



**Typification of *Indocalamus tessellatus*, *Phyllostachys bambusoides* var. *albomarginata*, *Sasa veitchii*, and the genus *Sasa***

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Li (Taxon 45: 543. 1996) proposed conservation of *Sasa* with a conserved type because *Sasa tessellata* (Munro) Makino & Shibata, the species first selected as lectotype (Rehder, Bibliogr. Cult. Trees: 635. 1949), was subsequently shown to be a species of *Indocalamus*, having a different stamen number to that given in the description of *Sasa*. Initially unaware of Rehder's choice, McClure (Taxon 6: 208. 1957) had chosen *S. albomarginata* (Miq.) Makino & Shibata as the type of the generic name, and this later choice has been widely adopted (ING 3, Regnum Veg. 102: 1559. 1979; NCU-3: 1018. 1993), and was the type that Li (l.c.) proposed to conserve.

When the conservation proposal was considered by the Committee for Spermatophyta all members agreed with the desirability of accepting *S. albomarginata* as the type of *Sasa* (Taxon 48: 359. 1999), but they were divided over whether conservation was necessary to achieve this, particularly as key names remained untypified. The Committee vote was undecided and the issue was placed on hold (see Taxon 48: 377. 1999).

The inadequacies in typification can now be corrected for both lectotypes, *Sasa tessellata* and *S. albomarginata*, and also for *S. veitchii*, the name currently considered correct for *S. albomarginata*.

Typification of the first lectotype, *Sasa tessellata*, is critical to the need for conservation of the name *Sasa*. Li (l.c.), in his proposal, astutely suggested that the superseding lectotypification of McClure was not acceptable, as the conflict between lectotype and protologue required for this action under Article 10.5(a) of the Tokyo Code could not be demonstrated. His argument was that, while the protologue of the genus *Sasa* repeatedly referred to the possession of six stamens whereas Rehder's lectotype species, now known as *Indocalamus tessellatus* (Munro) Keng, has only 3 stamens, because "the nomenclatural type ... the old, sterile element" of *Indocalamus tessellatus* had no flowers, no conflict could be construed between the type itself and the protologue. This follows from the precise definition of the type of a generic name as the type of a species name given in Article 10.1.

In fact there is no extant type, nor even any original material, sterile or fertile, for *Bambusa tessellata* Munro, the basionym of *Sasa tessellata* and *Indocalamus tessellatus*. The description (Munro, Trans. Linn. Soc. 26: 110. 1868) was derived merely from leaves used to wrap parcels of Chinese tea sent to England, and no such leaves were preserved at the time of Munro's publication (Brown, Gard. Chron. 5: 521. 1889). Bamboo leaves were still being used to pack tea sent from China 21 years later, and some of these were then preserved at K, dated March 1889, but there is no guarantee that leaves from one bamboo species alone were used for wrapping

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tea in China. The leaves preserved at K certainly do not represent original material, and have never been designated as neotype.

The name *Indocalamus tessellatus* is now applied to a well-known and widely planted bamboo of horticultural importance. This cultivated species was initially known as *Bambusa ragamowskii* Wheeler (Gard. Chron. 6: 847. 1876) until Munro decided (*in sched.*) that it was conspecific with the packaging leaves from which he had described his earlier *B. tessellata* (Brown, l.c.). The plants at Kew have been cultivated there continuously since that era. They flowered sporadically in 1984 and in 1998, and a comprehensive new fertile collection has been preserved at K and this is designated below as neotype.

Typification of McClure's (l.c.) later lectotype is also important. While unaware of the existence of an earlier lectotype, he selected "*S. albomarginata* (Miq.) Makino & Shibata ... (*Phyllostachys bambusoides*  $\beta$  *albomarginata* Miq. ...)" as type of the generic name *Sasa*, noting that *S. veitchii* (which was included in synonymy of *S. albomarginata* by Makino & Shibata, l.c.) had priority over it at specific rank and was the correct name according to Rehder's species circumscription (J. Arnold Arb. 1: 58. 1919). Now that the type of a generic name is the type of a species name, his selection of the type of *Sasa* is clearly that of the superfluous but legitimate *S. albomarginata* and not that of *S. veitchii*.

McClure (l.c.) thus managed to distinguish between the type and the correct name for the type in *Sasa* (l.c.), even though he later stated (Taxon 8: 209. 1959) that he had selected *S. veitchii* as the type. However, he failed to draw this distinction properly in *Sasamorpha*, a closely related genus which requires consideration of its type citations (McClure, l.c. 1957; 1959) in this light.

*Phyllostachys bambusoides* var. *albomarginata* Miq. was described (Miquel, Prodr. Fl. Jap.: 172. 1866) without direct citation of any specimen, but with a detailed geographic location. A specimen attributed to Burger was later listed at L (Miquel, Cat. Mus. Bot. Lug.-Bat.: 114. 1870), and this has identical geographic details. The label initially gave the collector as Pierot, but was later altered to Burger. This correction is most likely to have been an error on the part of Miquel himself according to the handwriting (Thijsse, pers. comm.). The collection is designated here as lectotype. It is intended that details and an image will be added to the Catalogue of the Type Specimens of the Dutch Herbaria, available from the L website. (<http://nhncml.leidenuniv.nl>).

For completeness, the name under which the superseding lectotype is still known, *Sasa veitchii*, should also be considered. *Bambusa veitchii* was described (Carrière, Rev. Hort.: 90. 1888) from living material introduced from Japan to England around 1880 by Maries, a collector working for Messrs. Veitch, in whose Combe Wood nursery the introduced plants were raised. There are no collections at P to represent original material (Demoly, pers. comm.). At K there is a fertile collection made in Japan near Kobe by Maries, and a sterile collection from a plant grown at Combe Wood after introduction. These collections both appear to be conspecific with the type of *Sasa albomarginata*. Munro was reported (Brown, l.c.) as having stated that in October 1887 a type specimen of *Bambusa veitchii* was brought to the Kew Herbarium from Messrs. J. Veitch & Sons, Combe Wood. Such a specimen is still at K, and this is accepted as the neotype, effectively designated by Brown (l.c.).

With typification of the names *Indocalamus tessellatus*, *S. albomarginata*, and *S. veitchii* all settled, it can be seen that conservation is not necessary after all. With neotypification of *Indocalamus tessellatus* (Munro) Keng f. & Wang by a newly collected fertile three-stamened specimen, there is indisputable conflict between the type of the name *Sasa*, as designated by Rehder (l.c.) as *Sasa tessellata* (Munro) Makino & Shibata, and the description in the protologue of the six-stamened genus *Sasa*. This conflict is particularly serious, as stamen number was one of the principal justifications for naming a new genus. As the type of *Sasa albomarginata* is itself sterile, McClure was not justified in superseding the earlier typification, because, under the Paris Code operative at that time, the superseding element had to fit the description better than the element rejected. A sterile type could not satisfy that requirement. The present Code, however, allows rejection when the previous selection “is in serious conflict with the protologue and another element is available which is not in conflict with the protologue”. As Li (l.c.) helpfully has pointed out, a sterile element cannot be in conflict, so that a sterile superseding type is now perfectly acceptable.

The designation of *Sasa tessellata* as type of *Sasa* by Rehder (l.c.) now can and should be rejected, as suggested earlier by McClure (l.c.). It is, therefore, superseded by *Sasa albomarginata* under Art. 10.5(a) of the Tokyo Code, a designation that had already been widely accepted and that was the majority view of the Committee for Spermatophyta (Brummitt, Taxon 48: 359-360. 1999).

*Sasa* Makino & Shibata, Bot. Mag. Tokyo 15: 18. 1901. – Lectotype (designated here, superseding Rehder, Bibliogr. Cult. Trees: 635. 1949, in accordance with Article 10.5(a) of the Tokyo Code, 1994): *Sasa albomarginata* (Miq.) Makino & Shibata (*Phyllostachys bambusoides* var. *albomarginata* Miq.).

*Sasa veitchii* (Carrière) Rehder, J. Arnold Arb. 1: 58. 1919. = *Bambusa veitchii* Carrière, Rev. Hort.: 90. 1888. – Neotype (designated in Brown, Gard. Chron. 5: 521. 1889): UK (cult.), Combe Wood, 28 Oct 1887 (K).

= *Sasa albomarginata* (Miq.) Makino & Shibata, Bot. Mag. Tokyo 15: 25. 1901. *Nom. superfl. sed legit.* = *Phyllostachys bambusoides* var. *albomarginata* Miq., Prodr. Fl. Jap.: 172. 1866. – Lectotype (designated here): Japan, Usitsu Gawa prope Sin Matsi ins. Kiu Liu. *Pierot* 576 (L).

*Indocalamus tessellatus* (Munro) Keng, Claves Gen. & Spec. Gramin. Sinic.: 152. 1957, without basionym ref.; & in Acta Phytotax. Sin. 6: 355. 1957. = *Bambusa tessellata* Munro, Trans. Linn. Soc. 26: 110. 1868. = *Sasa tessellata* (Munro) Makino & Shibata, Bot. Mag. Tokyo 15: 27. 1901. – Neotype (designated here): UK (cult.) Bamboo Garden, Kew, 18 Aug 1998, *Stapleton* 1122 (K).

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