

Research article

Vincetoxicum arabicum (Apocynaceae–Asclepiadoideae), a new combination for a species in Arabia and Africa, and notes on *Rhinolobium*

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The new combination *Vincetoxicum arabicum* is made for a species in Saudi Arabia and northeastern and eastern Africa that has previously mostly been called *Blyttia fruticulosa* or *Vincetoxicum fruticosum*. The basionym, *Blyttia arabica*, previously regarded as a superfluous name, is resurrected. A synonymy of *V. arabicum* is provided, and the species is illustrated by photographs. *Rhinolobium*, with *R. tenue* as type, published simultaneously with *Blyttia* and *B. arabica*, is an older name for *Aspidoglossum*.

Keywords: Arnott, *Aspidoglossum*, *Blyttia arabica*, *Rhinolobium*, taxonomy



Introduction

The entry for the genus *Blyttia* Arn. in the website of Index Nominum Genericorum (Plantarum) (2022) reads ‘*Blyttia* Arnott in Jardine et Johnston, Mag. Zool. Bot. 2: 420. 1838’, and the type is cited as ‘*B. arabica* Arnott’. The name *Blyttia* was given by the Scottish botanist George Arnott Walker Arnott (1799–1868) to commemorate the Norwegian botanist Matthias Numsen Blytt (1789–1862). Arnott and Blytt may have met when they studied in de Candolle’s herbarium in Geneva (P. M. Jørgensen, pers. comm.).

The type of *Blyttia arabica* is Schimper 816, a collection from Jeddah in Saudi Arabia that is extant in many herbaria. However, Schimper 816 is also the type of *Cynanchum fruticosum* Decne., published by Decaisne (1838), and in the account of Asclepiadaceae for de Candolle’s Prodrum, Decaisne (1844) placed both *Blyttia arabica* and *Cynanchum fruticosum* in synonymy of *Vincetoxicum fruticosum* (Decne.) Decne.

Blyttia was resurrected and revised by Field and Wood (1983), who recognized two species, *B. fruticulosa* (Decne.) D.V.Field, based on *Cynanchum fruticosum*, in Saudi Arabia, Somalia, Djibouti, Ethiopia, Kenya and Tanzania, and *B. spiralis* (Forssk.) D.V.Field & J.R.I.Wood, based on *Asclepias spiralis* Forssk. in Yemen and Eritrea. *Blyttia arabica* was considered to be an illegitimate superfluous name based on the same type, Schimper 816, as *B. fruticulosa*, and the specimen in P was cited as



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holotype. This taxonomy was followed by, for example, Liede (2003), Liede-Schumann (2006) and Goyder (2012).

Based on molecular phylogenetic data, Liede-Schumann and Meve (2018) subsumed *Blyttia* and many other genera under *Vincetoxicum* Wolf, thereby making *B. arabica* once again a synonym of *V. fruticosum*, whereas *B. spiralis* is *V. spirale* (Forssk.) D.Z.Li (Li in Qiu et al. 1989). As two specimens of Schimper 816 are found in P, one of them was designated as lectotype of *V. fruticosum*.

Liede-Schumann and Meve (2018) overlooked that the combination *V. spirale* already existed, and their *V. spirale* (Forssk.) Meve & Liede is an isonym of no nomenclatorial status, as stated in Art. 6, Note 2, of the ICN (Turland et al. 2018). Liede-Schumann and Meve (2018) also overlooked that Field and Wood (1983) made the combination *Pentstemon nivalis* (J.F.Gmel.) D.V.Field & J.R.I.Wood as a new name for *P. spiralis* auctt. Instead, Liede-Schumann and Meve used *V. spirale* in a wide sense that largely followed that of Bullock (1955) for *P. spiralis*, a sense that was shown to be erroneous by Field and Wood (1983) and that is not in agreement with current typifications.

However, there is a key question that has not been adequately discussed. Has *Cynanchum fruticosum* really priority over *Blyttia arabica* as presumed by all previous authors?

Blyttia and *B. arabica* were published in vol. 2 of Magazine of Zoology and Botany, a journal printed in Edinburgh. This volume was published in six numbers (7–12), each number having a date of publication on the cover. According to this information, the five first numbers were published in 1837, and only the final number 12 was published in 1838 (1838 is also the year given on the cover of the whole volume). Arnott's paper was published in number 11 which, according to the cover, was published 1 December 1837 (Arnott 1837). The paper was signed 'Arlary, 10th October 1837'. Arlary, situated about 30 km north of Edinburgh, was the mansion where Arnott resided from 1831 to 1845 (Cleghorn 1868).

As regards dates of effective publication, Art. 31.1 of the ICN (Turland et al. 2018) states that 'in the absence of proof establishing some other date, the one appearing in the printed matter or electronic material must be accepted as correct'. *Blyttia arabica* therefore predates *Cynanchum fruticosum*, published in June 1838, and has priority. Based on these findings, the new combination *Vincetoxicum arabicum* is published below, with updated synonymy and typifications.

***Vincetoxicum arabicum* (Arn.) Thulin, comb. nov. (Fig. 1)**

Basionym: *Blyttia arabica* Arn., Mag. Zool. Bot. 2(11): 420 (1 Dec 1837).

Type: Saudi Arabia, 'in collibus granitosis prope Dscheddam', 20 Jan 1836, Schimper 816 (P [P04205440], lectotype, designated by Liede-Schumann and Meve 2018, p. 145, isoelectotypes: BM [BM001014191], E [E00199399], HAL

[HAL0140111], HBG [HBG502864], K [K000894648, K000894650], M [M0175087], MO [MO062341], P [P04205441], W [W0064538, W18890157851]).

Nomenclatural synonyms: *Cynanchum fruticosum* Decne. (Decaisne Jun 1838, p. 332, tab. 12), nom. illeg. superfl. – *Vincetoxicum fruticosum* Decne. (Decaisne 1844, p. 525), nom. illeg. superfl. – *Blyttia fruticulosa* D.V.Field (Field and Wood 1983, p. 216), nom. illeg. superfl., as '*B. fruticosum*'.

Taxonomic synonyms

***Cynanchum defoliascens* K.Schum. (Schumann 1898, p. 38)**

Type: Somalia (Somaliland), near Mandah, 1889, Robecchi-Bricchetti 110 (FT [FT002674], holotype).

***Cynanchum microstegium* K.Schum. (Schumann 1898, p. 39)**

Type: Somalia/Ethiopia, Dolo at Daua River, 16 Apr 1893, Riva 1171 (FT [FT002680], holotype).

Schumann (1898), in the protologue of *Cynanchum microstegium*, cited 'Somalia: Riva' as type, and Liede-Schumann (2006) and Liede-Schumann and Meve (2018) stated that the holotype was 'Somalia/Ethiopia, without precise locality, Riva s.n.' in FT [FT002680]. However, this specimen is Riva 1171, annotated by Schumann, and was according to the label collected at 'Dolo sul Daua' on 16 April 1893. Dolo is today a border town between Somalia and Ethiopia, situated where the rivers Daua (Dawa) and Genale join to become Jubba. The collection could have been made either on the Somali or the Ethiopian side of the border.

Distribution and habitat

Vincetoxicum arabicum is known from Saudi Arabia, Djibouti, Ethiopia, Somalia, Kenya and northern Tanzania (Field and Wood 1983, Liede-Schumann 2006, Goyder 2012). It is usually small and shrubby (Fig. 1), but in protected situations it may be a climber up to 3 m tall. The flowers are greenish, yellowish or whitish. The species is found in open bushland on sandy, silty or rocky ground at elevations from near sea level up to about 1500 m.

Taxonomic remarks

Cynanchum defoliascens was first placed in synonymy of *Blyttia fruticulosa* by Field and Wood (1983), whereas *C. microstegium* was placed in synonymy by Liede-Schumann (2006).

Notes on *Rhinolobium*

Simultaneously with *Blyttia*, Arnott (1837) also published the genus *Rhinolobium* Arn., with *R. tenue* Arn. as type, based on Harvey 629 from Cape of Good Hope. A specimen annotated by Arnott is extant in E, with the stamp 'Edinburgh



Figure 1. *Vincetoxicum arabicum* from Somalia (Somaliland). (A) Plant with rounded shape after heavy grazing, (B) inflorescences, leaves and close-up of flower. Photographs by Helen Pickering.

University Herbarium', and this specimen (E00193204) was designated as lectotype by Kupicha (1984).

As with *Blyttia*, *Rhinolobium* has wrongly been regarded as published in 1838 by all previous authors. *Rhinolobium* was regarded as a synonym of *Aspidoglossum* E.Mey. (Meyer 1838) by Kupicha (1984), who also treated *R. tenue* as a synonym of *A. gracile* (E.Mey.) Kupicha, based on *Lagarinthus gracilis* E.Mey. (Meyer 1838). Meyer's 'Commentatorium de plantis Africanæ australioris', fasc. 2, was published 1–8 January 1838 according to Stafleu and Cowan (1981), why *Rhinolobium* predates *Aspidoglossum* and *R. tenue* predates *A. gracile*.

Aspidoglossum currently is a genus of some 35 species in tropical and southern Africa (Kupicha 1984, Chuba et al. 2017), but the taxonomy is controversial. According to the molecular phylogenetic studies of Chuba et al. (2017), the whole African *Asclepias* complex with some 250 species in 16 or more genera, including *Aspidoglossum*, may eventually have to be regarded as part of an expanded genus *Asclepias* L. However, if *Aspidoglossum* is retained as a genus, the name should be proposed for conservation against *Rhinolobium*.

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Data availability statement

This article contains no additional data.

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