



New lectotypification of the Linnaean name *Buchnera asiatica* (Orobanchaceae)

Rajeev Kumar Singh¹

Summary. The typification of the Linnaean name *Buchnera asiatica* is discussed. The name is lectotypified using a specimen from the Linnaean Herbarium at the Swedish Museum of Natural History, Stockholm (S-LINN).

Key Words. China, lectotype, Linnaeus, Linnaean herbarium, Sri Lanka, *Striga asiatica*.

Introduction

The genus *Striga* Lour. belongs to the family Orobanchaceae (broomrape family), and consists of about 34 species worldwide POWO (2018) with its centre of diversity in tropical Africa. Previously, the genus was accommodated in the family Scrophulariaceae, but based on molecular and morphological data was transferred to Orobanchaceae (Olmstead *et al.* 2001). To date, seven species have been recorded for the Indian flora.

One of the species *Striga asiatica* (L.) Kuntze, based on *Buchnera asiatica* L., was typified by Hepper (1974). There is however no evidence that the specimen was seen by Linnaeus when describing the species. Linnaeus (1753) published two names in *Buchnera* [*Buchnera americana* L. (1753: 630) and *B. asiatica* L. (1753: 630)] in his *Species Plantarum*, of which *B. asiatica* is now referred to the genus *Striga*. Linnaeus's protologue of *B. asiatica* (1753, Fig. 1) consisted of a short diagnosis "BUCHNERA foliis integerrimis alternis", along with the provenance information "*Habitat in Zeylona, China*", and a detailed description. There are five herbarium sheets conserved at the Linnaean Herbarium (LINN-HL790.10, LINN-HL790.11, LINN-HL790.13, LINN-HL790.14 and LINN-HL790.15) in the name *B. asiatica*, but these are post-1753 additions to the Herbarium and are not original material for the name *B. asiatica*, as has been indicated by Jarvis (2007). The three sheets LINN-HL790.11, LINN-HL790.14 and LINN-HL790.15 were collected by J. G. Koenig from India, LINN-HL790.13 by C. P. Thunberg from Sri Lanka, and LINN-HL790.10 by an anonymous collector from an unknown locality.

Hepper (1974) cited the type for the Linnaean name *Buchnera asiatica* as "Type. Comoro Islands, St. Joanna, Toreen LINN. (Savage Cat. No. 790/10 part-

ly)". The herbarium sheet LINN-HL790.10 consists of five specimens: the left hand side, bigger specimen is the type of *B. asiatica* as per Hepper. The upper two specimens on the right hand side are of *B. asiatica* and the lower two are of *Striga densiflora* (Benth.) Benth. (= *Buchnera densiflora* Benth.). This sheet lacks annotation of the number 2 (*Species Plantarum* number of this species) by Linnaeus and is also a mixed collection of two species *Striga asiatica* and *S. densiflora*. According to Jarvis (2007), Turland (2006), Turland & Jarvis (1997), Stearn (1957) and many others, Linnaean specimens which were in Linnaeus's possession before the publication of *Species Plantarum*, were usually annotated by Linnaeus with the *Species Plantarum* number of that species. Furthermore, the herbarium sheet LINN-HL790.10 is annotated by Linnaeus as "*Buchnera asiatica*" and from this annotation it is clear that this specimen is a post-1753 addition because specimens in Linnaeus's possession before the publication of *Species Plantarum* were usually not annotated by him with full binomial names. Moreover, Hepper (1974) mentioned the locality for the type specimen as "Comoro Islands, St. Joanna" and collector as Olaf Toreen, but Linnaeus mentioned "Zeylona, China" in the protologue of *B. Asiatica*; Olaf Toreen (1718 – 1753) collected plant specimens from China and India (Surat and Malabar), not from the Comoro Islands (Bretschneider 1898; Stafleu & Cowan 1986).

asiatica. 2. BUCHNERA foliis integerrimis alternis.
Habitat in Zeylona, China.
Caulis ramis alternis, habitu Euphrasie, obtuse tetragonus. Folia lineari-lanceolata, scabra, integerrima, alterna, versus basin opposita. Spicae longae floribus alternis remotis. Calyces quinquepartiti, scabri. Tubus corollae filiformis, calyce duplo longior, corvica incurvato, laminae 4 incumbent; limbus quinquefidus, purpureus; laciniis 2 superioribus brevissimis reflexis; tribus reliquis obovatis subaequalibus.

Fig. 1. Protologue of *Buchnera asiatica* by Linnaeus (1753: 630).



Fig. 2. Lectotype of *Buchnera asiatica* L. (S-LINN-09-25827, © Swedish Museum of Natural History, Stockholm).

This is the reason why earlier Saldanha (1963) and Cramer (1981) treated the name *Buchnera asiatica* as ambiguous, and Saldanha (1963) proposed to reject the name *B. asiatica*. Therefore, the earlier type designated by Hepper (1974) should be rejected because it is now clear that this sheet/specimen was not in the hand of Linnaeus at the time of describing the name *B. asiatica*. Only one herbarium sheet relevant to the Linnaean name *Buchnera asiatica* can be traced at S (S-LINN-09-25827) which is annotated by Linnaeus as “2 Buch. asiatica” — the number 2 corresponds with the *Species Plantarum* number of this species. Thus, it is designated here as lectotype for the name *Buchnera asiatica* as it agrees well with the diagnosis and description given in the protologue by Linnaeus, and also depicts the taxon as recognised today.

Lectotypification

Striga asiatica (L.) Kuntze (1891: 466). *Buchnera asiatica* L. (Linnaeus 1753: 630). Lectotype (designated here): S-LINN-09-25827 [digital image!], Fig. 2.

Acknowledgements

The author is grateful to Dr P. Singh, Director, Botanical Survey of India, Kolkata and to The Head of Office, Botanical Survey of India, Southern Regional Centre, Coimbatore for facilities. I am also grateful to the Curator of S-LINN herbarium, Stockholm for information and images of type specimens.

References

- Bretschneider, E. (1898). *History of European Botanical Discoveries in China*. Sampson Low, Martson and Company Ltd., London.
- Cramer, L. H. (1981). *Striga*. In: M. D. Dassanayake (ed.), *A Revised Handbook to the Flora of Ceylon*, Vol. 3. Oxford & IBH Publishing Co., New Delhi.

- Hepper, F. N. (1974). Parasitic witchweed: *Striga asiatica* versus *S. lutea* (Scrophulariaceae). *Rhodora* 76: 45 – 47.
- Jarvis, C. (2007). *Order out of Chaos: Linnaean plant names and their types*. The Linnean Society of London and The Natural History Museum, London.
- Kuntze, C. E. O. (1891). *Revisio Generum Plantarum*. Vol. 2, Arthur Felix, Leipzig.
- Linnaeus, C. (1753). *Species Plantarum*. Vol. 2, Laurentii Salvii, Stockholm.
- Olmstead, R. G., Depamphilis, C. W., Wolfe, A. D., Young, N. D., Elisens, W. J. & Reeves, P. A. (2001). Disintegration of the Scrophulariaceae. *Amer. J. Bot.* 88: 348 – 361.
- POWO (2018). Available from: <http://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:38035-1#children>. Accessed 15 July 2018.
- Saldanha, C. J. (1963). The genus *Striga* Lour. in Western India. *Bull. Bot. Surv. India* 5: 67 – 70.
- Stafleu, F. A. & Cowan, R. S. (1986). *Taxonomic literature: A selective guide to botanical publications and collections with dates, commentaries and types*. Vol. 6, Bohn, Scheltema & Holkema, Utrecht.
- Stearn, W. T. (1957). An Introduction to the Species Plantarum and cognate botanical works of Carl Linnaeus. In: C. Linnaeus, C. (ed.), *Species Plantarum, A facsimile of the first edition, 1753*, Vol. 1: 1 – 157. Ray Society, London.
- Turland, N. J. (2006). Lectotypification of *Campanula saxatilis*, *Phyteuma pinnatum* and *Verbascum arcturus*, Linnaean names of three taxa endemic to Crete. *Willdenowia* 36: 303 – 309.
- & Jarvis, C. E. (1997). Typification of Linnaean specific and varietal names in the Leguminosae (Fabaceae). *Taxon* 46: 457 – 485.

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.