

SCIENTIFIC NOTE

The Genus *Tropiphorus* (Coleoptera: Curculionidae: Entiminae) in North America

The genus *Tropiphorus* Schönherr, 1842 is a genus of Palearctic root weevils (Curculionidae: Entiminae), three species of which have been introduced to North America. *Tropiphorus obtusus* (Bonsdorff, 1785) is widely distributed in central and northern Europe from France and Italy, north to Norway and Sweden, east to Poland, Lithuania, Estonia, and the St. Petersburg region of Russia, and south to Bulgaria and Romania as well as in Great Britain and Iceland (Alonso-Zarazaga 2005). West (1937) also reports it from the Faroe Islands. *Tropiphorus terricola* (Newman, 1838) has a similar central and northern European distribution, except it is absent from the Baltic republics, northwestern Russia, Norway, and Iceland, but is found in Finland. *Tropiphorus carinatus* (Müller, 1776) has an almost identical distribution to *T. obtusus*, except it is absent from Iceland (Alonso-Zarazaga 2005).

All three are associated with damp, shaded habitats, often along streams in woodlands or alpine areas, where they can be found under stones or plants. In Europe *T. obtusus* has been collected in association with *Leontodon autumnalis* L. (Asteraceae), *Rumex acetosa* L. (Polygonaceae), and *Mercurialis perennis* L. (Euphorbiaceae) (Burakowski et al. 1993). All three weevils reproduce parthenogenetically (Burakowski et al. 1993) and are flightless (Palm 1996). Despite being flightless and terricolous, they appear to have excellent natural dispersal abilities. All are found in Great Britain; *T. carinatus* is found in the Shetland Islands (West 1937); and *T. obtusus* is found in the Faroes and Iceland (West 1937) including the recent volcanic islet of Surtsey, Iceland (Lindroth et al. 1973).

Tropiphorus obtusus and *T. terricola* were first reported in North America by Brown (1940). *Tropiphorus terricola* was first collected on the continent in Truro, Nova Scotia in 1913 followed by specimens from Québec City in 1917, and Charlottetown, Prince Edward Island in 1936 (Brown 1940). Brown (1967) subsequently reported *T. terricola* from St. John's, Newfoundland. *Tropiphorus obtusus* was first found by F.C. Gilliatt (a researcher with the Dominion Entomological Station in Annapolis Royal, NS) on 2 June 1933 while digging sod in Yarmouth, Nova Scotia (specimens in the Agriculture and Agri-food Canada collection, Kentville, Nova Scotia), an important seaport. The specimens were subsequently examined by L.L. Buchanan of the United States Department of Agriculture in Washington, who identified them as *T. obtusus*. The area was visited by W.J. Brown in 1947 who found *T. obtusus* common in meadows in Yarmouth, and 10 km inland in South Ohio (Brown 1950).

The third species, *Tropiphorus carinatus*, was found by Lindroth (1957) in Newfoundland. Brown (1967) reported that the specimens were from Cape Broyle on the Avalon Peninsula, however, there is also another unpublished specimen from Millertown in central Newfoundland (10–14 June 1951, C.H. Lindroth, University of Helsinki collection) (D. Larson pers. com.). This latter locality is in the interior of Newfoundland, distant from any coastal site, thus indicating secondary transport from a port of entry. These are still the only known specimens of *T. carinatus* and it is uncertain if the species is established in North America.

O'Brien and Wibmer's (1982) catalogue of weevils listed *T. obtusus* as occurring in Newfoundland and Nova Scotia and *T. terricola* from Newfoundland, Nova Scotia, and Québec. McNamara (1991) added the PEI record of *T. terricola* and maintained a Newfoundland occurrence for *T. obtusus*. As there are no published records of *T. obtusus* from Newfoundland (other than the listing in O'Brien and Wibmer 1982), and there are no specimens in any collection consulted by the present authors, we conclude that this record was in error and remove *T. obtusus* from the faunal list of Newfoundland.

Fig. 1 shows the distribution of *Tropiphorus* species in North America. *Tropiphorus terricola* occurs widely in Nova Scotia and Prince Edward Island, has recently been found in southern New Brunswick (Majka et al. 2007a) and has expanded its range to the west coast of Newfoundland (Norris Point, Bonne Bay, 10.viii.1982, D. Larson, Memorial University collection), a noteworthy trend for a flightless, terricolous species.

Brown (1967) provided a key to the three introduced species of *Tropiphorus*, however, we have found some characters in his key difficult to employ. Below is a revised key to species.

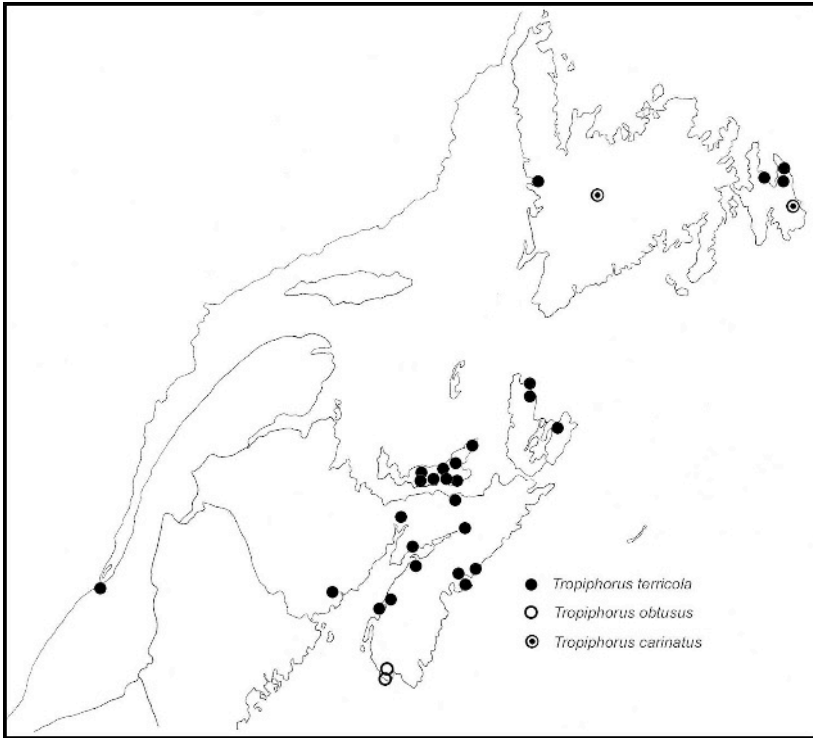


Fig. 1. The distribution of *Tropiphorus* weevils in North America.

Key to North American species of *Tropiphorus* Schönherr, 1842

- 1. Elytral intervals at most very slightly and equally convex..... – 2
- Elytral intervals 3, 5 and 7 distinctly elevated; interval 5 sub-costiform and continued beyond confluence with interval 7 as a raised ridge to elytral apex. Body length 5.0–6.5 mm..... *Tropiphorus carinatus* (Müller)
- 2. Elytra with base of intervals 7 and 9 at elytral humerus somewhat swollen, raised above bases of adjacent intervals, contour not evenly rounded; humeral angles prominent and directed anteriorly, hence line demarcating pronotal base from elytral base distinctly arched. Most dorsal scales metallic and coppery. Body length 5.2–5.4 mm..... *Tropiphorus terricola* (Newman)
- Elytra with base of intervals 7 and 9 at elytral humerus not swollen, not raised above bases of adjacent intervals, contour evenly rounded; humeral angles not directed anteriorly, hence line demarcating pronotal base from elytral base straight. Most dorsal scales white. Body length 5.7–6.5 mm..... *Tropiphorus obtusus* (Bonsdorff)

These three species are members of a large suite of adventive weevils found in the region. Majka et al. (2007b) document 60 species of introduced weevils in the Maritime Provinces. Many appear to have been introduced by means of the dry-ballast shipping mechanisms

proposed by Brown (1950) and Lindroth (1957). Further investigation of the status and distribution of all three species (especially *T. carinatus*) would be desirable.

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