Tetrodontium brownianum
Brown’s Four-tooth Moss

Identification
The first impression of this tiny moss (2 mm or less tall) is of dark brown sporophytes apparently growing directly out of rock. These have elliptically shaped capsules, borne on a short (4 mm) seta, and 4 large, triangular peristome teeth. The shoots bearing these capsules are tiny, consisting of a few appressed and overlapping leaves that are about 1 mm long, narrowly egg-shaped, with a tapering tip. The upper leaves have poorly developed nerves, but the lower leaves have no nerve. Shoots grow out of a persistent protonema, among specialized, protonemal leaves, which are up to 2.5 mm long, scattered or loosely aggregated, shiny, linear or somewhat broadened towards the tip, and sometimes forked. Small colonies may be composed entirely of these protonemal leaves.

Similar species
Only really confusable with its extremely rare relative T. repandum (Smith, p. 139), which differs in its production of long, thin branches with 3 ranks of leaves, nerveless upper leaves, and smaller, less well-developed protonemal leaves with slightly toothed margins. It is also superficially similar to several other minute acrocarps that also grow on rocks, for example Seligeria species (pp. 545–551), Brachydontium trichodes (p. 552) and Campylostelium saxicola (p. 534), but differs from all these in its nerveless, thickened, protonemal leaves, and, when fruiting, in its distinctive peristome, otherwise only seen in the larger, leafier Tetraphis pellucida (p. 333).

Habitat
Characteristically found under overhangs and on vertical, slightly base-enriched siliceous rock faces, which are intermittently wet and humid. Usually in considerable shade, and generally found only by actively searching for it. The much rarer T. repandum has only been collected twice in Britain and has not been seen here for over 50 years.

Photos Michael Lüth (left) & Christine Rieser (right) Text Fred Rumsey