

彩云兜兰及其近缘种的研究

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Notes on *Paphiopedilum wardii* and its related species

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Abstract The relationships between *Paphiopedilum wardii* and its related species are briefly discussed. Two new species: *Paph. burmanicum* J. Y. Zhang et Z. J. Liu and *Paph. brevilabium* Z. J. Liu et J. Y. Zhang are described and illustrated. A key to the five species treated is provided.

Key words *Paphiopedilum wardii*; *Paph. burmanicum*; *Paph. brevilabium*; *Paph. sukhakulii*; *Paph. microchilum*; New species

摘要 简要讨论了彩云兜兰及其近亲种的亲缘关系;描述了两个新种:缅甸兜兰 *Paphiopedilum burmanicum* J. Y. Zhang et Z. J. Liu 和短唇兜兰 *Paphiopedilum brevilabium* Z. J. Liu et J. Y. Zhang; 并提供了一个图版和有关 5 个种的分种检索表。

关键词 彩云兜兰; 缅甸兜兰; 短唇兜兰; 苏氏兜兰; 玲珑兜兰; 新种

在兜兰属 *Paphiopedilum* 的国产种类中,彩云兜兰 *Paph. wardii* 是一个珍稀种。《中国植物志》第 17 卷(陈心启,1999)中曾记载该种也产于我国云南西南部,但未指明具体地点。此种的模式标本是采自缅甸北部(Putao 与 Nam Tamai 之间),而后在英国 Kew 园开花的栽培植物。据 P. Cribb(1998)称,欧洲有许多此种栽培植物,均认为是来自中国。陈心启亦认为中国云南西部有此种的野生种群。但均未能证实。直到最近,才有人声称从云南墨江与保山一带采回了野生植株,但尚有待于我们实地调查,予以证实。

V. Summerhays (1932)在发表彩云兜兰时并不认为该种是一个杂种,但后来日本人 Karasawa (1982)认为是一个杂种,亦即秀丽兜兰 *Paph. venustum* (Wall. ex Sims) Pfitz. 与苏氏兜兰 *Paph. sukhakulii* Schoser et Senghas 之间的杂种。此观点得到 G. Braem (1988)的赞同。实际上,并没有确切的证据支持此说,也未得到 P. Cribb (1998,1987)和陈心启(1999)等人的认可。秀丽兜兰产于印度东北部至我国西藏东南部,而苏氏兜兰则产于泰国北部,两者相距甚远,其地理障碍恐怕昆虫媒介是难以飞越的。

在已知的兜兰属植物中,与彩云兜兰关系最为密切的只有苏氏兜兰和最近发表的玲珑兜兰 *Paph. microchilum* Z. J. Liu et S. C. Chen。本文描述的两个新种:缅甸兜兰 *Paph. burmanicum* J. Y. Zhang et Z. J. Liu 和短唇兜兰 *Paph. brevilabium* Z. J. Liu et J. Y. Zhang 亦应加入此亲缘群。这 5 个种的共同特征是:1. 中萼片与合萼片(或侧萼片)均为淡绿白色,有绿色的纵脉纹;2. 花瓣近矩圆形,密布紫色斑点,边缘有紫色的刚毛状缘毛;3. 子房绿色,有粗的紫色纵条纹;4. 唇瓣多少有紫斑点或斑点密布而变为紫色;5. 退化雄蕊半月

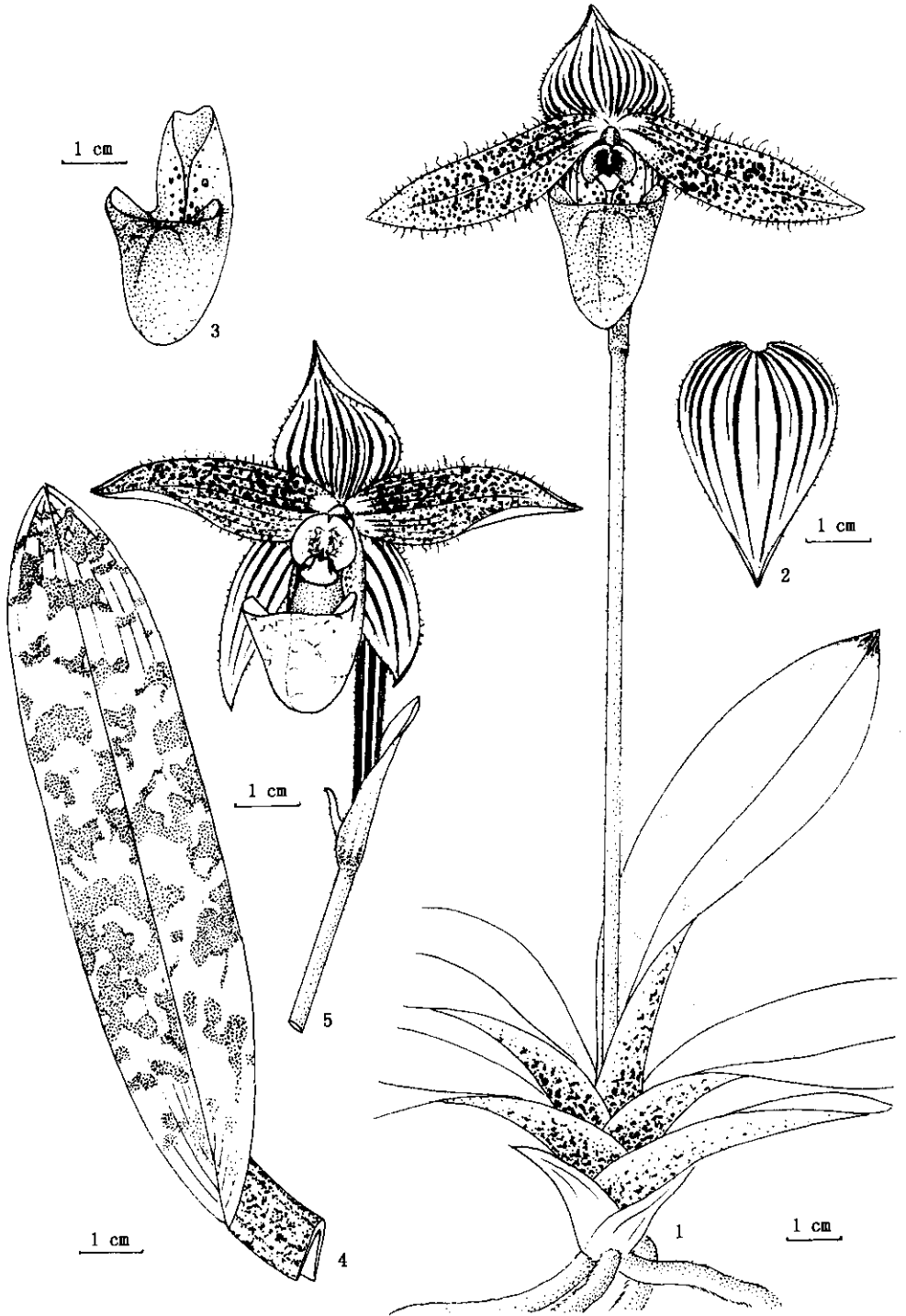


图1 1~3. 缅甸兜兰 1. 带花植株; 2. 合萼片, 正面观; 3. 唇瓣; 4~5. 短唇兜兰 4. 叶; 5. 花。
 Fig. 1 1~3. *Paphiopedilum burmanicum* J. Y. Zhang et Z. J. Liu 1. Flowering plant; 2. Synsepal, front view; 3. Lip; 4~5. *Paph. brevitabium* Z. J. Liu et J. Y. Zhang 4. Leaf; 5. Flower.

形,在前方凹缺处有短尖头。而秀丽兜兰虽然与此也有亲缘关系,但花瓣明显不同,唇瓣亦有较大的差别,不应属于这个亲缘群。

本文所论述的5个近亲种可检索如下:

1. 叶6~8枚,上表面有纵横网格斑,近叶尖端纵斑纹尤为明显;唇瓣较小,长2.7 cm;囊两侧的耳向外平展 5. 玲珑兜兰 *Paph. microchilum*
1. 叶3~5枚,上表面无明显网格斑或仅有横网格斑;唇瓣较大,长3 cm以上;囊两侧的耳直立。
 2. 叶的背面淡绿色,无紫色斑点;中萼片先端两侧内卷而呈尾状 3. 苏氏兜兰 *Paph. sukhakulii*
 2. 叶的背面多少具紫色斑点或斑纹;中萼片先端渐尖,不为尾状。
 3. 叶较狭小,长8~13 cm,宽2~3 cm;唇瓣的柄(爪)长于兜,囊的长度与宽度相等 4. 短唇兜兰 *Paph. brevilabium*
 3. 叶较大,长10~20 cm,宽(3~)4~5.5 cm;唇瓣的柄(爪)短于囊,囊的长度明显超过宽度。
 4. 叶的上表面有明显的深浅蓝绿色网格斑,下表面有较密的紫色斑点与斑纹;唇瓣的囊近椭圆形或倒卵状椭圆形,近末端处仅略狭于上部 1. 彩云兜兰 *Paph. wardii*
 4. 叶的上表面无明显网格斑,下表面仅在下半部有较密的紫色斑点,而上半部较少或不明显,至少下部的老叶如此;唇瓣的囊近倒卵形,近末端处明显较上部狭窄 2. 缅甸兜兰 *Paph. burmanicum*

1 彩云兜兰

Paphiopedilum wardii Summerh. in Gard. Chron. Ser. 3, 92: 446. fig. 218. 1932; et Curtis' s Bot. Mag. 160: t. 9481. 1937; Karasawa, The Genus *Paphiopedilum* 228. 1982; Cribb, The Genus *Paphiopedilum* 209. 1987, et 388. 1998; Bream, *Paphiopedilum* 185. 1988; S. C. Chen & Z. H. Tsi, The Orchids of China 126. 1998; S. C. Chen, Z. H. Tsi & Y. B. Luo, Native Orchids of China in Colour 340. 1999; S. C. Chen in Fl. Reip. Pop. Sin. 17: 70. pl. 8(4). 1999. TYPE: North Burma (Myanmar), Kingdon Ward, cult. Royal Botanic Gardens Kew (holotype, K!)

叶3~5枚,狭椭圆形,长10~20 cm,宽4~5.5 cm,上表面具明显蓝绿色网格斑,背面有较密集的、由紫色斑点组成的斑纹。花苞片具缘毛;中萼片长4~5 cm,宽2.5~3 cm;合萼片长3.5~4.5 cm,宽2~2.5 cm;花瓣长5~6.5 cm,宽约1.5 cm;唇瓣的囊近椭圆形或倒卵状椭圆形,近末端处仅略变狭,长2.5~3 cm,宽约2 cm。花期12月至次年3月。

产缅甸北部(模式标本产地)和我国云南西南部墨江与保山一带。海拔1200~1700 m,生于林下多石之地。

2 缅甸兜兰 新种 图1: 1~3

Paphiopedilum burmanicum J. Y. Zhang et Z. J. Liu, sp. nov. Fig. 1: 1~3

Species nova *Paphiopedilo wardii* Summerh. similis, sed foliis supra atroviridibus et non vel vix tessellatis, sacco labelli subobovato differt.

Terrestre. Folia 3~4, anguste oblongo-elliptica, 9~13 cm longa, 3~4.5 cm lata, supra atroviridia, non vel vix tessellata, infra laxe purpurato-punctata plerumque in dimidio inferiore; petiolus 2~2.5 cm longus, conduplicatus. Scapus cum flore 20~22 cm longus, atropurpuratus, pubescens, uniflorus; bractea subovata, 2~2.3 cm longa, viridula, plus minusve purpurato-striata,

extus pilosa secus costam, ciliata; pedicellus cum ovario 4.5 ~ 5 cm longus, viridis et longitudinaliter purpurato-striatus, puberulus; sepalum intermedium subovato-lanceolatum, concavum, 3.8 ~ 4.2 cm longum, 2.8 ~ 3 cm latum, utrinque glabrum, albido-viridulum et longitudinaliter viridi-striatum; synsepalum ei intermedio simile, sed leviter angustius; petala anguste suboblunga, 4.6 ~ 4.9 cm longa, 1.1 ~ 1.2 cm lata, pilosa prope basin anteriorem, margine purpurato-setoso-ciliata, viridula et dense purpurato-punctata; labellum ca. 4 cm longum, sacco subobovato, ca. 2.5 cm longo, 1.5 cm lato in medio, viridulo et dense purpurato-punctato, auriculis erectis; staminodium ex purpurello viridulum, ca. 7 mm longum, 10 mm latum, mucronatum in sinu apicis. Fl. Jan. - Feb.

Myanmar. without precise locality, cultivated plant, 2001-02-08, Z. J. Liu 21022 (holotype, here designated, in Herbarium, Shenzhen City Wutongshan Nurseries).

地生植物。叶3~4枚,狭矩圆状椭圆形,长9~13 cm,宽3~4.5 cm,上面深绿色,不具或近于不具网格斑,背面尤其下半部疏被紫色斑点;叶柄长2~2.5 cm,对褶。花萼连花长20~22 cm,暗紫色,被短柔毛,具1花;花苞片近卵形,长2~2.3 cm,绿色,多少具紫色条纹;背面沿中脉被长柔毛;边缘具缘毛;花梗和子房长4.5~5 cm,绿色并具紫色纵条纹,被细柔毛;中萼片近卵状披针形,凹陷,长3.8~4.2 cm,宽2.8~3 cm,两面无毛,淡绿白色并具绿色纵条纹;合萼片与中萼片相似,但稍狭;花瓣近狭矩圆形,长4.6~4.9 cm,宽1.1~1.2 cm,近内表面基部具长柔毛,边缘具紫色刚毛状缘毛,淡绿色并有紫色密斑点;唇瓣长约4 cm;囊近倒卵形,长约2.5 cm,中部宽1.5 cm,淡绿色并具紫色密斑点;耳直立;退化雄蕊淡绿色并有紫色晕,长约7 mm,宽10 mm,前方湾缺处具短尖头。花期1~2月。

本新种与彩云兜兰 *Paph. wardii* 相近,但叶上面深绿色,不具或几乎不具网格斑,唇瓣的囊近倒卵形,可以区别。

产缅甸,无详细地点与生境。模式标本系栽培植物。

3 苏氏兜兰

Paphiopedilum sukhakulii Schoser et Senghas in *Die Orchidee* 16: 110, 224. 1965; et in *Orchid Dig.* 31: 316. 1967; Cribb, *The Genus Paphiopedilum* 207. 1987, et 385. 1999. TYPE: Thailand, Phu Lang Mountain, cult. Heidelberg Botanic Garden, Sukhakul s. n. (holotype, HEID!)

叶3~4枚,狭矩圆状椭圆形,长达13 cm,宽3~4.5 cm,上面有明显的深浅绿色网格斑,背面淡绿色,无紫色斑点。花苞片边缘具缘毛;中萼片长3.8~5.4 cm,宽2.6~4.4 cm;合萼片长3.4~4.2 cm,宽1.6~2.6 cm;花瓣长5.4~7.3 cm,宽1.5~2.4 cm;唇瓣的囊近倒卵形,长4.6~6.1 cm,宽2.3~3.2 cm。花期9~10月。

产泰国北部;海拔达1000 m,生于腐殖质丰富的沙质壤土上。模式标本系引入德国的栽培植物,采自泰国北部。

4 短唇兜兰 新种 图1: 4~5

Paphiopedilum brevilabium Z. J. Liu et J. Y. Zhang, sp. nov. Fig. 1: 4~5

Species nova *Paphiopedilum wardii* Summerh. proxima, a quo differt foliis minoribus 8~13 cm longis 2~3 cm latis, bractea vix ciliata, sacco labelli 1.8~2 cm longo, ca. 2 cm lato in medio

leviter vel vix latiore quam longiore.

Terrestre. Folia 3 ~ 5, anguste suboblonga, 8 ~ 13 cm longa, 2 ~ 3 cm lata, supra pallido-viridi- et atroviridi-tessellata, infra purpurato-punctata praesertim in dimidio inferiore; petiolus 2 ~ 2.5 cm longus, conduplicatus. Scapus cum flore 7 cm longus, atropurpuratus, puberulus, uniflorus; bractea ovato-oblonga, ca. 3 cm longa, 1.8 cm lata, viridula et purpurato-punctata, extus puberula, vix ciliata; pedicellus cum ovario ca. 5 cm longus, viridulus et late purpurato-striatus, puberulus; sepalum intermedium subovato-lanceolatum, ca. 3.9 cm longum, 1.9 cm latum, intus laxissime puberulum in dimidio inferiore, albido-viridulum et longitudinaliter viridi-striatum; sepala lateralia duo, separata, lanceolata, ca. 3.7 cm longa, 1 cm lata, colore ei intermedio similia; petala anguste suboblonga, 3.9 ~ 4.1 cm longa, ca. 1.2 cm lata, viridula et dense purpurato-punctata vel plus minusve purpurascens, laxe pilosa prope basin interiorem, purpurato-setoso-ciliata; labellum ca. 3.7 cm longum, sacco late obovato, 1.8 ~ 2 cm longo, 2 cm lato in medio, viridulo et plus minusve purpurato-punctato, auriculis erectis; staminodium sublunatum, ca. 8 mm longum, 10 mm latum, albido-viridulum et viridi-signatum, mucronatum in sinu apicis. Fl. Jan. - Feb.

China. Yunnan: without precise locality, cultivated plant, 2001-02-07, Z. J. Liu 21023 (holotype, here designated, in Herbarium, Shenzhen City Wutongshan Nurseries).

地生植物。叶3~5枚,近狭矩圆形,长8~13 cm,宽2~3 cm,上面有深浅绿色相间的网格斑,背面尤其在下半部有紫色斑点;叶柄长2~2.5 cm,对摺。花萼连花长17 cm,深紫色,被细柔毛,具1花;花苞片卵状矩圆形,长约3 cm,宽1.8 cm,淡绿色并具紫色斑点,背面被细柔毛,几不具缘毛;花梗和子房长约5 cm,淡紫色并具紫色粗条纹,被细柔毛;中萼片近卵状披针形,长3.9 cm,宽1.9 cm,内表面下半部被极疏的细柔毛,淡绿白色并具绿色纵条纹;侧萼片2枚,分离,披针形,长约3.3 cm,宽1 cm,与中萼片的色泽相似;花瓣近狭矩圆形,长3.9~4.1 cm,宽1.2 cm,淡绿色并具紫色密斑点或变为紫色,内表面近基部疏生长柔毛,边缘具紫色刚毛状缘毛;唇瓣长约3.7 cm;囊宽倒卵形,长1.8~2 cm,中部宽2 cm,淡绿色并多少有紫色斑点;耳直立;退化雄蕊近半月形,长约8 mm,宽10 mm,淡绿白色,有绿色斑,前方湾缺处具短尖头。花期1~2月。

本新种与彩云兜兰 *Paph. wardii* 有亲缘关系,区别点在于本新种叶较小,长8~13 cm,宽2~3 cm,花苞片几不具缘毛,唇瓣的囊长1.8~2 cm,中部宽2 cm,宽度略超过长度或近相等。

产我国云南,无详细地点与生境。模式标本系栽培植物。

5 玲珑兜兰

Paphiopedilum microchilum Z. J. Liu et S. C. Chen in Acta Phytotax. Sin. 39(2): 2001. TYPE: China. SE Yunnan (云南东南部), Wenshan (文山), 2001-02-10, Z. J. Liu 21021 (holotype, in Herbarium, Shenzhen City Wutongshan Nurseries!).

叶6~8枚,狭矩圆状椭圆形,长7.5~12 cm,宽2~3 cm,上面具淡黄白色、浅绿色与深绿色相间的纵横网格斑,背面有淡紫色斑点,且多见于下半部。花苞片边缘有缘毛;中萼片长约3.5 cm,宽2 cm;合萼片与中萼片相似;花瓣长约4.3 cm,宽1 cm;唇瓣的囊近倒卵状圆锥形,长约1.4 cm,中部宽1 cm;耳向外平展。花期1~2月。

产我国文山地区,无详细地点与生境。模式标本系栽培植物。

There are five species we deal with in the present paper. *Paphiopedilum wardii* Summerh. and *Paph. sukhakulii* Schoser et Senghas were published in the thirties and sixties of the last century respectively. The other three were discovered recently and one of them, *Paph. microchilum* Z. J. Liu et S. C. Chen, has been published. The rest are described here as new to science: *Paph. burmanicum* J. Y. Zhang et Z. J. Liu and *Paph. brevilabium* Z. J. Liu et J. Y. Zhang. They are both considered to be closely related to *Paph. wardii*, from which the former differs by having scarcely or not tessellated leaves and an obovate pouch of the lip, and the latter by the smaller leaves 8 ~ 13 cm long and 2 ~ 3 cm wide, nearly entire bract and a broadly obovate pouch usually slightly broader than long. A line drawing of the two new species are provided, and a key to all the species treated is as follows:

- 1. Leaves 6 ~ 8; lip small, with pouch 1.4 cm long and 1 cm wide 5. **Paph. microchilum** Z. J. Liu et S. C. Chen
- 1. Leaves 3 ~ 5; lip larger, with pouch 1.5 ~ 2.5 cm long, 1.5 ~ 2 cm wide.
 - 2. The under surface of the leaves pale green, without purple spots; dorsal sepal 3.4 ~ 4.4 cm wide, with involute margins towards the apex to form a cuspidate tip 3. **Paph. sukhakulii** Schoser et Senghas
 - 2. The under surface of the leaves spotted with purple, particularly on the lower half; dorsal sepal 1.9 ~ 3 cm broad, without a cuspidate tip.
 - 3. Leaves 8 ~ 13 cm long, 2 ~ 3 cm wide; the pouch of the lip usually slightly broader than long 4. **Paph. brevilabium** Z. J. Liu et J. Y. Zhang
 - 3. Leaves 10 ~ 20 cm long, (3 ~)4 ~ 5.5 cm wide; the pouch of the lip longer than broad.
 - 4. The upper surface of the leaves clearly tessellated with pale and dark green; lip suboblong-ellipsoid, with its apical part slightly narrower than the upper part 1. **Paph. wardii** Summerh.
 - 4. The upper surface of the leaves not or scarcely tessellated; lip obovate, with its apical part much narrower than the upper part 2. **Paph. burmanicum** J. Y. Zhang et Z. J. Liu

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