

The leech *Glossiphonia verrucata* (Hirudinea: Glossiphoniidae) in Scotland

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Historically, there are relatively few records of the leech *Glossiphonia verrucata* (F. Müller, 1844) from the British Isles. Johnston (1865) first reported a specimen in the British Museum (Natural History) collections from Cobham, Surrey. However Mann (1953) re-examined the specimen and found the identification to be incorrect. McCarthy (1975) reported *G. verrucata* from the River Camlin in County Longford, Ireland and Elliott and Mann (1979) reported that the species was also known from England but did not give any records. However, this note may relate to a specimen in the Freshwater Biological Association collection from the River Soar at Birstall, Leicestershire, collected in 1958 (McCloskey & Elliott, 2001). Elliott & Tullet (1982) provide two additional records from Oxfordshire and Essex. The Environment Agency first recorded *G. verrucata* from the River Rea near Edgbaston in 1988 and since then has recorded it across much of England, particularly the Midlands, East Anglia and Lincolnshire (Fig. 1). Sampling by the Scottish Environment Protection Agency has not recorded this species from Scotland (Ian Lorimer, pers. comm.).

The first Scottish record of *G. verrucata* was from Strathclyde Loch, South Lanarkshire (NS7257), and was a single specimen found by S.D. during monitoring before the use of the loch for a triathlon event in 2016. The loch was used again for the European Championships in 2018 and the leech was recorded by S.D. from several locations in its southern basin and also in the River Clyde immediately downstream of the loch outlet. The habitat was silt over man-made substrate.

More recently a second specimen of *G. verrucata* was collected by A.L. and J.L. while sampling for freshwater molluscs in the Forth and Clyde Canal at Lock 17 near Underwood, Stirlingshire (NS8057179007) on 6th December 2018. The canal here is approximately 20 m wide and fringed with reed sweet-grass (*Glyceria maxima*) (Fig. 2). The canal was accessed from the towpath on the north bank, where a floating pontoon is

located immediately east of the canal lock. Submerged vegetation was swept with a telescopic pond net (240 x 300 mm frame; handle 82 cm collapsed, 125 cm extended; 1 mm mesh net). The resultant catch was transferred to a white tray where a single specimen of *G. verrucata* was found (Fig. 3). Other macro-invertebrates present included the water hog-louse *Asellus aquaticus*, the freshwater snails *Lymnaea stagnalis*, *Radix balthica*, *Physa fontinalis* and *Planorbis* sp., the caddisflies *Holocentropus dubius* and *Limnephilus* sp., and the non-native shrimp *Crangonyx pseudogracilis*.



Fig. 1. Distribution of records of the leech *Glossiphonia verrucata* in Great Britain (red dots = recent Scottish records discussed herein). Source of data: Environment Agency.



Fig. 2. Forth and Clyde Canal at Underwood, Stirlingshire, Scotland. (Photo: C. Macadam)



Fig. 3. Specimen of the leech *Glossiphonia verrucata* collected at Underwood, Stirlingshire, Scotland. The animal was 18 mm long. (Photo: C. Macadam)

Whether *G. verrucata* is an overlooked British species or an introduced non-native species is difficult to ascertain. The paucity of records in the U.K. prior to the 1970s suggests that it is a recent introduction to British waters, although the lack of attention given to freshwater leeches in general means that it is likely under recorded. The relatively recent expansion in the distribution of records in England could signify the spread of a non-native species, and certainly the discovery of this species in Scotland, some 290 km north of the nearest English record suggests that it may have been introduced accidentally, perhaps on the hull of a boat. The Forth and Clyde Canal was re-opened to boat traffic in 2001 and Strathclyde Loch has been used for international water sports events for several decades.

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