

First records of *Meotica exilis* (Knoch) and *Stenichnus scutellaris* (Müller & Kunze) (Coleoptera: Staphylinidae) for the province of Quebec, Canada

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Introduction

The Staphylinidae (rove beetles) correspond to the beetle family with the most species recorded in Canada. The Canadian fauna might count more than 2000 species (Bousquet et al., 2013; Brunke et al., 2019). More than 153 species are considered adventive for the country, many of them with a Palaearctic origin (Klimaszewski et al., 2013; Brunke et al., 2019). Two adventive species of rove beetle have been recently collected on Mont-Royal (Montreal, Quebec, Canada): *Meotica exilis* (Knoch) (Aleocharinae) and *Stenichnus scutellaris* (Müller & Kunze) (Scydmaeninae). The genus *Meotica* Mulsant & Rey includes 20 Palaearctic species (Assing & Vogel, 2019). Amongst these, two of them, *Meotica exilis* and *M. pallens* (Redtenbacher), are adventive in North America. A third species, *M. pseudowinkleri* Klimaszewski & Langor, is native to Canada (Klimaszewski et al., 2018). The genus *Stenichnus* Thomson includes approximately 200 species worldwide (Jałoszyński, 2013). The genus is mainly represented in the western Palaearctic, with more than 130 species recorded (Davies, 2004). Six species are known from Canada: four native, *Stenichnus badius* (Casey), *S. ovipennis* (Casey), *S. perforatus* (Schaum) and *S. turbatus* (Casey); two are adventive: *S. collaris* (Müller & Kunze) and *S. scutellaris* (Bousquet et al., 2013; Pentinsaari et al., 2019). In Canada, *Meotica exilis* is recorded from Nova Scotia and *Stenichnus scutellaris* from Ontario (Majka & Klimaszewski, 2008; Pentinsaari et al., 2019). This work reports the first records of both species for the province of Quebec.

Results and Discussion

For confident identifications of *Meotica exilis* and *Stenichnus scutellaris*, genitalic structures must be studied. Male (Fig. 2a) and female genitalia can be used for *M. exilis* (Assing & Vogel, 2019). For *S. scutellaris*, only male genitalia seem to be documented (Fig. 2b). Males of *S. scutellaris* have also typical

claviform profemora, truncated apically (Fig. 1b) which are not developed nor truncated in females (Freude et al., 1971). The specimens of both species were collected in leaf litter of a disturbed grove of deciduous trees: those of *M. exilis* in a small area regularly flooded, those of *S. scutellaris* in a small area at the base of a degraded slope. Until now, *M. exilis* was known in North America from only three localities in Nova Scotia, *S. scutellaris* from less than ten localities in Ontario (Majka & Klimaszewski, 2008; Pentinsaari et al., 2019).

Klimaszewski et al. (2013) reported a greater abundance of adventive rove beetle species around major port cities, as is the case for Montreal. Several other adventive invertebrate species have recently been reported from this same area on Mont-Royal: *Bipalium adventitium* Hyman (Platyhelminthida, Geoplanidae), *Anommatus duodecimstriatus* (Müller) (Coleoptera, Teredidae), *Loricula coleoptrata* (Fallén) (Heteroptera, Microphysidae), *Cephennium gallicum* Ganglbauer and *C. thoracicum* (Müller & Kunze) (Coleoptera, Staphylinidae) (Justine et al., 2019; Théry 2022 a, b; Théry & Ratzlaff, 2022). These five species all live in soil, litter or decaying organic matter, and several are known to be transported in potted plants. The presence of these five species on the Mont-Royal may be due to the existence of two large cemeteries (Mont-Royal and Notre-Dame-des-Neiges cemeteries) and more particularly that they may have been introduced in potted plants. The same hypothesis may apply to *Meotica exilis* and *Stenichnus scutellaris*.

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Material

https://data.canadensys.net/micropublications/resource?r=specimen_16



Figure 1. Dorsal habitus. (a) *Meotica exilis* with tip of the abdomen extracted, specimen CNC480419 (scale 200 µm); (b) *Stenichnus scutellaris*, specimen CTT2610 (scale 500 µm).

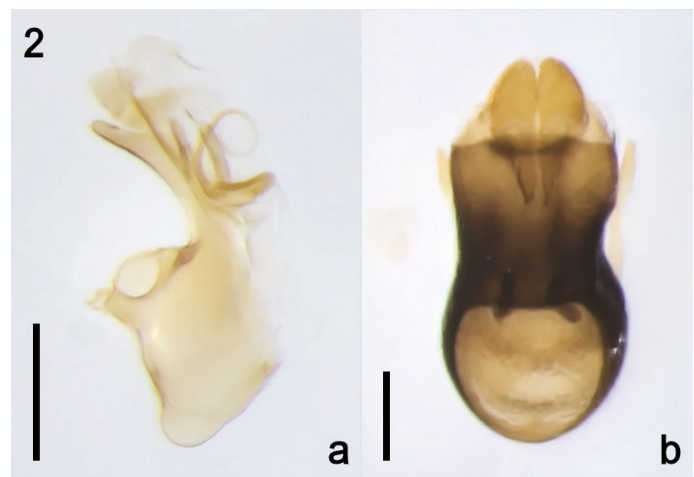


Figure 2. Aedeagus. (a) *Meotica exilis*, in lateral view, specimen CNC480419; (b) *Stenichnus scutellaris*, in ventral view, specimen CTT2610; (scale 100 µm).