

OCCURRENCE OF THE WOODLOUSE, *HYLONISCUS RIPARIUS* (KOCH) (ISOPODA: TRICHONISCIDAE), IN ONTARIOD. F. MCALPINE¹ AND M. J. OLDHAM²

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Most species of woodlice recorded in Canada are not native (Bousfield 1978), having been widely introduced from Europe. They play an active, although not exclusive, role as detritivores, especially in synanthropic habitats; however, in spite of their significant ecological role, they have received scant attention in Canada. Early reports that summarize data on the occurrence of woodlice in Ontario include Johansen (1926) and Walker (1927, 1928). Judd (1965) and Rafi and Thurston (1982) report on the woodlice of the London and Ottawa regions, respectively. Jass and Klausmeier (2000, 2001) present a compendium of woodlice species covering North American reports by state and province and list 13 species of woodlice as recorded from Ontario as follows: *Andronicus dentiger* Verhoeff, *Armadillidium nasutum* Budde-Lund, *Armadillidium vulgare* (Latreille), *Cylisticus convexus* (De Greer), *Haplophthalmus danicus* Budde-Lund, *Ligidium elrodii*, *Oniscus asellus* Linnaeus, *Porcellio laevis* Latreille, *Porcellio scaber* Latreille, *Porcellio spinicornis* Say, *Porcellionides pruinosus* (Brandt), *Trachelipus rathkii* (Brandt), and *Trichoniscus pusillus* Brandt. Additionally, Rafi and Thurston (1982) report *Philoscia muscorum* (Scopoli) from the Ottawa region and Dexter et al. (1988) collected *Hyloniscus riparius* (Koch) on Middle Island in western Lake Erie (the southernmost point of land in Canada), meters from the Ontario-Ohio border. Here we record the first mainland Ontario occurrence for *Hyloniscus riparius* (Koch) and propose that this small woodlouse is more widespread in Ontario than these two collection records suggest.

During investigations of the woodlice of southern Ontario and the Maritimes, one of us (MJO) collected 3 females of *Hyloniscus riparius* (Figure 1A) from the Braeside Alvar (alvar = limestone plain characterized by thin soils and sparse vegetation), 3 km northwest of Braeside, Renfrew County, Ontario (45.482°N 76.442°W) on 23 June 2010. Voucher specimens were deposited in the general invertebrate collections of the New Brunswick Museum (NBM 10221). Our specimens agree with the description and illustrations provided

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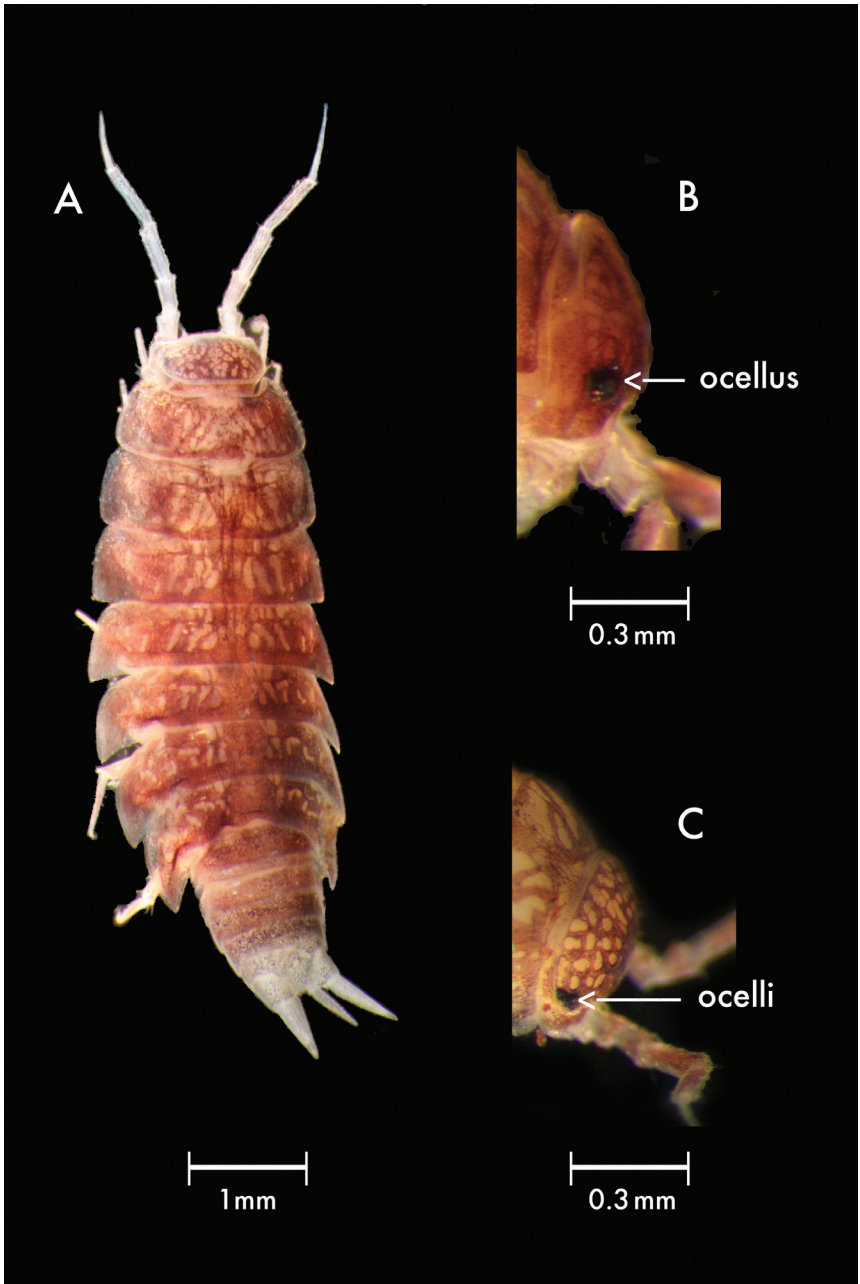


FIGURE 1. Comparison of Ontario specimens of *Hyloniscus riparius* and *Trichoniscus pusillus*: A) *Hyloniscus riparius*, entire body (NBM 10221; Braeside, Ontario); B) *H. riparius*, head—note the single ocellus; C) *Trichoniscus pusillus* (NBM 10223; Bishops Mills, Ontario)—note the three ocelli comprising each eye.

by Schultz (1965); the 6 flagellar segments are visible (characteristic of Trichoniscidae) and the single left and right ocellus (Figure 1B) immediately distinguish *H. riparius* from the superficially similar and more common *T. pusillus*. In the latter species, 3 ocelli make up each eye (Figure 1C). The Braeside specimens range in size from 4.6–6.3 mm (head–telson), approximating the range for females (2.6–5.2 mm) reported by Schultz (1965). One of the females was gravid with 8 eggs. Schultz (1965) found the sex ratio strongly female biased (2:1) in New Jersey and reports the number of offspring in marsupia ranging from 5–17, with a mean of 10. Likewise, Jass and Klausmeier (2003) found females predominant in Wisconsin, but did find a significantly higher proportion of males (34.7%) from localities in the north of the state.

The specimens we collected appear to be the first mainland occurrence for this eastern and central European woodlouse in Ontario, and only the third for Canada (Dexter et al. 1988; Jass and Klausmeier 2001). The first was that of Palmén (1951) for St. John’s, Newfoundland (the latter, coincidentally, the first for North America). Palmén (1951) found *H. riparius* closely associated with a greenhouse and garden in St. John’s and felt the species occurrence in Newfoundland to be entirely dependent on such habitats. However, Muchmore (1957) and Schultz (1965) provided evidence of well-established, permanent, outdoor populations of *H. riparius* in New York, New Jersey, North Carolina, and Pennsylvania, and Jass and Klausmeier (2000) also included Michigan and Wisconsin. Jass and Klausmeier (2003) studied the reproductive biology of *H. riparius* in Wisconsin and found that the in-soil habits of the species, relative to the more surface-active *T. rathkii*, permitted the former to extend its breeding season. As a less surface-active species, *H. riparius* would seem well adapted to surviving outside the greenhouse habitat over much of Ontario.

Jass and Klausmeier (2000) report habitat preferences for *H. riparius* as “wetlands, riparian”. Muchmore (1957) found numerous specimens under logs, rocks and debris. According to Schultz (1965), *H. riparius* in North America is often associated with stream-side habitats or damp areas with dense weed cover. Dexter et al. (1988) report *H. riparius* to be a shoreline species on the six islands in western Lake Erie where it was collected. Jass and Klausmeier (2003) found this species in a wide variety of habitats in Wisconsin, including sites dominated by native vegetation, but all characterized by high soil moisture. The specimens reported here were collected from beneath logs and debris in association with *T. rathkii* (NBM 10222) from a site characterized as disturbed alvar.

It seems likely that *Hyloniscus riparius*, well established outside the greenhouse habitat in North America for at least half a century and with Canadian occurrences now known from Newfoundland and both mainland and insular Ontario, is much more widely distributed in eastern Canada than the current few records indicate.

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