

The Original Material of Two Turkish Species of *Erica* (Ericaceae) Described and Named by Richard Anthony Salisbury (1761-1829)

E. Charles NELSON*

Registrar, The Heather Society, c/o Tippitiwitchet Cottage, Hall Road, Outwell, Wisbech, PE14 8PE, Cambridgeshire, UK.

Received: 07.09.2006

Accepted: 03.07.2007

Abstract: The holotype of *Erica spiculifolia* Salisb., annotated by Salisbury, has been traced in The Natural History Museum, London. No holotype of *E. manipuliflora* Salisb. has been located, and so a neotype, one of John Sibthorp's specimens, has been designated in The Natural History Museum, London.

Key Words: Richard Salisbury, John Sibthorp, Ericaceae, *Erica*, *Flora graeca*, Turkey, holotypes, isotypes

Introduction

Erica spiculifolia Salisb. and *E. manipuliflora* Salisb. both occur in Turkey. Until the late 1990s, *E. spiculifolia* was separated from the other northern hemisphere species of *Erica* L. and comprised the monotypic genus *Bruckenthalia* Reichb. (as *B. spiculifolia* (Salisb.) Reichb.; Stevens, 1978). However, following detailed studies of African genera of the subfamily Ericoideae (including *Erica*), as well as the European genera *Bruckenthalia*, *Calluna* Salisb., and *Daboecia* D. Don, Oliver (1989, 1996, 2000) argued that *Bruckenthalia* did not merit retention as a separate genus and so he reduced it to synonymy under *Erica*. Molecular studies (Kron et al., 2002) and DNA sequence data (McGuire & Kron, 2005) support Oliver's thesis that *B. spiculifolia* should be included in *Erica*.

These species were among the plants collected and preserved by John Sibthorp (1758-1796) while travelling in the Aegean region during the late eighteenth century (for details of Sibthorp's travels see Lack & Mabblerley, 1995). Among Sibthorp's companions on his journey between May 1786 and March 1787 was the botanical artist Ferdinand Bauer (1760-1826), and Bauer drew and later painted these *Erica* species for the fourth volume of Sibthorp's monumental, posthumous *Flora*

graeca (Sibthorp & Smith, 1823: tab. 352 = *E. manipuliflora*; tab. 353 = *E. spiculifolia*).

Richard Anthony Salisbury (1761-1829) named and described both species in his monograph on the genus *Erica*, which was published in late May 1802 within the *Transactions of the Linnean Society* of London. He had read his paper to the Society on 6 October 1801.

In *Flora of Turkey and the East Aegean Islands* volume 6, Stevens (1978) noted that the type specimens of *Erica spiculifolia* (as *Bruckenthalia spiculifolia*) and *E. manipuliflora* were in the Fielding-Druce Herbarium, Oxford (OXF), but, as demonstrated below, this is not the case. Stevens (1978) did not identify any particular specimens as the holotypes or as isotypes.

Erica spiculifolia Salisb.

Salisbury (1802) stated "Sponte nascentem in summitate Montia *Olympus*, legit heu defunctus Sibthorpe" – the late lamented Sibthorpe [*sic*] collected it growing naturally on the summit of Mount Olympus. He also cited a manuscript name that he attributed to Sibthorp – "E. olympiaca" – and concluded the protologue thus: "Persingularis est defunctus bractearum" – it is very unusual [in being] devoid of bracts.

* E-mail: admin@heathersociety.org.uk

There are 2 sheets of *E. spiculifolia* in the Fielding-Druce Herbarium, Oxford (OXF) collected by Sibthorp, but neither bears any indications that Salisbury had seen the specimens. Like the vast majority of Sibthorp's specimens they were not annotated with localities or dates of collection (*cf* Lack, 1997; Lack & Mabberley, 1999: 102). One sheet, with 3 specimens attached, has a label in James Edward Smith's handwriting "E. olympica Sibth. *E. spiculifolia* Salisb. & F. Graec. t. 353". The inclusion of the plate number from *Flora graeca* points to this label dating after the compilation of the first volume of *Florae graecae prodromus* (Sibthorp & Smith, 1806) in which these numbers were published. The second sheet, also with 3 specimens (and a fourth extraneous one that is not *E. spiculifolia*) is labelled "from Mount Olympus Herb. Sibth 257" and "879 *Erica spiculifolia* Salisb. Fl. Graec. t. 353 Bruckenthalia Prod. 1. 257" – 879 is the number assigned to the entry for the species in *Florae graecae prodromus* (Sibthorp & Smith, 1806) on p. 257. None of these specimens can be the holotype.

In the herbarium of The Natural History Museum, London (BM), there is a specimen annotated by Salisbury. Significantly, I argue, it bears the pencilled inscription "E. olympiaca Sibth. I — spiculifolia Salisb." and the comment in Salisbury's handwriting, again in pencil, "It differs from all I have ever seen in having no Bractae." On the back of the sheet is the name "Sibthorp", written in ink, and the annotation "This species grows on Mt. Olympus Bith." The annotation about the lack of bracts echoes the final Latin sentence of Salisbury's protologue, and he apparently is alone in attributing to Sibthorp the use, as the proposed specific epithet, of *olympiaca* (from the adjective *olympiacus*). In contrast, the specimens in Sibthorp's herbarium (OXF), as well as the text in both *Florae graecae prodromus* (Sibthorp & Smith, 1806) and *Flora graeca* (Sibthorp & Smith, 1823), have *olympica* (from *olympicus*).

Salisbury (1802) did not state explicitly that Sibthorp had sent him a specimen of this species. Sibthorp is known to have distributed duplicates to several botanists including Joseph Banks, Peter Pallas, and Joseph Franz von Jacquin (Lack & Mabberley, 1999: 102). As the OXF specimens do not bear any signs that Salisbury saw them, whereas Sibthorp's specimen in BM (000885845) was annotated by Salisbury, it would seem to be the one specimen used by Salisbury and, therefore, to be the holotype.

The status of the OXF specimens is doubtful. Only duplicate specimens, collected by the same person at the same time as the holotype, can be isotypes (*cf* McNeill et al., 2006: 12, footnote). The OXF specimens might be isotypes, but it is not known when they were gathered because they are not labelled with dates. Sibthorp made 2 visits to Bithynian Olympus (Uludagh), first in mid-August 1786 and then 8 years later in August 1794. Whether the specimen of *Erica spiculifolia* that Salisbury annotated was collected in 1786 or 1794 cannot now be determined.

Erica manipuliflora Salisb.

Salisbury (1802) was explicit: "Juxta *Bujuchtar* a selectam misit amicissimus Sibthorpe" – my very good friend Sibthorpe [*sic*] sent it, collected by him near *Bujuchtar*. "*Bujuchtar*" is equated with the modern toponym *Büyükdere*, which is situated on the European side of the Bosphorus, about 10 km from the northern end (Webb, 1966: 90-91; Stevens, 1976).

According to *Florae graecae prodromus* (Sibthorp & Smith, 1806), Sibthorp collected this species "In sylvis ad pagum *Belgrad*, prope Byzantium, et in insulâ *Cretâ*". *Belgrad* Forest, centred on the village of *Belgrad*, is a short distance to the west-north-west of *Büyükdere* (*cf* Webb, 1966: 90-91), and about 17 km north of Byzantium (modern *İstanbul*). However, "ad pagum *Belgrad*, prope Byzantium" does *not* necessarily equal *Bujuchtar* (*Büyükdere*), although it may be the same locality.

Where is the specimen from *Büyükdere* that Sibthorp sent to Salisbury, which is the only possible choice as holotype? While Meikle (quoted in Stafleu & Cowan, 1985: 3) stated that there was no "evidence that Salisbury ever possessed" a herbarium, there is in fact evidence that he did, including his statement about Sibthorp sending him the specimen, the one that has to be the holotype of *Erica manipuliflora*. (Evidence for Salisbury's herbarium will be discussed elsewhere.)

None of the 4 sheets of this species in the Fielding-Druce Herbarium, Oxford (OXF), bearing specimens collected by Sibthorp, has any indication that it was ever seen by Salisbury. One sheet (white mounting paper) is annotated "Cretan plants" and thus cannot be a type specimen; judging by the protologue Salisbury was not aware of the species' occurrence on Crete. According to criteria established by Lack (1997: 259), this specimen

would have been collected by John Hawkins, Sibthorp's companion, in Crete during the spring of 1794. The other 3 sheets have no localities or dates of collection written on them, and so we cannot tell if they were collected at Büyükdere. They are not necessarily duplicates of the specimen that Salisbury used, the holotype.

There is a sheet in The Natural History Museum, London (**BM**), bearing a single specimen but with clear signs that another specimen and a label or similar attachment have been removed. On the back it is inscribed "Herb. Pallas E. Sibthorp" in handwriting that is known to be associated with Alymer Bourke Lambert's herbarium (AR Vickery, *pers. comm.*); Lambert purchased P.S. Pallas's (1741-1811) herbarium at auction in May 1808 (Lambert, 1811; Miller, 1970). In the upper left corner there is a label which has the locality "Circa Byzant[ium]" and the names "Erica purpurascens L.?" and "Erica verticillaris [*sic*] Forsk." – the handwriting resembles that of Sibthorp. In pencil, in a different hand, on the lower left of the sheet is written the name "Erica vagans L.", and above this a very indistinct name, partially indecipherable "Erica ... flora" – it could be "manipuliflora". This specimen would probably not have been available to Salisbury before his paper was published as it was presumably in Pallas's possession until 1808. At best, this is a candidate for selection as a neotype.

To date no other specimens of *E. manipuliflora* directly connected with both Sibthorp and Salisbury have been traced, and as none of the available specimens in **OXF** and **BM** can be stated unequivocally to have been studied by Salisbury, if a holotype existed it does not appear to have survived.

Pallas's specimen (**BM**) of *E. manipuliflora*, collected by Sibthorp, which bears the locality "Circa Byzant[ium]" in handwriting that resembles Sibthorp's, came from the same general locality as the lost holotype. This specimen is here designated as neotype of *E. manipuliflora* Salisb.

References

Kron KA, Judd WS, Stevens PF, Crayn DM, Anderberg AA, Gadek PA, Quinn CJ & Luteyn JL (2002). A phylogenetic classification of Ericaceae: molecular and morphological evidence. *Bot Rev* 68: 335-423.

Lack HW (1997). The Sibthorpien Herbarium at Oxford – guidelines for its use. *Taxon* 46: 253-263.

Erica manipuliflora is not the earliest available name for this species, and so to maintain existing usage the name is being proposed for conservation (Nelson & Wulff, 2007).

Summary

Erica spiculifolia Salisb. *Trans Linn Soc* 6: 324 (1802).

Syn. *Bruckenthalia spiculifolia* (Salisb.) Reichb. *Fl Germ Excurs* 414 (1830); *Fl Turkey* 6: 98 (1976).

Holo: ["in summitate Montis *Olympus*", i.e. Ulud?gh], *Sibthorp* **BM** (000885845)!

Erica manipuliflora Salisb. *Trans Linn Soc* 6: 344 (1802) *nom. cons. prop.* (Nelson & Wulff 2007, in press)

Syn. *E. verticillata* Forsk. *Fl Aeg-Arab*, 210 (1775) non Berg.

Holo: ["juxta Bujuchtar" (Salisbury 1802)], *Sibthorp*, not traced; neo: *hic designatus* "Circa Byzant[ium] ... Sibthorp"; **BM** (000932500;ex Herb. Pallas)!

Acknowledgements

My thanks are due to Philip Oswald for his translation of Salisbury's Latin, and to Professor John McNeill (Royal Botanic Garden, Edinburgh) for his extremely helpful comments and advice. I am also very grateful to the staff of the Fielding-Druce Herbarium (especially Serena Marnier) and Plant Science Library (especially Anne-Marie Townsend), Department of Plant Sciences, Oxford, and to the staff of the Botany Department (especially Roy Vickery and Vicky Papworth) and the Botany Library, The Natural History Museum, London, for their assistance. This research was supported by grants from The Appleyard Fund of The Linnean Society of London, and from The Authors' Foundation (The Society of Authors).

Lack HW & Mabberley DJ (1999). *The Flora Graeca story. Sibthorp, Bauer, and Hawkins in the Levant*. Oxford: Oxford University Press.

Lambert AB (1811). Some account of the herbarium of Professor Pallas. *Trans Linn Soc* 10: 256-265.

- McNeill J, Barrie FR, Burdet HM, Demoulin V, Hawksworth DJ, Marhold K, Nicolson DH, Prado J, Silva PC, Skog JE, Wiersema JH & Turland NJ (eds) (2006). *International code of botanical nomenclature (Vienna Code)*. Ruggell: A. R. G. Gantner Verlag KG. [Regnum Veg Vol. 146].
- Miller HS (1970). The herbarium of Aylmer Bourke Lambert. Notes on its acquisition, dispersal, and present whereabouts. *Taxon* 19: 489-656.
- Nelson EC & Wulff EMT (2007). (1786) Proposal to conserve the name *Erica manipuliflora* against *E. forskalii* (Ericaceae). *Taxon* 56 (in press).
- Oliver EGH (1989). The Ericoideae and the southern African heathers. *Bot J Linn Soc* 101: 319-327.
- Oliver EGH (1996). The position of *Bruckenthalia* versus *Erica*. *Yb Heather Soc*: 6.
- Oliver EGH (2000). Systematics of Ericaceae (Ericaceae: Ericoideae): species with indehiscent and partially dehiscent fruits. *Contrib Bolus Herb* 9.
- Salisbury RA (1802). Species of *Erica*. *Trans Linn Soc* 6: 316-388.
- Sibthorp J & Smith JE (1806). *Floræ græcæ prodromus: sive Plantarum omnium enumeratio quas in provinciis aut insulis Graeciae invenit Johannes Sibthorp. Characteres et synonyma, omnium cum annotationibus elaboravit Jacobus Edvardus Smith*. Volume 1. London: R Taylor.
- Sibthorp J & Smith JE (1823). *Flora graeca: sive Plantarum rariorum historia, quas in provinciis aut insulis Graeciae legit, investigavit et depingi curavit Johannes Sibthorp ... Characteres omnium, descriptiones et synonyma elaboravit Jacobus Edvardus Smith*. Cent 4. London: R Taylor.
- Stafleu FA & Cowan RS (1985). *Taxonomic literature*. Second edition. Volume 6 (Sal-Ste). [Regnum Veg. Vol. 115].
- Stevens PF (1978). *Erica* L.; *Bruckenthalia* Reichb. In: Davis PH, Cullen J & Coode MJE (eds) *Flora of Turkey and the East Aegean Islands*. Vol. 6, pp 95-98.
- Webb DA (1966). The flora of European Turkey. *Proc R Ir Acad* 65, sect. B, no. 1: 1-100.