Notes on *Paphiopedilum concolor* and Its Allies

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\textbf{Abstract}\textsuperscript{a} The differences and relationships between *Paphiopedilum concolor* Lindl., *P. bellatulum* Rechb. f., *P. wenshanense* Z. J. Liu and J. Y. Zhang from Yunnan and *P. concolor* var. *dahuanaense* Z. J. Liu and J. Y. Zhang hang and *P. concolor* var. *immaculatum* Z. J. Liu and J. Y. Zhang from Guangxi are described.

\textbf{Key words}\textsuperscript{a} *Paphiopedilum concolor* P., *P. bellatulum* P., *P. wenshanense* P., *P. concolor* var. *dahuanaense* P.

\textbf{New species}\textsuperscript{a} New varieties
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~ 4 cm

~ 9 mm

~ 1.5 ~ 2 mm


Folia 4 ~ 5 subelliptica 5 ~ 10 cm longa 3.5 ~ 4.5 cm lata apice obtuso ~ roundata et inequaliter bifida supra atroviolida ~ tessellata et gypsio ~ notata infra purpurea praeter basin viridem et purpureo ~ punctatam basi conduplicato ~ petiolata. Scapus suberectus 7 ~ 10 cm longus viridis et purpureo ~ brunneo ~ punctatus 7 pubescens ~ ad 3 ~ florus 7 bractea ovato ~ elliptica 7.6 ~ 2 cm
longa 5.5 ~ 2 cm lata. Pubescens secus costam. Margine ciliata. Pedicellus cum ovario 4 ~ 4.5 cm longus. Pubescens flos 6 ~ 7 cm in diam. Albus vel flavo – albus. Bromneo – rubro – punctatus punctis 2 ~ 2.5 mm in diam. Sepalum dorsale suborbiculatum 3.5 ~ 3 cm longum. 3.5 ~ 3.5 cm latum. Toro pubescens synsepalum ovatum id dorsale manifeste minore 2 ~ 2.5 cm longum. 2 cm latum. Apice obtusum. Toro pubescens petala late elliptica vel oblongo – elliptica 3.5 ~ 4 cm longa 2.5 ~ 3 cm lata basi interiore pubescentia labellum ellipsoideum – saccatum 3.5 ~ 4 cm longum 2 ~ 2.5 cm latum. Infimum interiorem villosum. Lato margine induplicato stomiun late subellipticum 8 ~ 9 mm longum et latum. Hasi cordatum apice cuspidatum 1.5 ~ 2 mm longa.

Species nova Paphiopedilum bellatulum affinis red differt scapo basi univaginato maculis in flore bromneo – rubris staminodio late subelliptico basi cordato apice cuspidato 1.5 ~ 2 mm longa.

Yunnan. Wenshan County 1 44° 24' 10.5" E 102° 38' 0.0" E. Cultivated in Shenzhen City Wutongshan Nurseries. J. Liu. 10.5 22.5 8. Holotype in Herbarium of Shenzhen City Wutongshan Nurseries. W 44° 24' 10.5" E 102° 38' 0.0" E. 2 May 2000.

Paphiopedilum concolor Lindl. @ fitz. var. dahuense Z. J. Liu et J. Y. Zhang. Nov. Fig. 1 95 ~ 8

A typo differt foliis multo longioribus ad 13 ~ 22 cm longis flore ebumeo immaculado tello in quoque latere paginæ exteriores nervis quinque elevatis omato.

Guangxi. 1 44° 19' 57.0" E 102° 37' 0.0" E. Cultivated in Shenzhen City Wutongshan Nurseries. J. Liu. 10.5 22.5 8. Holotype in Herbarium of Shenzhen City Wutongshan Nurseries. W 44° 19' 57.0" E 102° 37' 0.0" E. 2 June 2000.

Paphiopedilum concolor Lindl. @ fitz. var. immaculatum Z. J. Liu et J. Y. Zhang. Nov.

A typo differt flore minore flavido immaculato.

Guangxi. 1 44° 19' 57.0" E 102° 37' 0.0" E. Na Po County. 10.5 22.5 8. Cultivated in Shenzhen City Wutongshan Nurseries. J. Liu. 10.5 22.5 8. Holotype in Herbarium of Shenzhen City Wutongshan Nurseries. W 44° 19' 57.0" E 102° 37' 0.0" E. 2 June 2000.

It seems that there is some confusion about the dividing line between Paphiopedilum concolor Lindl. @ fitz. and P. bellatulum Rehb. f. Cult two related but distinct species both found in the limestone areas of southwestern China. Recently three new entities related to them have been found in the same area. In the present paper the differences and relationships between the five taxa are briefly discussed and a key to them are provided in addition to describing the three new taxa.
and *P. concolor* var. *immaculatum* Z. J. Liu et J. Y. Zhang based on the plants transplanted to our nursery several months ago.

*P. wenshanense* is a native of Wen Shan County in southeastern Yunnan and is an allied species of *P. bellatulum*. It is characterised by having a sheath at the base of the scape white or yellowish-white flower with large brown – red spots and a broadly subelliptic staminode with cordate base and cuspidate apex; these features being distinct from those in *P. bellatulum*. *P. concolor* var. *dahuaense* was collected from Da Hua County of central Guangxi. The plant is similar in habit to *P. concolor* from which it differs by having much longer leaves up to 13 ~ 22 cm long and a ivory – white/unsotted flower with five raised nerves on either side of the saccate lip. The third taxon is *P. concolor* var. *immaculatum* indigenous to Na Po County of southwestern Guangxi. It is also very similar in habit to *P. concolor* but the yellowish flower is smaller and spotless by which it can be easily distinguished from *P. concolor* var. *concolor*.