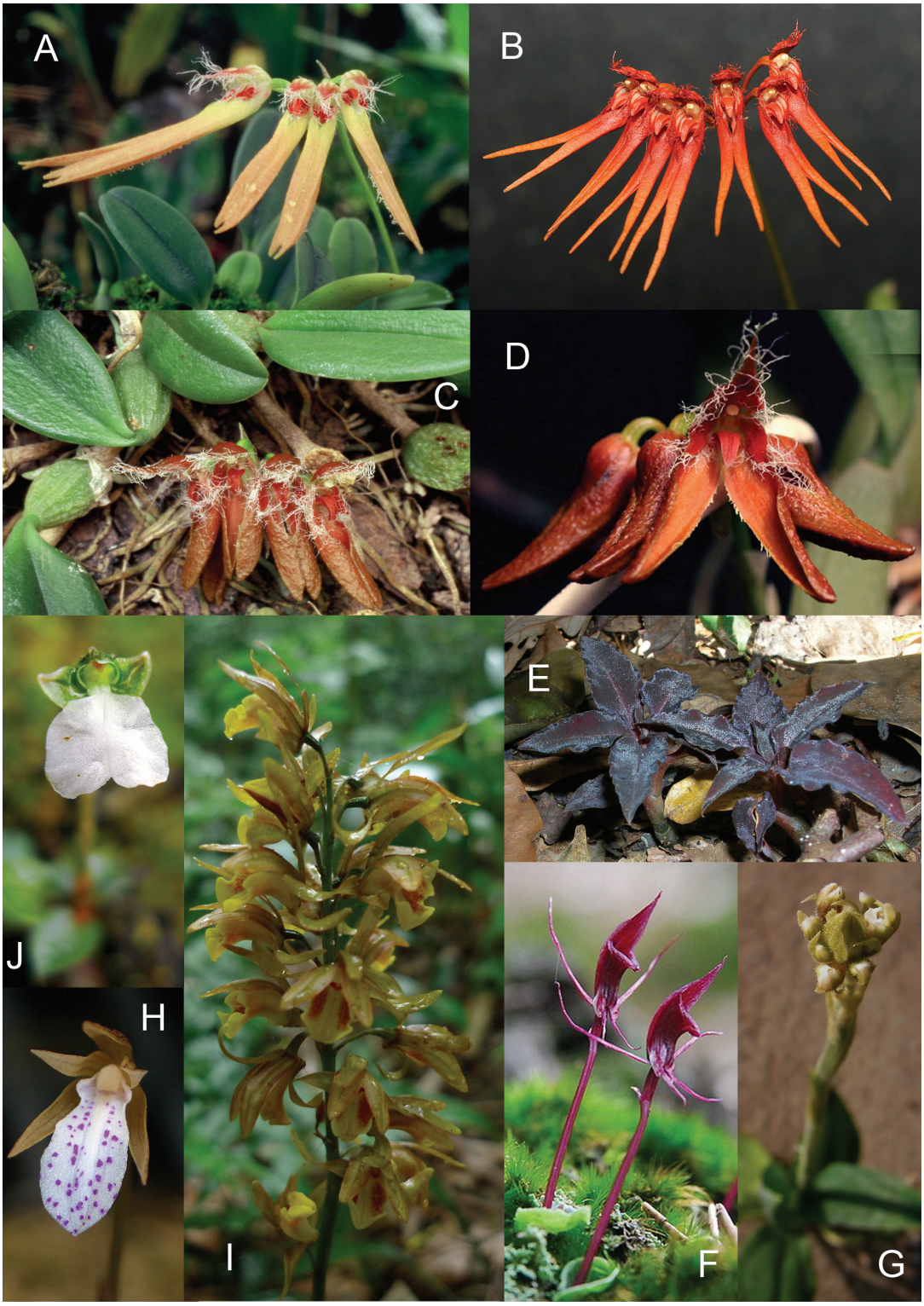


Fig. 2. Photos of new native orchids. A: *Bulbophyllum electrinum* var. *sui*. B: *Bulbophyllum electrinum* var. *calvum*. C: *Bulbophyllum kuanwuensis* var. *luchuensis*. D: *Bulbophyllum kuanwuensis* var. *rutilum* (courtesy of Mr. Hsin-An Lin). E: *Cheirostylis rubrifolius*. F: *Corybas puniceus* (courtesy of Mr. Keh-Sen Chang). G: *Erythrodes blumei* var. *aggregatus*. H: *Nervilia tahanshanensis*. I: *Tainia caterva*. J: *Vexillabium nakaianum*.

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Luchushan (鹿屈山), Nantou Co. at an elevation of 2150 m. The thick leaves of var. *luchuensis* can reach 4 x 2 cm in Kuanwu, Hsinchu Co. (Chung and Hsu, 2006).

Notes: This species was originally discovered by Mr. Keh-Sen Chang. We recognize 2 different plants from two localities included in the original publication by Chung and Hsu (2006) and designate the plant present in figure 1 of the same paper as *B. kuanwuensis*, because the description and collection site agree with the plant of figure 1 of Chung and Hsu (2006). Var. *kuanwuensis* can also be found at Luchushan (Wei-Min Lin *s.n*., TAI 256488) and its flowering time overlap that of var. *luchuensis.* The plant in figure 1 of Chung and Hsu (2006) has an acute apex and sparsely short ciliate on the margins of the lateral sepals, which differs from another plant collected at "Luqushan" (Figs. 2, 3 & 5). We name the plant in figures 3 and 5 of the same paper as a variety of *B. kuanwuensis* here. Both of these varieties have a very short scape ca. 1~1.5 cm long, but the lateral sepals of var. *kuanwuensis* have acute tips and minute white pubescence on the margins, while those of var. *luchuensis* have dilated round or obtuse tips and hairless margins. In addition, the flower of var. *luchuensis* 0.9~1 cm long while that of var. *kuanwuensis* 1.7~2.1cm.

Bulbophyllum kuanwuensis var. ***rutilum*** *var. nov.*

石仙桃豆蘭 Fig. 2D

Affinis *Bulbophyllum kuanwuensis* Chung et Hsu var. *kuanwuensis* sed sepalis lateralibus floribus patentibus et bracteis floribus crystallus forma differt.— Typus: Wei-Min Lin *s.n.* (holo TAI268961, Luchushan, Nantou Co.)

Rhizomes long creeping, terete, stiff, 1~2 mm in diameter. Pseudobulbs arranged ca. 1.0~1.5 cm apart, elongate-ovoid, often oblique, 1.5~2.0 cm long, 8 mm in diameter. Leaves solitary, short-petioled, oblong, thick-coriacious, 4~7 cm long, 1~1.5 cm wide, cuneate at base. Scape from base of pseudobulb, 1.5 cm long, slender, with several cup-shaped scales; bracts elongate-triangular, 5 mm long, cup-shaped; pedicel and ovary 8 mm long, ovary forming an angle of at least 100° with pedicel. Flowers orangish-brown, ca. 4 in a very short raceme, umbellate, 1.45 cm long; upper sepal ovate, acuminate, concave, 8 mm long, 4 mm wide, with long white cilia on margins, much longer towards apex; lateral sepals free, opened up for entire length, strongly rugose on surface, obliquely linear-lanceolate, 1.5 cm long, 3.9 mm wide, obtuse at apex, white short cilia only loosely along lower margins; petals obliquely elliptical, 4 mm long, 2 mm wide, with long white cilia; lip attached to tip of column foot, horn-like, rounded at apex, recurved, disc shallowly grooved, while deeply grooved on lower side; column semiterete, 1.5~2 mm tall, column-foot without appendage, upcurved. Stylids (stelidia) with a slender tooth; anther operculate.

Flowering time: March.

Ecology: This species is known only from Luchushan (鹿屈山), Nantou Co. at an elevation of 2150 m. It grows in aggregations on trunks and branches in a broad-leaf forest.

Notes: The name of variety refers the red color of the flower. This new plant was originally collected by Mr Hsin-An Lin. Both var. *kuanwuensis* and var. *rutilum* have a very short scape ca. 1~1.5 cm long, but the lateral sepals of var. *lutilum* spread and do not come in close contact along their length, while var. *kuanwuensis* has parallel lateral sepals which meet on the upper margins. Also var. *rutilum* differs from var. *kuanwuensis* and var. *luchuensis* in having a cup-shaped bract and much longer leaves and pseudobulbs.

Cheirostylis rubrifolius *sp. nov*

紅衣指柱蘭 Figs. 2E & 3

Affinis *Cheirostylis takeoi* (Hayata) Schltr. sed planta et folia puniceus et folia lanceolata differt.— Typus: Weimin Lin *s.n.* (holo TAI268960, Shantimen, Pingtung Co.)

Rhizomes 10 cm long, decumbent, 6 mm in diameter, reddish-brown, leafy at top. Leaves 4 or 5, linear-ovate or lanceolate, reddish-brown, 2.1 x 0.8 cm, with reticulate veins; petioles 0.5 cm long. Peduncle 8 cm long, hairy, reddish-brown, with 3 or 4 sheaths; raceme 5-flowered; bracts lanceolate, hairy outside. Flowers resupinate, reddish-brown, slightly opened; ovary 5~7 mm long, reddish-brown, hairy; sepals connate into a tube for more than 1/2 of their length, 5 mm long, hairy; petals white, obliquely falcate, about 5mm long, with slender base; lip free from column, 5 mm long, 2 mm wide at base when expanded, hypochile saccate, keeled inside, with 4 horn-like papillae within each half of sac, epichile tripartite, side lobe semiorbicular, white, midlobe oblong in outline, reddish-brown; column erect, 3 mm long; anther ovate, reddish-brown; pollinia 4, yellow, clavate; stigma 2; rostellum bifid, arms white and as long as column.

Flowering time: February

Ecology: Chingshan Village (青山村), Shantimen (山地門), Pingtung Co. at an elevation of 400 m.

Note: The specific name refers to the reddish leaves. This new plant was originally found by Mr Yi-Fu Wang and Mr Chun-Sen Hsiao in August 24, 2008, and is well characterized by the reddish-brown leaves, lanceolate leaves and connate sepals in a tube for more than half of their length.

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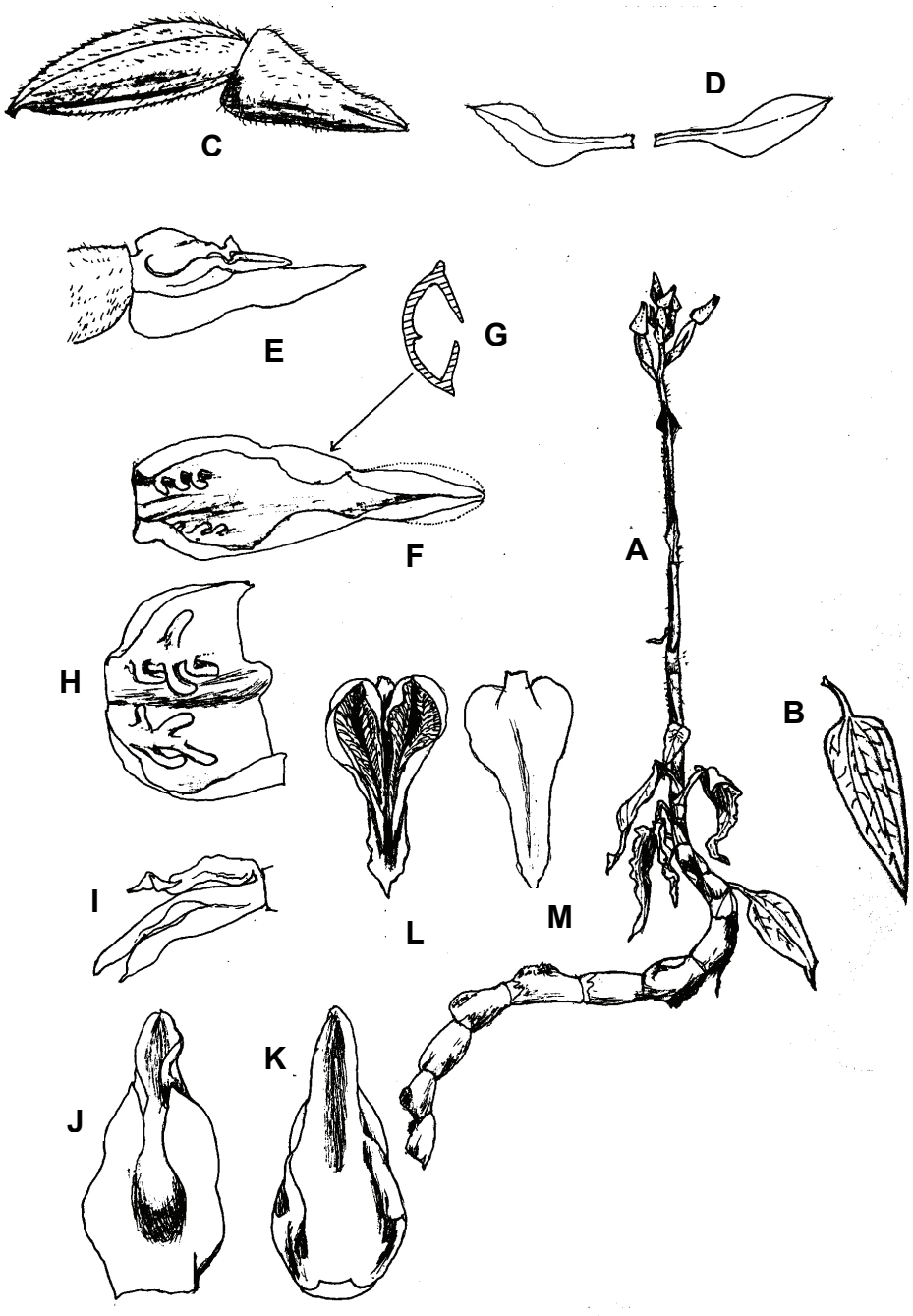


Fig. 3. ***Cheirostylis rubrifolius sp. nov.*** **A: Plant body and inflorescence. B: Lanceolate eaf. C: Side view of flower. D: Petals. E: Side view of column and lip. F: Top view of lip. G: Cross section of lip. H: Basal lip showing horn-like papillae. I: Side view of column. J: Ventral view of column. K: Top view of column. L: Ventral view of anther. M: Dorsal view of anther.**

Chiloschista parishii Seidenf. in Op. Bot. 95: 176. 1998.
寬囊大蜘蛛蘭 Fig. 4

This plant is similar to *C. segawai* in every aspect but exhibits a round sac instead of conical sac as in *C. segawai*.

Flowering time: The beginning of April.

Ecology: Taiwan: Derwern Village (德文村), Shantimen (山地門), Pingtung Co. at an elevation of 450 m.

Distribution: Burma, Thailand, Nepal, Sikkim, Bhutan, India.

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Note: This species was originally discovered by Mr. Ming-Chang Chang, Pingtung City. *C. parishii* Seidenf. of Thailand is the most similar plant we could find in the literature which also has a "round" lip sac according to the description and color photo by Seidenfaden (1988). Light-orange spots appear on sepals and petals in our plant, a situation similar to Seidenfaden's description. We tentatively name our plant *Chiloschista parishii*.

Corybas puniceus *sp. nov.* 艷紫盔蘭 Fig. 2F

Species nova subsimilis *Corybas taiwanensis* T.P.Lin et S.Y.Leu sed sepalis dorsalis floribus superus monstro et folia minor et inflorescentia longus differt.－Typus: Weimin Lin s. n. (holo TAI 268952, Shyrpishan, Yunlin Co.).

Plant including flower 2.5~5 cm tall. Tuberoids white, ovoid, usually < 3 mm in diameter, minutely scaly-pilose. Rhizomes erect, tapering downward, pilose, the collar (the region at the root/stem interface located directly below the stem bract) is often slightly swollen. Stem usually 1~ 2 cm long having a tubular stem bract at base, buried in debris, glabrous. Leaves cordate, usually 1 cm in diameter, cuspidate at apex, entire, pale-green and not showy on upper surface, while whitish-green and showy on lower surface, glabrous on both sides, central vein on lower surface slightly keeled and whitish. Peduncle purplish-red, varying 2~4.5 cm long. Pedicel and ovary purplish-red, 4 mm long, cylindrical. Flowers solitary, purplish-red, ca. 1.1 cm long and 1.3 cm across; bracts purplish-red, linear-lanceolate, 3.5 mm long, acuminate; upper sepal concave and arched on the upper part of lip, spatulate, 10 mm long, 3 mm wide, acute; lateral sepals not connate at base, filiform, 5.5 mm long, base dilated ca. 0.7 mm wide; petals filiform, usually 10 mm long, spreading. Lip tube-like, lower limb margins incurved and overlapping to embrace column, anterior limb recurved downward forming a curved tube with an opening about 3.8 mm across and 6 mm long, minutely serrate along front margins, rhombate-trianglular in outline and 6 x 7.2 mm when lip expanded; disc dark purplish-red, glabrous, outer surface of lip with many darker-red markings, basal part forming 2 white horn-like spurs; spurs 1 mm long. Column dark-red, forming a protruding callus-like structure in front, callus tinged with white; anthers adnate on column, anther connective membranous, covering pollinia inside; pollinia 4, in 2 pairs, powdery, yellow; rostellum circular; stigma slightly protruding.

Flowering time: July.

Ecology: This helmet orchid has so far only been found in Shyrpishan (石壁山), Yunlin Co. at an elevation of 1200 m, and grows on mossy slopes in close proximity to bamboo plantations.

Note: The specific name refers to the violet-red flower. *C. puniceus* was originally discovered by Mr You-Chi Luo, Hsin-An Lin and Keh-Sen Chang in July 2008 but no flower, and they found flower in the middle of July 2009. The species differs from the other 3 species of *Corybas* in Taiwan by the up-wardly pointing upper sepal, much-smaller leaf, and longer scape.

Erythrodes blumei var. ***aggregatus*** *var. nov.* 密花小唇蘭 Fig. 2G

Affinis *Erythrodes blumei* (Lindl.) Schltr. var. *blumei* sed profundus flores appono minutis rachi differt.－Typus: Weimin Lin s. n. (holo TAI 268959, Minghaishan, Lieukuei, Kaohsiung Co.).

Terrestrial. Rhizome creeping at base, ascending at top and forming a stem 5 cm tall, 0.7 cm in diameter, green. Leaves 4~6, densely arranged, long-petiolated; blade obliquely elliptic-ovate, up to 8 cm long, 3.6 cm wide, acute, entire but with a few waves at margins, green, glabrous, mainly 3-nerved; petioles 2.5~3 cm long, sheathed at base. Inflorescence terminal, 16 cm long, green; peduncle thick, stiff, covered with dense white hairs, with 4 or 5 sheathed bracts; raceme very short < 2 cm long; floral bracts up to 10 mm long, loosely hairy outside. Flowers not resupinate, 7 mm across; ovary hairy; sepals free, hairy outside, yellowish-brown to greenish-brown, turning white near tip, upper one oblong, boat-shaped, 4.5 x 2.5 mm, lateral ones elliptic-ovate, oblique, 5 x 3 mm; petals abutting upper sepal and forming a hood, falcate after flattened, 4.3 x 2 mm, white; lip free of column, greenish-brown, 5~6 mm long, oblong in outline when folded out, saccate at base containing 1 callosity on each side, 3-lobed, lateral lobes thickened, smooth, middle lobe reflexed, white, circular, acute at apex; column erect, 3.3 mm long; anther lying on clinandrium and short-stalked; rostellum evident, bifid; pollinia 2.

Flowering time: July.

Ecology: So far only found at Minghaishan (鳴海山), Liouguei, Kaohsiung Co. at an elevation of 1200 m.

Note: Name of variety refers to the crowding of the flower. This species is characterized by very dense flowers on a short thick rachis and a sac-like base of the lip containing 1 callosity on each side which has never been reported for *E. formasana* or *E. blumei.*

Nervilia tahanshanensis *sp. nov.* 大漢山脈葉蘭 Fig. 2H

Affinis *Nervilia. lanyuensis* Ying sed sepalis patentibus et sepalis aquilus differt.－Typus: Weimin Lin s. n. (holo TAI 269081, Tahanshan, Pingtung Co.).

Plant including inflorescence <10 cm tall. Corms ovoid

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Table 1. The differences between *Oberonia pumilum* var. *pumilum* and var. *rotundum*.

Characters	var. *pumilum* (TAI268951)	var. *rotundum* (TAI268956)
Inflorescence	ca. 4.5 cm tall, thicker	ca. 3 cm tall, slender
Flower	green	greenish-brown
Flower	loosely arranged	densely arranged
Bract	as long as ovary and pedicel	as long as flower
Lip	bi-lobed	oblong

or nearly so, < 1 cm across. Stem short. Leaves petiolate, polygonal-ovate, up to 5.3 cm wide and 3.6 cm long, acute, cordate at base, 5- or 7-veined, shiny and dark-green on upper surface, pale-green on lower surface, narrowly grooved along major veins, wavy on margin or not, leaf emerges only after anthesis; petiole reddish-brown, about 3.5~5 cm long. Peduncle slender, with reddish-brown markings, with several tubular sheaths; pedicel and ovary 4.5 mm long. Flowers solitary or two, resupinate, perianth spreading, 1.8 cm long, anthesis lasting for 7 ~14 days, flower pendent thereafter; sepals brown, especially parallel veins, lanceolate, 18 mm long, 2.5 mm wide, acuminate; petals similar to sepals but slightly narrower, 17 mm long, 2 mm wide. Lip white with dark markings, 18 mm long, 5 mm wide, 3-lobed, side lobes embracing column, epichile and hypochile more or less same length, inner surface of hypochile covered with dense white hairs, epichile gradually curving downwards, margins in front undulate, acute, disc with 1 longitudinal low keel. Column slender, white, 8.5 mm long, not dilated, lower side covered with white hairs; anther cucullate; pollinia 4, without viscidium; stigma semiorbicular.

Flowering Season: March.

Ecology: This species is restricted to Tahanshan, Pingtung Co., southern Taiwan at an elevation of about 1050m.

Note: Usually most species of *Nervilia* flash prominent; individual flowers of *N. tahanshanensis* have much longer life span. This new species is closely related to *N. lanyuensis* of Lanyu (Orchid I.) but differs by the much longer flower and lip, acute apex of the lip, linear markings on the sepals, and the less-wavy leaf margins. In fact, the mid-lobe of *N. tahanshanensis* has an oblong shape while that of *N. lanyuensis* orbicular with a retuse apex.

Oberonia pumilum (Fuk. ex Chen & Lang) S. S. Ying ex Ormerod var. ***rotundum*** *var. nov.*
圓唇小騎士蘭 Fig. 4 & 5

Affinis var. *pumilum* sed labello floribus oblongo differt.—Typus: Wei-Min Lin s. n. (holo TAI 268956, between Lungshi and Lungchien, Hualien Co.).

A rhizomatous *Oberonia*. Similar to var. *humilum* in most aspects. Plant including inflorescence ca. 4.5 cm tall. Rhizome distinct, creeping, branching, covered by short sheaths, sheaths tubular. Plants arranged ca. 0.6 cm apart. Leaves 3~5, laterally compressed, distichous; blade thick, fleshy, ovate or ovate-lanceolate, up to 13 mm long, 5 mm wide, apex acute. Inflorescence 2~3 cm long, with numerous small closely arranged flowers; anthesis begins from terminus of spike; bracts ovate, 1.8 mm long, apex acute. Flowers greenish-brown, 1.2~1.5 mm in diameter, not resupinate, not arranged in a whole-like; lateral sepals reflexed, 0.8 mm long. Lip curved forward, oblong without a lobe, 1.0 mm long, 0.6 mm wide, greenish-brown, base slightly surrounding column, margins obscurely erose-denticulate. Column short; anther operculate, broadly ovate, 2-celled; pollinia 2.

Flowering time: Both varieties of *Oberonia pumilum* flower in May.

Ecology: Found between Lungshi (龍溪) and Lungchien (瀧澗), Hualien Co. at an elevation of 900 m in broadleaf forests.

Note: The specific name refers to the round apex of the lip. Table 1 is presented to show the differences between var. *pumilum* and var. *rotundum*.

Tainia caterva *sp. nov.* 密花杜鵑蘭 Fig. 2I

Affinis *Tainia shimadai* Hayata sed foliis latioribus (ad 25 vs. 4.8 cm) et lobo medius labello late rhombicis differt. — Typus: Liang-Rur Chang *s. n.* (holo TAI 268957, Jurluhshan, Taipei Co.).

Terrestrial. Rhizome repent. Pseudobulbs elongate-ovoid or nearly cylindrical, 3~3.5 cm tall, 14 mm thick, glabrous, dark-purple, articulates with petiole. Leaves elongate-elliptic, 25 x 4.8 cm, acute, mainly 3-nerved, tapering into a petiole up to 5 cm long. Inflorescence produced from rhizome, 32 cm tall, as long as leaves, enclosed by 2 separate tubular sheaths below; scape green, stout; raceme about 5~6 cm long, many-flowered, dense. Bracts linear-lanceolate, 4~5 mm long. Pedicel with ovary greenish-brown, about 1 cm long, arcuate. Flowers ca. 16, spreading, 2.4 cm across; sepals ocher-brown; upper one linear, 15 x 2.8 mm; lateral ones linear-falcate, 13 x 3 mm, jointed to column-foot, forming a short mentum; petals ocher-brown, linear-falcate, 15 x 3.5 mm, meeting at base and arched on column. Lip yellow, 11 mm long and 10 mm wide when folded out, with minute reddish-brown dots on each side, flabellate from a cuneate base, 3-lobed at apical 1/4; side lobes erect, deltoid, curved inside at margin; midlobe transversely elongate-rhombate, 3 x 8 mm, obtuse at apex, curved

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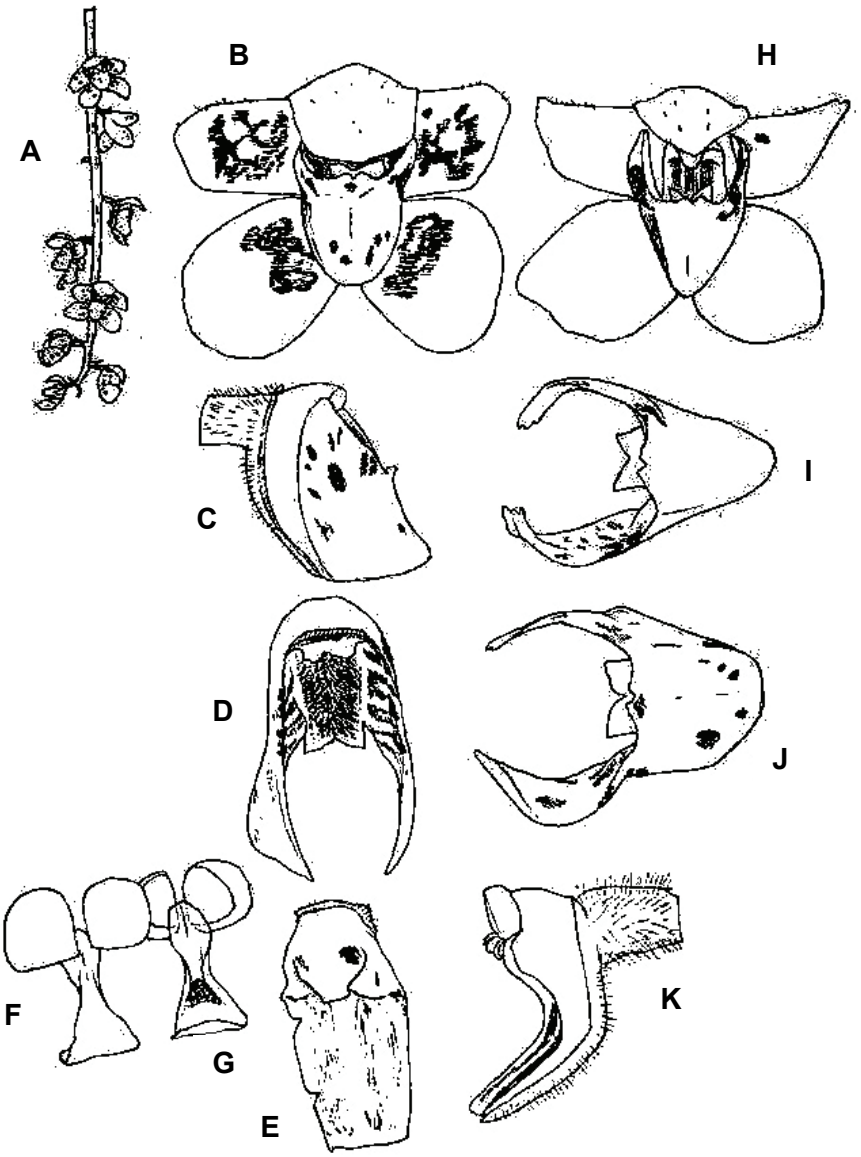


Fig. 4. *Chiloschista parishii* Seidenfaden. A: Inflorescence. B: Front view of flower. C: Side view of lip and column. D: Top view of lip. E: Top view of column and column-foot. F: Top view of pollinia and stipe. G: Ventral view of pollinia and stipe. H: Front view of lip. I: Side view of column and column foot. J: Front view of flower of *Chiloschista segawai*. K: Front view of lip of *C. segawai*.

inward the margins; disc with 3 keels, running from base to tip of lip, side keels dilated in middle and twisted, middle keel indistinct. Column 7 mm long, curved, light-green, base with a short foot; anther cap with 2 reddish-brown horns; pollinia 8, laterally compressed, without a stipe.

Flowering Season: End of May.

Ecology: This species was originally collected by Mr Liang-Rur Chang and Ms Jin-Jy Wu, and is known only from Jurluhshan (逐鹿山), Taipei Co. at an elevations of 800 m.

Notes: Living up to its name, this variety has packed flowers. This species is closely related to *T. shimadai* but differs by the wider leaves, much-densee flowers in a shorter rachis and the lip pattern. In the Jurluhshan, *T. caterva* forms a small population and grows on steep slope. In the nearby, narrow-leaf *Tainia* can also be found which we think might be the *T. shimadai.*

Vexillabium nakaianum Maekawa in J. Jap. Bot. xi: 458-460. 1935. 精巧旗唇蘭 Fig. 2J

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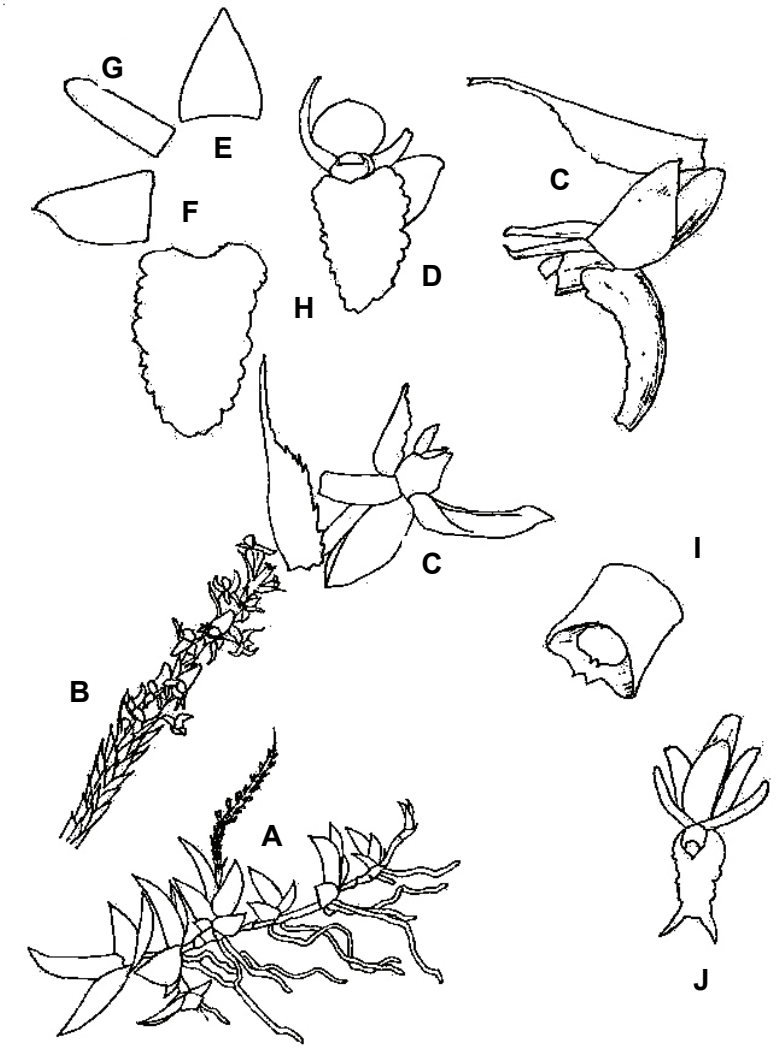


Fig. 5. *Oberonia pumilum* var. *rotunda var. nov.* A: Plant body and inflorescence. B: Inflorescence showing blossom starting from the top. C: Side view of flower and bract. D: Front view of flower. E: Upper sepal. F: Lateral sepal. G: Petal. H: Lip with round apex. I: Column showing the anther cap. J: A flower of *Oberonia pumilum* var. *pumilum*.

Close to *Vexillabium integra* Fuk. Terrestrial herbs. Rhizome dilated slightly at base of internode. Plant and inflorescence usually 2.5 to 5 cm tall. Stem terete, glabrous, bearing 2 or 3 leaves. Leaves ovate, acute, rounded at base, petiolate; blade up to 7 mm x 1.1 cm, greenish-brown, shiny, reddish-brown underneath. Inflorescence slender, loosely hairy, usually bearing a single or rarely 2 flowers. Bracts ovate-lanceolate, reddish-brown, 3.5 by 2 mm, hairy outside. Ovary pedicellate, about 5 mm long, reddish-brown, hairy. Scape slender, hairy. Flower reddish-brown tinged light-green, 5 mm across, forming a right angle to pedicellate ovary; sepals tubular-campanulate, free, but lateral sepals joined for 1/3 its length and enclosing base of lip, loosely hairy, reddish tinged green; upper sepal 3.5 mm long, acute; lateral sepals including spur about 6 mm long, fused only on basal part, basally produced into a shallowly bilobed pouch; petals curved, 3 mm long, 1.5 mm wide, white with green or greenish-brown markings, glabrous, notched in front. Lip 7 x 6 mm when expanded; hypochile with a slightly bilobed saccate spur, 1 mm long, containing a narrow gland in each 1/2, forked at tip, mesochile narrow, 3.5 mm long, epichile bilobed, lobes widening from base and more or less square, white, 3.5 mm long, 6 mm across. Column 2 mm long, rounded; anther cap ovate, adnate to column; pollinia 4, powdery, 2 pairs; rostellum shallowly bilobed, twisted.

Flowering time: End of April.

Ecology: Found in Yolo Village (養老部落), Hsinchu Co. at an elevation of 1100 m on a mossy slope of a broadleaf forest (Wei-Min Lin *s. n.* TAI 268958, Yolo Village, Hsinchu Co.).

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Distribution: Japan, Korea.

Note: This newly recorded species is closely related to *V. integra* in general morphology but differs from it in the much smaller plant/leaves size, and the single but larger flower. Also the slightly dilated rhizome and gland pattern in the spur exhibit difference between these 2 species.

Flickingeria parietiformis (J. J. Smith) A. D. Hawkes in Orch. Weekly 2: 457. 1961. 士富暫花蘭

Flickingeria shihfuana Lin & Huang in Taiwania 50 (4): 1-6. 2005. *syn. nov.*
Dendrobium parietiforme J.J.Smith, in Icon. Bogor. 2: 92. 1903.

Distribution: Sulawesi, Luzon Island, the Philippines

Note: Basically our plant is same as that described by O'Byrne and Vermeulen (2005) except the size either the leaf or flower of Sulawesi are larger.

Corybas taliensis T. Tang et F. T. Wang in Acta Phytotax. 1 (2): 185-186. 杉林溪盔蘭

Corybas shanlinshiensis W.M. Lin, T.C. Hsu and T.P. Lin in Taiwania 52: 281-286. 2007. *syn nov*

Distribution: Yunnan, China.

Note: According to the color photo which was published by Jin et al. (2009), *C. taliensis* has exactlysame morphology of *C. shanlinshiensis*, especially the fusion of basal part of lateral sepals and red concentric markings of lip. When we go to the original description of *C. taliensis*, that basically agrees with the *C. shanlinshiensisi*, except *C. taliensis* of Yunnan has a slightly smaller flower size. For example, lateral sepal and petal has a size about 14 mm and 18 mm in *C. shanlinshiensisi*, respectively, while they are both 8.5 mm long in *C. taliensis*.

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臺灣新發現的野生蘭 (三)

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摘要：本文介紹 10 種臺灣新發現的野生蘭 (北大武芭葉蘭、無毛捲瓣蘭、克森豆蘭、石仙桃豆蘭、紅衣指柱蘭、艷紫盔蘭、密花小唇蘭、大漢山脈葉蘭、圓唇小騎士蘭、密花杜鵑蘭)，二新紀錄種 (精巧旗唇蘭、寬囊大蜘蛛蘭) 與三個新學名 (長軸捲瓣蘭、杉林溪盔蘭、士富暫花蘭)。

關鍵詞：野生蘭、芭葉蘭屬、豆蘭屬、指柱蘭屬、盔蘭屬、小唇蘭屬、脈葉蘭屬、莪白蘭屬、杜鵑蘭屬。

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