The Identity of Anchusa zeylanica Vahl ex Hornemann (Boraginaceae)
Author(s): B. Verdcourt
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The identity of *Anchusa zeylanica* Vahl ex Hornemann (*Boraginaceae*)

B. VERDCOURT

Summary. Cynoglossum furcatum Wall. is shown not to be a synonym of *C. zeylanicum* (Lehm.) Brand.

The problem dealt with here was met whilst I was writing up *Cynoglossum* for an account of the *Boraginaceae* of East Africa. The genus in this area is of great complexity with, on the one hand, populations very similar to European species and on the other populations virtually indistinguishable from Indian species; between the two is a complex of intergrading taxa. This is no surprise since the genus is known to be intrinsically difficult almost throughout its range.

In his revision of the *Boraginaceae* of West Pakistan, Kazmi (1971) deals with several of the species also occurring elsewhere in India. A species long known as *Cynoglossum furcatum* Wall. (1824), characterized by the soft indumentum of the leaves with hairs not obviously arising from tubercular bases or rings of cystoliths, is treated by Kazmi under the name *C. zeylanicum* '(Vahl) Thunb. ex Lehm'. Riedl (1967) used the same authority in Flora Iranica; Vahl, however, merely put a name on a herbarium sheet and Thunberg wrote a letter. C. B. Clarke (1883) who wrote up the family for the Flora of British India made *zeylanicum* a variety of *C. denticulatum* A. DC. (a much later name), a species which has the leaf-hairs arising from tubercles and thus rough to the touch. There are thus two quite different interpretations of the identity of the plant bearing the name *C. zeylanicum*. It is clear that neither Kazmi, who states 'type not indicated', nor C. B. Clarke saw any authentic material. Brand, who wrote up *Boraginaceae—Cynoglosseae* for Engler's Das Pflanzenreich (1921), was the originator of the confusion; he included *furcatum* under *zeylanicum* despite the fact that he did actually examine the types.

The name *Anchusa zeylanica* was written by Vahl on a sheet in his herbarium and through the kindness of the Curator, Botanical Museum, Copenhagen, I have been able to examine the specimen (Fig. 1). On the front is an annotation label of Brand '*Cynoglossum zeylanicum*! = *C. furcatum* Wall.! Br.' and on the back is written '*Anchusa zeylanica*' and 'Ex herb Royen dedit Brugmans'* in Vahl's handwriting. The specimen is clearly one given to Vahl during one of his tours of Europe during which he obtained as many duplicates as he could. The name was first mentioned in print by Hornemann (1807) in a list of plants growing in Copenhagen Botanic Garden merely as '*Anchusa zeylanica, Herb. Vahl*'. It is again noted by Hornemann (1813) at the end of *Anchusa tenella* thus—'In Herb. Vahlii asservatur sub nomine Anch. zeylanicae planta huic similis, sed cum inflorescentia (Racemus) differt, hanc novam esse speciem opinatus sum'. Brand, followed by Riedl and Kazmi, have considered the name to be a nomen nudum and I must admit the case is very marginal. I requested help of Dr R.

*A. van Royen (1704–1779); S. J. Brugmans (1763–1819)

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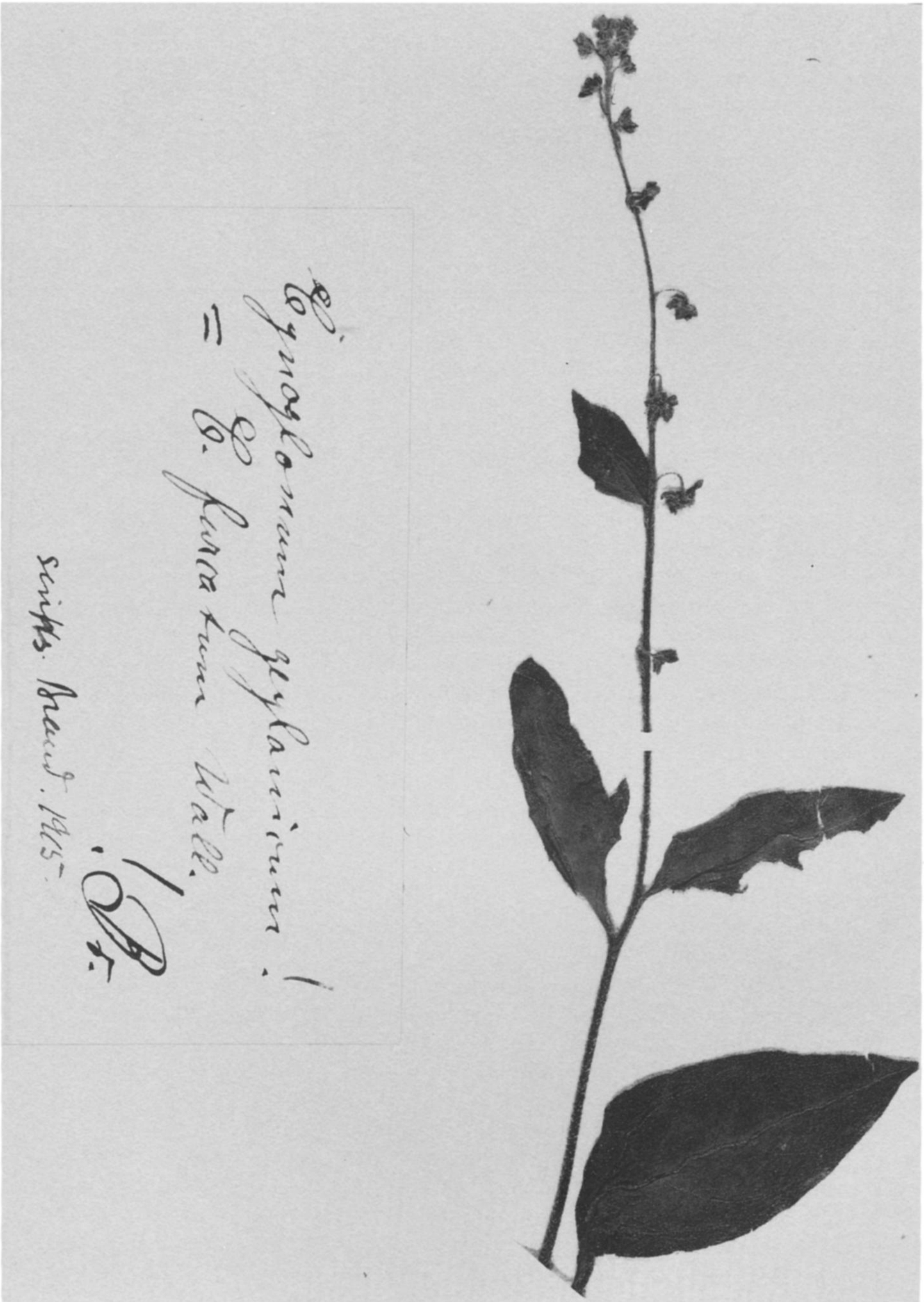

FIG. 1. *Cynoglossum zeylanicum*. Holotype specimen of *Anchusa zeylanica*. Copenhagen, Herb. Vahl.

K. Brummitt who also called in Mr M. J. E. Coode to interpret the Latin. There is a diagnosis, albeit just one character, and Hornemann accepts the species as new; Dr Brummitt states 'I am persuaded by the narrowest margin that *A. zeylanica* is validly published.' In 1817 Lehmann mentioned the name

Cynoglossum zeylanicum (page 21, not 20 as usually given) as being the name given to a plant which Thunberg sent to Swartz who passed it on to Lehmann. Lehmann quite clearly states *Myosotis zeylanica* n. sp. which comes in the 'dritten Abtheilung *Echinosperma*'. He also clearly ties it in with Vahl's specimen. In his more extensive work on the family (1818) he gives a fuller description under the name *Echinospermum zeylanicum* citing in synonymy *Myosotis zeylanica* Swartz *in litteris*, *Cynoglossum zeylanicum* Thunberg *in litteris* and *Anchusa zeylanica* Herbarii Vahliani. He does not, as claimed by Kazmi, publish an accepted combination *Cynoglossum zeylanicum*. Lehmann gives the locality as Habitat in insula Zeylona ad littora maris locis arenosis ♃ (v.s.); he worked in Hamburg and possibly examined Vahl's herbarium but no locality is given on Vahl's sheet. Lehmann's own herbarium was partly purchased by O. W. Sonder whose herbarium (notably the *Boraginaceae*) is partly in Melbourne. Through the kindness of Dr J. H. Ross I borrowed some sheets from Lehmann's herbarium labelled *Cynoglossum zeylanicum* but these proved to be a different plant altogether, *Heliotropium paniculatum* R. Br., the erroneous labels dating back to a slip of the pen when some Wight specimens in the Wallich herbarium were originally distributed. I have, therefore, no idea as to the identity of the specimen passed from Swartz to Lehmann but its leaves are clearly described as 'supra calloso-hispida: pilis albis radiantibus e punctis callosis ortis'. The specimen in Vahl's herbarium also has rough tubercle-based hairs.

To add to the complication, *Anchusa zeylanica* Vahl ex Hornemann is a later homonym of *A. zeylanica* Jacq. f. (1812, 47, t.29) validly described but reference to *A. zeylanica* Hornemann (1807) is given in synonymy. Since at this date the name was a nomen it can be treated as a misidentification. Jacquin f.'s plant is a quite different species from the one with which we are concerned and should correctly be called *Bothriospermum zeylanicum* (Jacq. f.) Druce; this may be typified by Jacquin's excellent plate but it is possible there is a specimen in Vienna. Hara *et al.* (1982, p. 99) have mistakenly assumed that *Anchusa zeylanica* Jacq. f. is invalidated by *A. zeylanica* Vahl ex Hornemann (1807) and as a result use the name *Bothriospermum tenellum* (Hornemann) Fisch. & Mey.

As Dr D. Mabberley has pointed out to me (*in litt.*) the illegitimate name *Anchusa zeylanica* Hornemann can no longer be the basionym of Brand's *Cynoglossum zeylanicum*. Consultation with Dr Brummitt indicates that *Myosotis zeylanica*, mentioned above, must be treated as a new species with its syntypes the Swartz and Vahl specimens, both of which are mentioned. It appears, therefore, that the epithet *zeylanicum* may be retained for both the *Bothriospermum* and the *Cynoglossum*.

In order to find out more about the provenance of the specimen preserved in Vahl's herbarium I wrote to Prof. C. Kalkman in Leiden and a specimen was found in van Royen's herbarium of what is probably the same gathering (Fig. 2). It has three labels, a recent one, probably in the hand of Hallier f., with 'Cynoglossum javanicum (deleted) zeylanicum Thunb. = Cynoglossum denticulatum' and two older 'Anchusa zeylanica sp: nov: habitat ad littora maris solo arenoso inter Gale & Mature minus frequens' and 'Borragineae Zeijlon-Konig' [Gale = Galle and Mature = Matara]. Prof. Kalkman reports it is not yet known how König specimens came into van Royen's hands but the generosity of many botanists of that era to each other is well known.

It is clear then that typical *zeylanicum* is not identical with typical *furcatum*; C. B. Clarke was basically correct and Brand, Riedl and Kazmi wrong. The combination *C. zeylanicum* does, however, date from Brand even though his

FIG. 2. *Cynoglossum zeylanicum*. Probable isotype specimen of *Anchusa zeylanica*. Leiden, Herb. van Royen (photograph by courtesy of Prof C. Kalkman).

description refers to the other species. The Wallich herbarium is a minefield for the unwary with its often diverse specimens originally thought to be conspecific gathered together under one number which on its own is frequently quite inadequate to indicate a type. The nomenclature of the two species is set out below. The Indian species are still not well sorted out and most herbarium material is in confusion. It is not my intention to discuss the relationships of the Indian and Indonesian species which need study by someone with a deep knowledge of Indian phytogeography. I was puzzled by the fact that a Nepal species I wished to mention in my Flora of Tropical East Africa account should be called *C. zeylanicum*. These notes may help a future reviser of the Asiatic species.

Cynoglossum furcatum *Wall.* in Roxb., Flora Indica ed. Carey & Wall. 2: 6 (1824); C. B. Cl. in Hook. f., Fl. Br. India 4(1): 155 (1883). Type: Nepal *Wallich* (holotype K–HERB. WALLICH 919.2; isotypes K).

C. zeylanicum sensu Brand in Engl., Pflanzenr. IV. 252 [Heft 78]: 134 (1921); Riedl in Fl. Iranica 48/15 Boraginaceae: 145 (1967); Kazmi in Journ. Arn. Arb. 52: (1971) non (Lehm.) Brand sensu stricto.

The original description which emphasizes the soft indumentum leaves no doubt that the type material was collected by Wallich in Nepal. The commonly cultivated *C. amabile* Stapf has exactly similar indumentum but larger flowers. *C. amabile* Stapf var. *parviflorum* described by Turrill (1949) is intermediate.

Cynoglossum zeylanicum (*Lehm.*) *Brand* in Engl., Pflanzenr. IV. 252 [Heft 78]: 134 (1921) quoad typum.

Anchusa zeylanica Vahl ex Hornemann, Hort. reg. bot. hafniensis 1: 176 (1813). Type: probably Ceylon, between Galle and Matara, *Koenig* (holotype C–HERB. VAHL; isotype? L) non Jacq. f. (1812) nom. illegit.
Myosotis zeylanica Lehm. in Neue Schrift. naturf. Ges. Halle 3(2); 21 (1817). Type: as for *A. zeylanica* Vahl ex Hornemann (holotype C).
Echinospermum zeylanicum (Lehm.) Lehm., Plantae fam. Asp. Nuc.: 116 (1818). Type as for *A. zeylanica.*
C. heynei G. Don, Gen. Syst. Gard. 4: 354 (1838). Type: India, Madras, *C. lanceolatum* sensu *Heyne* in *Wallich Herb* 921.1 (lectotype K–HERB. WALLICH)*
C. furcatum Wall. var. *lanceolatum* C. B. Cl. in Fl. Brit. India 4(1): 156 (1883). Type as for *C. heynei* (which is cited in synonymy by Clarke together with *C. lanceolatum* Heyne nomen).
C. denticulatum A. DC. in DC., Prodr. 10: 150 (1846) var. *zeylanicum* (Lehm.) C. B. Cl. in Fl. Brit. India 4(1): 157 (1883) nom. fals. quoad typum.

It is clear that C. B. Clarke considered the indumentum of *C. furcatum* varied and that this was a variety with coarser rough indumentum. Kazmi does not mention var. *lanceolatum* C. B. Cl. at all but does not in his key allow for

*G. Don cites the locality Dindigul and also *Cynoglossum lanceolatum* Heyne non Forssk.; Wallich 921 consists of four parts and 921D is a Wight specimen from Dindigul. It may be a syntype since Heyne mentions no locality on his label. 921B has a pencilled note *C. denticulatum var zeylanicum* C. B. Cl. but is a specimen with narrower leaves.

anything but fine velvety indumentum. A specimen at Kew from Ceylon, *Gardner* 620, appears to be a reasonable match of the type of *C. zeylanicum* (Figs. 1 & 2).

Acknowledgements

I am very grateful to D. Mabberley for his comments on an earlier draft of this paper and for pointing out to me the earlier *Anchusa zeylanica* Jacq. f. which I had overlooked (despite the fact that Lehmann (1817, p. 12) refers to it) and to R. K. Brummitt for giving his opinion on the difficult nomenclatural points.

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