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COMMUNICATIONS

A QUICK SECURE WAY OF MARKING FRESHWATER PEARL MUSSELS

In an ecological study we needed a method of marking individually freshwater pearl mussels which was quick, clear and secure for some years. After unsuccessful trials with engraving numbers (erosion resulted), painting numbers (they wore off) and tags applied with epoxy-resin glues (too slow to set), the following method was devised.

Each mussel was removed from the water and dried roughly. An area of about 10×5 mm on the flattest part of the shell (usually $\frac{2}{3}$ of the way between the shell edge and the umbone and near the anterior end) was scraped clean of periostracum with a scalpel. This area was dried with a tissue and then wiped with a tissue soaked in 100% alcohol. This was allowed to evaporate and then a tag was stuck on with a small amount of 'Loctite' or other 'superglue', allowing 30 seconds pressure for the glue to dry. The tags were made from Dymo tape cut as small as possible around the impressed numbers and with the corners rounded off. The whole procedure takes about two minutes.

In a typical trial 20 mussels were marked and returned to their stream in June 1978. One died in July 1979, with its mark intact, and by March 1981 18 of the remaining 19 still had secure tags. In many of our experiments not a single tag was lost and no casualties resulted.

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LAND MOLLUSCA FROM NORWAY, SWEDEN AND FINLAND

Various land Mollusca found in northern Fennoscandia during July–September 1982 represent new distributional records. Most of these are to the north of the northern range limits described in the literature (*Skr. norske Vidensk. Akad.* I (1925), p. 8; *Ann. Zool. Fennici* 4 (1967), p. 29; Kerney & Cameron, *A Field Guide to the Land Snails of Britain and North-west Europe*).

Arion circumscriptus Johnston. North-east of Umeå, Sweden (UTM grid reference: DR78).

Arion silvaticus Lohmander. Some records are to the north of the range limits hitherto reported: Norway (DC21), Sweden (CR92, DR35), Finland (NL95, PK49).

Arion distinctus Mabille. Small plantation of *Acer*, *Picea* and *Betula* in Stokkmarknes, Hadselöya, Norway (VS90). At 68° 34′ N. this is far to the north of the range limit reported at around 63° N. for the *Arion hortensis* Férussac aggregate.

Oxychilus draparnaudi (Beck). Under herbs on rockeries, Bergianska Trädgården (botanic garden), Stockholm (CL83). Waldén (*Ark. Zool.* (2) 7 (1955), p. 412) confirmed only one other record from the Stockholm region.

Limax maximus L. Beneath garden refuse under trees by graveyard at Karjalohja, Finland (FM58). There does not appear to be any other record from an open site in Finland, although it is not rare in greenhouses (*Ann. Zool. Fennici* 4 (1967), p. 31).

Clausilia bidentata (Ström). Several sites in Troms Fylke (DC72, EC05) are near the north-eastern range limit reported in Norway. However, a site 2 km WSW. of Borselv, east Porsangen (MU04) is the first record from Finnmark and over 300 km to the east of the range limit hitherto known. At the Porsangen site it was living under *Betula pubescens* Ehrh. amongst boulders at the base of a limestone crag.

Balea perversa (L.). Several records extend the northern range limit in Norway beyond the 68° N. hitherto reported (VR24, VR35, VR58, VS80, WS04, WT80, CC82). All of these northern sites were on rocks 3–12 m above high-tide level on shores exposed to the west. The snails occurred along the edges of rock cracks beside *Festuca rubra* L. and herbs, or under the edges of moss mats (principally *Racomitrium*). The northernmost record was on the west coast of Store Sommaröya, west of Tromsö at 69° 36′ N.

Trichia hispida (L.). A thriving colony living on *Heracleum sphondylium* L. and other herbs growing on waste ground near the south end of Strandvegen in Tromsö town (DC22) at 69° 38′ N. is beyond the range limit hitherto reported, although this site resembles others reported from the northern part of the range in being associated with man. However, several other records from northern Norway are from habitats undisturbed by man, including a grove of *Alnus incana*, *Salix* and *Betula* (XR09), amongst herbs and grasses on limestone cliff at edge of fiord (WS61) and block scree shaded by *Betula*, *Sorbus aucuparia* L. and varied tall herbs (VR87).

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