

# *Thamnobryum maderense* (Kindb.) Hedenäs new to the British Isles

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## Introduction

*Thamnium maderense* Kindb. was described as a new species in 1902 (Kindberg, 1902) and transferred to *Thamnobryum* by Hedenäs (Hedenäs, 1992a). For a long time it was considered endemic to Macaronesia, growing in the Canary Islands as well as Madeira, but was discovered new to continental Europe in the Serra de Estrela mountains in central Portugal in 1998 (Blockeel *et al.*, 2000). A further herbarium specimen from northern Portugal collected in 1994 also turned out to be *T. maderense* (Blockeel *et al.*, 2000).

A puzzling specimen of *Thamnobryum* was collected by one of us (MG) in January 2004 at Copmere, near Eccleshall in Staffordshire. It was tentatively identified by NGH as *T. maderense*, as it looked identical to plants seen and collected in Madeira, although this seemed unlikely in view of its locality in the English Midlands. However, Lars Hedenäs kindly confirmed the identification. MG and NGH visited the site

together in March 2005 and were able to detect the plant again, albeit in small quantity.

## Identification of *T. maderense*

Full descriptions of *T. maderense*, with illustrations, are given by Hedenäs (1992a, 1992b), so it seems superfluous to repeat these. The Staffordshire plant agrees closely with these descriptions. The key characters separating *T. maderense* from *T. alopecurum* are shown in Table 1. The Staffordshire plant is illustrated in Figure 1.

## Discussion

At its Staffordshire site, *T. maderense* grows just above water-level on sheltered, damp rocks at the side of an outflow channel by a small artificial pond just north of Cop Mere (see Figure 2). It is closely associated with *Platyhypnidium* (*Rhynchostegium*) *riparioides*, which is the dominant bryophyte just above the surface of the water. *T. maderense* grows in the most

**Table 1.** Key characters differentiating *Thamnobryum maderense* from *T. alopecurum*.

	<i>T. maderense</i>	<i>T. alopecurum</i>
Leaf arrangement	Strongly complanate	Not complanate
Stem leaves in the frond	Ovate or broadly ovate, narrowed at base	Ovate-triangular, broadest at or near base
Stem leaf nerve	Often percurrent; plano-convex in transverse section	Ending below leaf apex; biconvex in transverse section
Mid-leaf cells (stem leaves)	More or less isodiametric, very irregular in shape	Somewhat elongate, more regular in shape
Capsule	Cylindrical or elongate-ovoid, with exothelial cells rectangular or shortly rectangular	Shortly cylindrical or obloid, with exothelial cells quadrate or rectangular

sheltered, shaded and humid recesses of the rocks. *T. alopecurum* tends to form a zone further away from the water, above *P. riparioides* and *T. maderense*, but still very closely associated with those species, and in places shoots of the two species of *Thamnobryum* grow in intimate association. Other associates include *Lejeunea cavifolia* and *Lophocolea bidentata*. No fertile material of *T. maderense* was found.



**Figure 1.** *Thamnobryum maderense* from Cop Mere, Staffordshire.

The site is within the grounds of Sugnall Park, and nearby there are many exotic plants in an area known locally as the 'American Garden'. It seems feasible that *T. maderense* may have been inadvertently introduced with these exotics. It is not known whether any of the garden plants of

Sugnall Park are of Macaronesian origin. The rocks on which *T. maderense* is growing were presumably placed there, rather than being natural, but their origin is not known. The underlying geology is glacial with Keuper marl as its basis. Cop Mere itself is a glacial relict.

An alternative explanation for the presence of such an unexpected moss in the English Midlands is that *T. maderense* may be nothing more than a form of *T. alopecurum* which appears from time to time in more than one place. The two species are certainly very closely related, and some shoots appeared to be rather intermediate. A colony of *Thamnobryum* on damp brickwork at the base of a nearby gazebo in Sugnall Park had a slightly complanate leaf arrangement, with the mid-leaf cells almost isodiametric, but eventually it was assigned to *T. alopecurum*.

#### Collection details

*Thamnobryum maderense*, north of Cop Mere, Staffordshire, v.-c. 39, SJ801301, ca 100 m alt., 10 January 2004, Martin Godfrey. Specimens in BBSUK, herb. Godfrey and herb. Hodgetts.

*Thamnobryum maderense*, north of Cop Mere, Staffordshire, v.-c. 39, SJ80133006, ca 100 m alt., 11 March 2005, Martin Godfrey & Nick Hodgetts 4980. Specimen in herb. Hodgetts.

#### Acknowledgments

We would like to thank Lars Hedenäs for confirming the identity of the Staffordshire plant.

#### References

- Bloekel TL, Bergamini A, Brusa G, Ertz D, Sérgio C, Garcia C, Hedenäs L, Müller F, Nieuwkoop JAW, Sabovljević MS. 2000. New national and regional bryophyte records, 3. *Journal of Bryology* **22**: 303-306.
- Hedenäs L. 1992a. Notes on the genus *Thamnobryum* in Macaronesia (excluding the Cape Verde Islands). *Journal of Bryology* **17**: 119-125.

Hedenäs L. 1992b. Flora of Madeiran pleurocarpous mosses (Isobryales, Hypnobryales, Hookeriales). *Bryophytorum Bibliotheca* 44: 1-165.

Kindberg NC. 02. Grundzüge einer Monographie der Laubmoos-Gattung *Thamnium*. *Hedvigia* 41: 203-268.



Figure 2. Habitat of *Thamnobryum maderense* on rocks by outflow channel at Cop Mere, Staffordshire.