NOTE

Lectotypification in *Zeuxine* Lindl. (Orchidaceae)

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ABSTRACT: Lectotypification of *Psychechilos gracile* Breda [≡ *Zeuxine gracilis* (Breda) Blume], *Zeuxine pulchra* King & Pantl. and *Zeuxine reflexa* King & Pantl. are provided in the present paper along with the photographs of selected lectotypes.

KEY WORDS: Goodyerinae, lectotypification, Orchidaceae, *Zeuxine*.

INTRODUCTION

The genus *Zeuxine* Lindl. (Orchidaceae) is represented by about 80 species (Chen *et al.*, 2009) distributed across the world from Tropical Africa to Central Asia and West Pacific (Govaerts *et al*., 2010). During the revisionary study of the subtribe Goodyerinae in India for 'Flora of India' we found that the names *Psychechilos gracile* Breda [≡ *Zeuxine gracilis* (Breda) Blume], *Zeuxine pulchra* King & Pantl. and *Zeuxine reflexa* King & Pantl. are needed to be lectotypified.

TAXONOMIC TREATMENTS

1. ***Psychechilos gracile*** Breda, Gen. sp. Orchid. Asclep.: t. 9. 1827 (1829).

Type: Breda, Gen. sp. Orchid. Asclep.: t. 9. 1827 (1829) [Lectotype (Icon.), designated here]. Fig. 1

≡ *Zeuxine gracilis* (Breda) Blume, Coll. Orchid.: 69, t. 18, fig. 2 & t. 23 D. 1858 (-1859).

Breda (*l.c.*) described *Psychechilos gracile* based on collection from Bantam, Java by Van Hasselt. Seidenfaden (1978) though mentioned the Bantam-specimen as 'type' of the same but he could not actually examine it. During the present study, we are also unable to trace any type specimen of *P. gracile.* Thus, in absence of any type specimen of *P. gracile* the illustration (t. 9) by Breda (*l.c.*) is considered as next available 'original material' which has been designated here as lectotype (Fig. 1) of *P. gracile*.

2. ***Zeuxine pulchra*** King & Pantl. in J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 65: 127. 1896.

Types: Keydoom, Lachoong Valley, 7,500 ft, Augt 1895, *Pantling* 412 [Lectotype (if not holotype), designated here: CAL!]; Keydoong, Lachoong Valley, 7,000 ft, Augt 1895, *Pantling* 412 (isolectotype: K, photo!). Figs. 2 & 3

King and Pantling (*l.c.*) described *Z. pulchra* based on two specimens (*Pantling* 412; CAL, K) collected from the same locality (but from different elevations) in Sikkim. Pearce and Cribb (2002) mentioned the CAL-specimen as 'holo.' without examining the same. But there are two type specimens present in two different herbaria (CAL and K) and King and Pantling (*l.c.*) did not mention any of them as holotype of *Z. pulchra*. Thus, the specimen cited by Pearce and Cribb (2002) as holotype is indeed merely one element of the original material and best to treat as lectotype. According to the Art. 9.8 of Vienna Code (McNeill *et al*., 2006) the use of a term defined in the Code (Art. 9.1-9.7) as denoting a type, in a sense other than that in which it is so defined, is treated as an error to be corrected. But, the term 'holo.' used by Pearce and Cribb (2002) cannot be corrected because they did not include the phrase "designated here" (hic designatus) or an equivalent which is essential on or after 1 January 2001 vide Art. 7.11 of Vienna Code (McNeill *et al*., 2006) for a lectotypification to be effective. Hence, the CAL-specimen (*Pantling* 412) is designated here as lectotype of *Z. pulchra* (Fig. 2) as it is only flower-bearing type specimen and also fits best with the description of *Z. pulchra* provided in the protologue. The CAL-specimen is also associated with some notes which Pantling prepared before describing the species (Fig. 3).

3. ***Zeuxine reflexa*** King & Pantl. in Ann. Roy. Bot. Gard. Calcutta 8: 291, t. 388. 1898.

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Fig. 1. Lectotype (Icon.) of *Psychechilos gracile* Breda.

Types: Mungphoo, 3,500 ft, April 1895, *Pantling* 361 [Lectotype, designated here: CAL! (Barcode no. CAL0000000604); isolectotypes: CAL!; BM, photo!; K, photo!]. Figs. 4 & 5

King and Pantling (*l.c.*) described *Z. reflexa* based on few specimens collected from Mungpoo, Darjeeling district, India. Pearce and Cribb (2002) without examining any CAL-specimen of *Z. reflexa* mentioned the holotype to be at CAL ('holo. CAL') and isotypes at BM, K ('iso. BM! K!'). However, there are two type specimens of *Z. reflexa* found at CAL (barcode nos. CAL0000000604 and CAL0000000605) during the present study which were studied by Pantling. Pearce and Cribb (2002) did not precisely mention out of the two type specimens of CAL which one to be treated as 'holo.' of *Z. reflexa*. Further, as there is more than one type specimen of *Z. reflexa* exist in different herbaria, the term 'holo.' used by Pearce and Cribb (2002) is inappropriate. Further, Pearce and Cribb (2002) not used the phrase "designated here" (hic designatus) or an equivalent which is mandatory as on 1st January 2001 for an effective lectotypification vide Art. 7.11 of Vienna Code (McNeill *et al*., 2006). Thus, Art. 9.8 of Vienna Code (McNeill *et al*., 2006) cannot not be applied to correct the typification (1st step lectotypification) done by Pearce and Cribb (2002). In this context, the CAL- specimen (*Pantling* 361; barcode

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Fig. 2. Lectotype of *Zeuxine pulchra* King & Pantl. (*Pantling* 412, CAL).

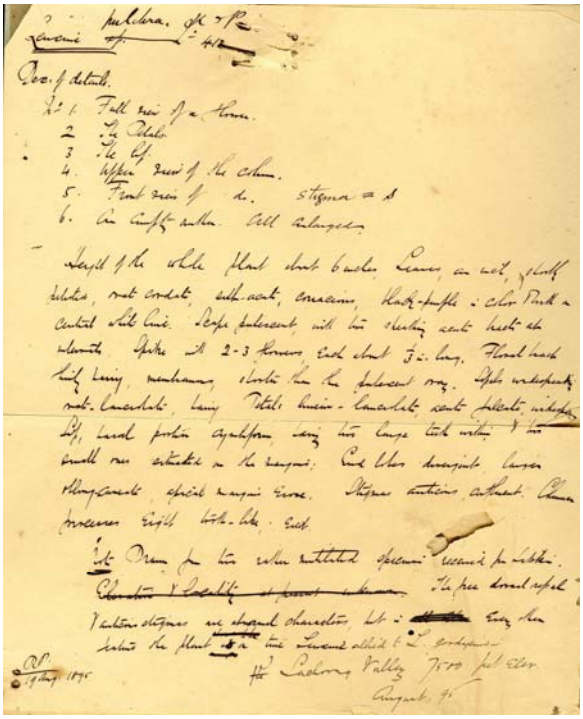


Fig. 3. A hand written note by Pantling attached with the selected lectotype of *Zeuxine pulchra*.

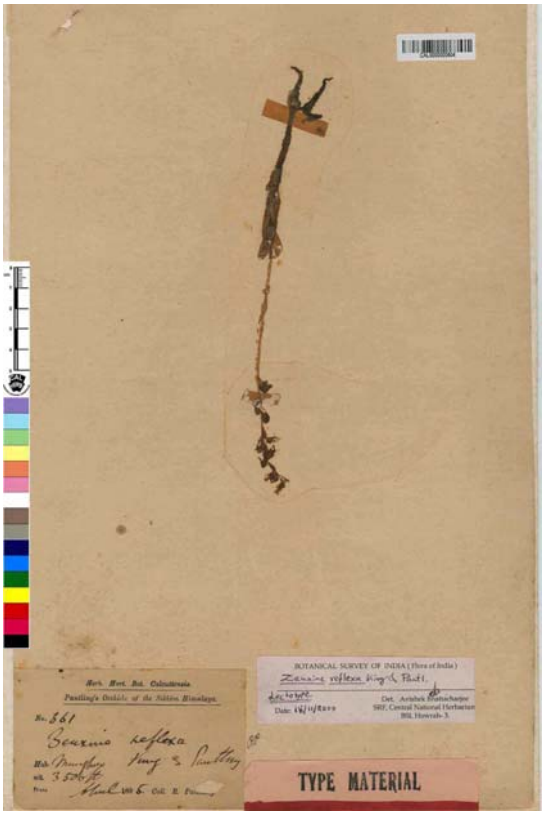


Fig. 4. Lectotype of *Zeuxine reflexa* King & Pantl. (*Pantling* 361, CAL; barcode no. CAL0000000604).

no. CAL0000000604) is designated as lectotype of *Z. reflexa* (Fig. 4) as it exhibits maximum matching with the description provided in the protologue. This specimen is also accompanied with few hand-written relevant notes (Fig. 5) by Robert Pantling which he prepared before publication of *Z. reflexa*.

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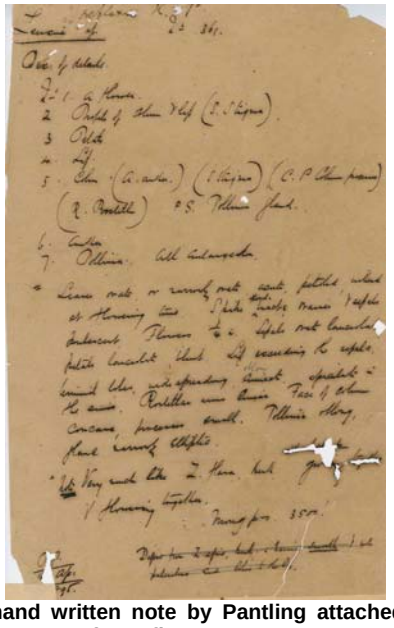


Fig. 5. A hand written note by Pantling attached with the selected lectotype of *Z. reflexa*.

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線柱蘭屬（蘭科）選定模式的指定

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摘要：此論文指定 *Psychechilos gracile* Breda [≡ *Zeuxine gracilis* (Breda) Blume]、*Zeuxine pulchra* King & Pantl. 及 *Zeuxine reflexa* King & Pantl. 三物種之選定模式。並於文中提供各物種選定模式的照片。

關鍵詞：斑葉蘭亞族、選定模式的指定、蘭科、線柱蘭屬。

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