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## SHORTER CONTRIBUTIONS

### SIX ROVE BEETLES (COLEOPTERA: STAPHYLINIDAE) NEW TO VIRGINIA

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#### ABSTRACT

Six species of rove beetles (Coleoptera: Staphylinidae), *Anotylus breviceps* (Casey), *Anotylus exiguus* (Erichson), *Anotylus insignitus* (Gravenhorst), *Homaeotarsus strenuus* (Casey), *Lithocharis nigriceps* (Kraatz), and *Stethusa spuriella* Casey are reported for the first time from Virginia. The specimens were captured by sampling white-tailed deer dung and in Malaise traps. All staphylinid taxa found in the dung of white-tailed deer are provided along with images of each new state record.

**Keywords:** Biodiversity, Fairfax County, national parks, new state records.

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#### INTRODUCTION

Sampling dung from white-tailed deer (*Odocoileus virginianus* [Zimmerman]) in Great Falls Park, Fairfax County, Virginia, (a unit of the George Washington Memorial Parkway [GWMP]) uncovered four species of rove beetles (Coleoptera: Staphylinidae), *Anotylus breviceps*, *Anotylus exiguus*, *Anotylus insignitus*, and *Stethusa spuriella*, reported for the first time from the Commonwealth. Approximately 0.5–1.0 kg of dung was gathered on 25 October, and 1, 8, 15, 22, and 29 November 2019, and 15 January 2020. Each dung sample was placed in a 19 L bucket and 3.8 L of warm tap water was poured over the dung. The mixture was stirred and all beetles were collected and as they rose to the surface of the water. The beetles were represented by only two families, Staphylinidae and Scarabaeidae. Beetles were placed in a vial of 95% ethanol and later pinned. Scarabaeidae were saved for later study. Staphylinidae were represented by six species in

four subfamilies (Aleocharinae [n=1], Omaliinae [n=1], Oxytelinae [n=3], and Paederinae [(n=1)]. *Anotylus* was the most common genus, represented by 22 male specimens (representing three species) and 39 unidentified females. *Anotylus insignitus*, a non-native species of Palaearctic origin, was the most common species found in dung samples (n=15 ♂). In addition to the four new state records, two species previously documented from GWMP (Brattain et al., 2019) *Arpedium schwarzi* Fauvel (n=1) captured 25 October and *Scopaeus* sp. (n=1) captured 29 November were found in deer dung.

Continued sorting of Malaise trap samples (sensu Brattain et al., 2019) from Little Hunting Creek also added two staphylinids, *Homaeotarsus strenuous* and *Lithocharis nigriceps*, which are new state records. Data for these species are reported below.

All specimens were identified by microscopic examination, and for *Stethusa spuriella*, by dissection and examination of the male genitalia, using taxonomic keys provided in Downie and Arnett (1996) (*Anotylus* and *Homaeotarsus*), Assing and ScHülke (2011) (*Lithocharis*) and Gusarov (2003) (*Stethusa*). All specimens are curated in the collection maintained at the Turkey Run Park Headquarters in McLean, Virginia. State record determinations are based on a review of Brattain et al. (2019). The six species new to Virginia increase the number of rove beetles known from GWMP to 215 taxa (177 identified to species).

## LIST OF SPECIES

### VIRGINIA

*Anotylus breviceps* (Casey) (Fig. 1a–b) – Fairfax Co.: Great Falls Park, deer dung, 25 October 2019, M. Stirzaker and B. Steury, (GWMP, 1 ♂); same data except 15 November (1 ♂); same data except 22 November (2 ♂); same data except 15 January 2020 (2 ♂). **NEW STATE RECORD.**

This is the first record of this species from Virginia (Brattain et al., 2019). It represents a southern range extension from New York (Downie & Arnett, Jr., 1996).

*Anotylus exiguus* (Erichson) (Fig. 2a–b) – Fairfax Co.: Great Falls Park, deer dung, 25 October 2019, M. Stirzaker & B. Steury, (GWMP, 1). **NEW STATE RECORD.**

This species is documented from the District of Columbia but not Virginia (Brattain et al., 2019). It is also recorded from Indiana, Florida, and Texas (Downie & Arnett, Jr., 1996). Al Newton (pers. comm.) added Pennsylvania to the known range of this species based on two synonyms, *A. parvulus* (Melsheimer) and *A. pygmaeus* (Melsheimer). Makranczy (2006) recently transferred this species from the genus *Oxytelus*.

*Anotylus insignitus* (Gravenhorst) (Fig. 3a–b) – Fairfax Co.: Great Falls Park, deer dung, 25 October 2019, M. Stirzaker & B. Steury, (GWMP, 3 ♂); same data except 1 November (1 ♂); same data except 8 November (1 ♂), same data except 15 November (1 ♂); same data except 22 November (1 ♂), same data except 29 November (1 ♂), same data except 15 January 2020 (7 ♂). **NEW STATE RECORD.**

This species is documented from the District of Columbia but not Virginia or Maryland (Brattain et al., 2019). It is a non-native species of Palaearctic origin (Brattain et al., 2019) and was the most

common staphylinid beetle found in the dung of native white-tailed deer. Downie & Arnett, Jr. (1996) state that it is a cosmopolitan species widespread over eastern North America, Mexico and Central and South America. In addition to the 15 male specimens cited above, 39 female *Anotylus* spp., probably *A. insignitus* or *A. breviceps*, were found in these deer dung samples.

*Homaeotarsus strenuus* (Casey) (Fig. 4a–b) – Fairfax Co.: Little Hunting Creek, Malaise trap, 5–19 May 2017, B. Steury, (GWMP, 1). **NEW STATE RECORD.**

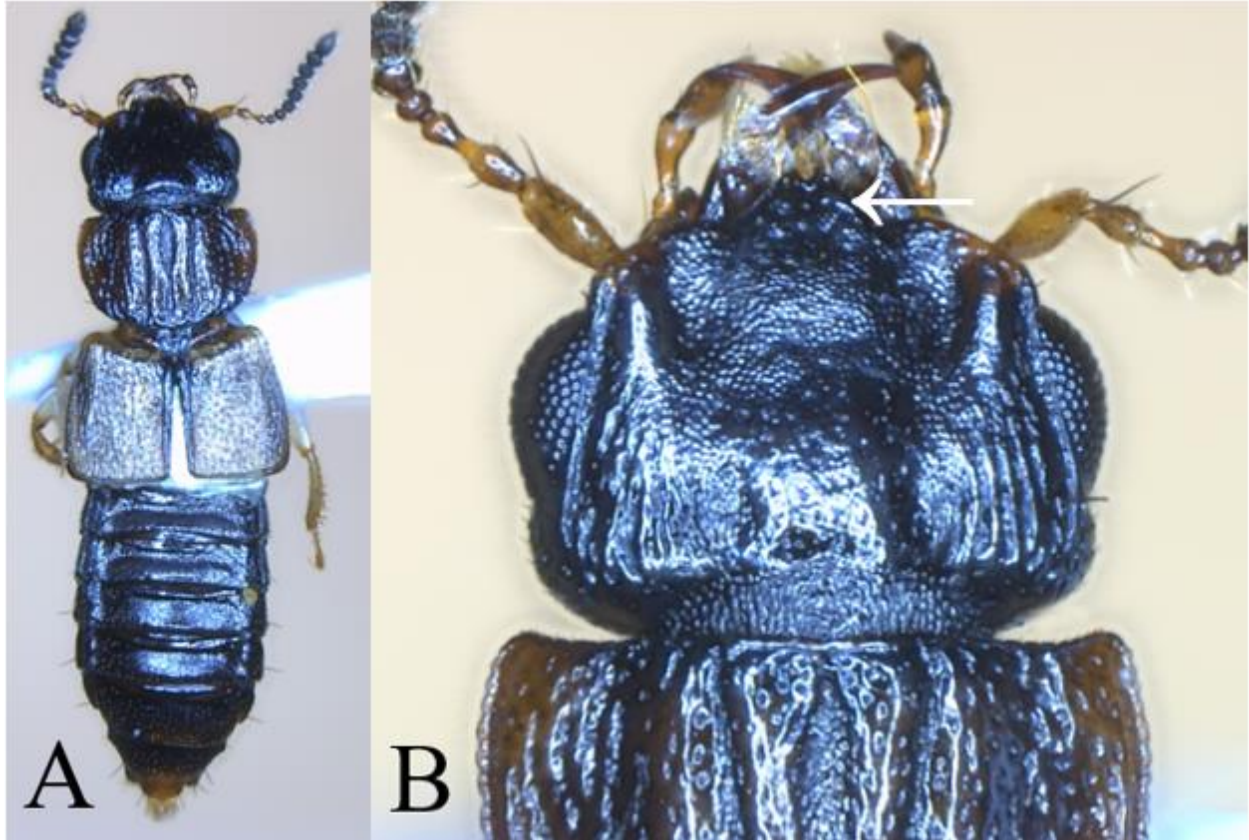
This is the first record of this species from Virginia (Brattain et al., 2019). It represents a southeastern range extension from Ohio (Downie & Arnett, Jr., 1996).

*Lithocharis nigriceps* Kraatz (Fig. 5a–b) – Fairfax Co.: Little Hunting Creek, Malaise trap, 16–30 July 2018, B. Steury, (GWMP, 1 ♀). **NEW STATE RECORD.**

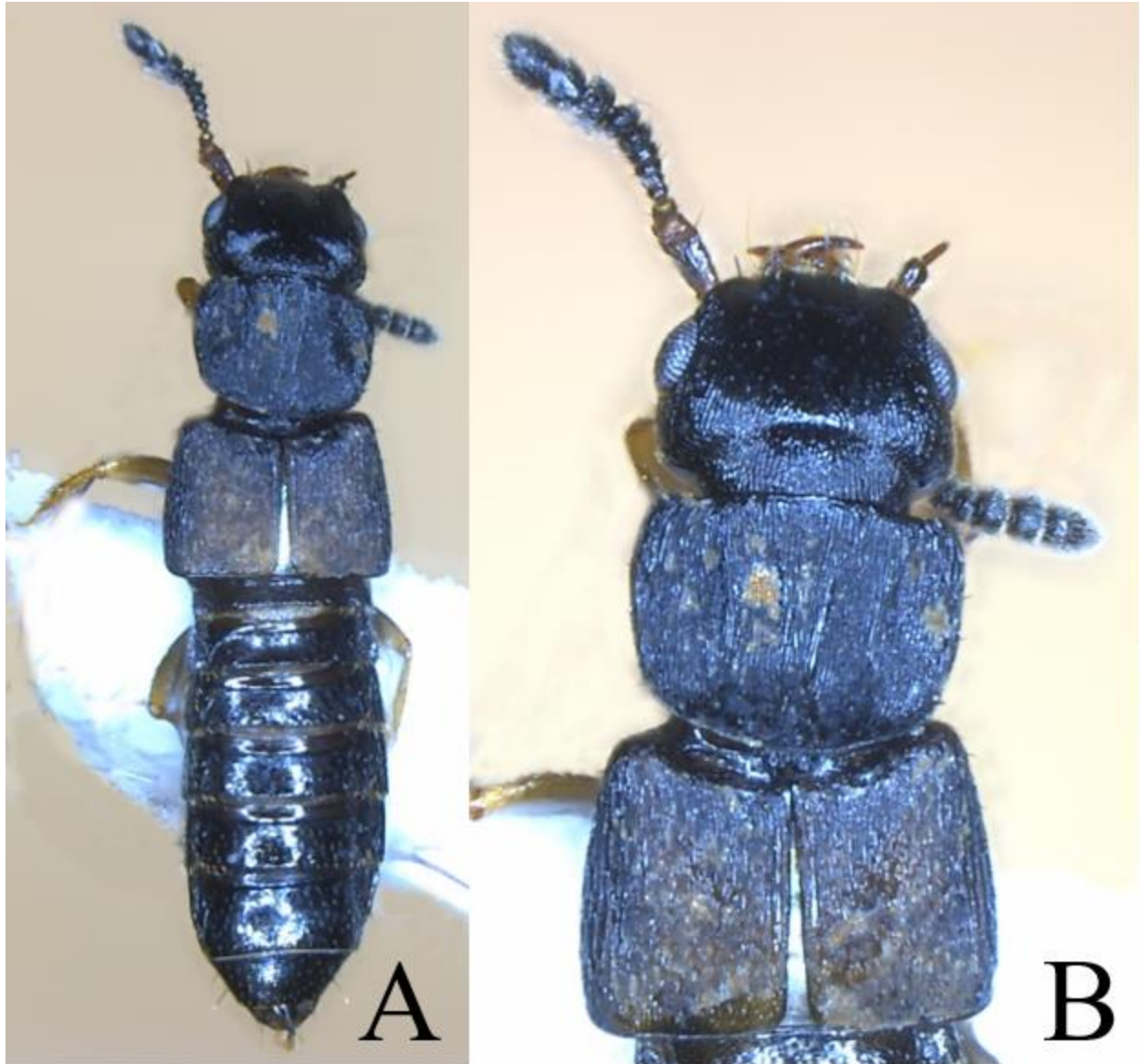
This is the first record of this European species from Virginia (Brattain et al., 2019). In North America it has been introduced in Québec, Canada, and in the United States in Arkansas, California, Florida, Georgia, Illinois, Kansas, Massachusetts, New Jersey, New York, Ohio, and South Carolina (Al Newton, unpublished pers. catalogue database, September 2020).

*Stethusa spuriella* (Casey) (Fig. 6a–b) – Fairfax Co.: Great Falls Park, deer dung, 25 October 2019, M. Stirzaker & B. Steury, (GWMP, 1 ♂). **NEW STATE RECORD.**

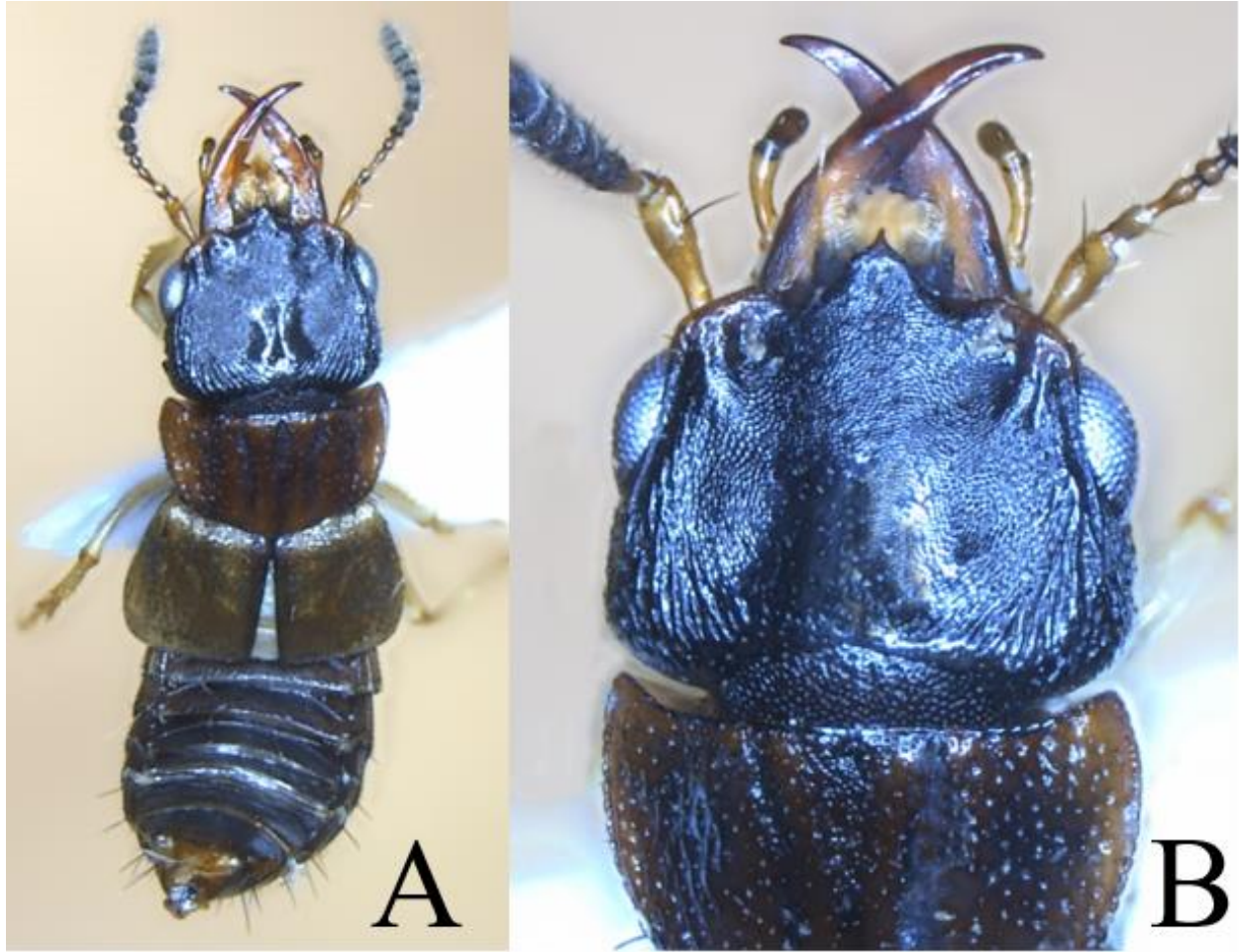
This is the first record of this species from Virginia or even nearby political regions of Maryland, or the District of Columbia (Brattain et al., 2019). It has been previously documented from scattered locations between New York and northern Florida and westward to Illinois (Gusarov, 2003).



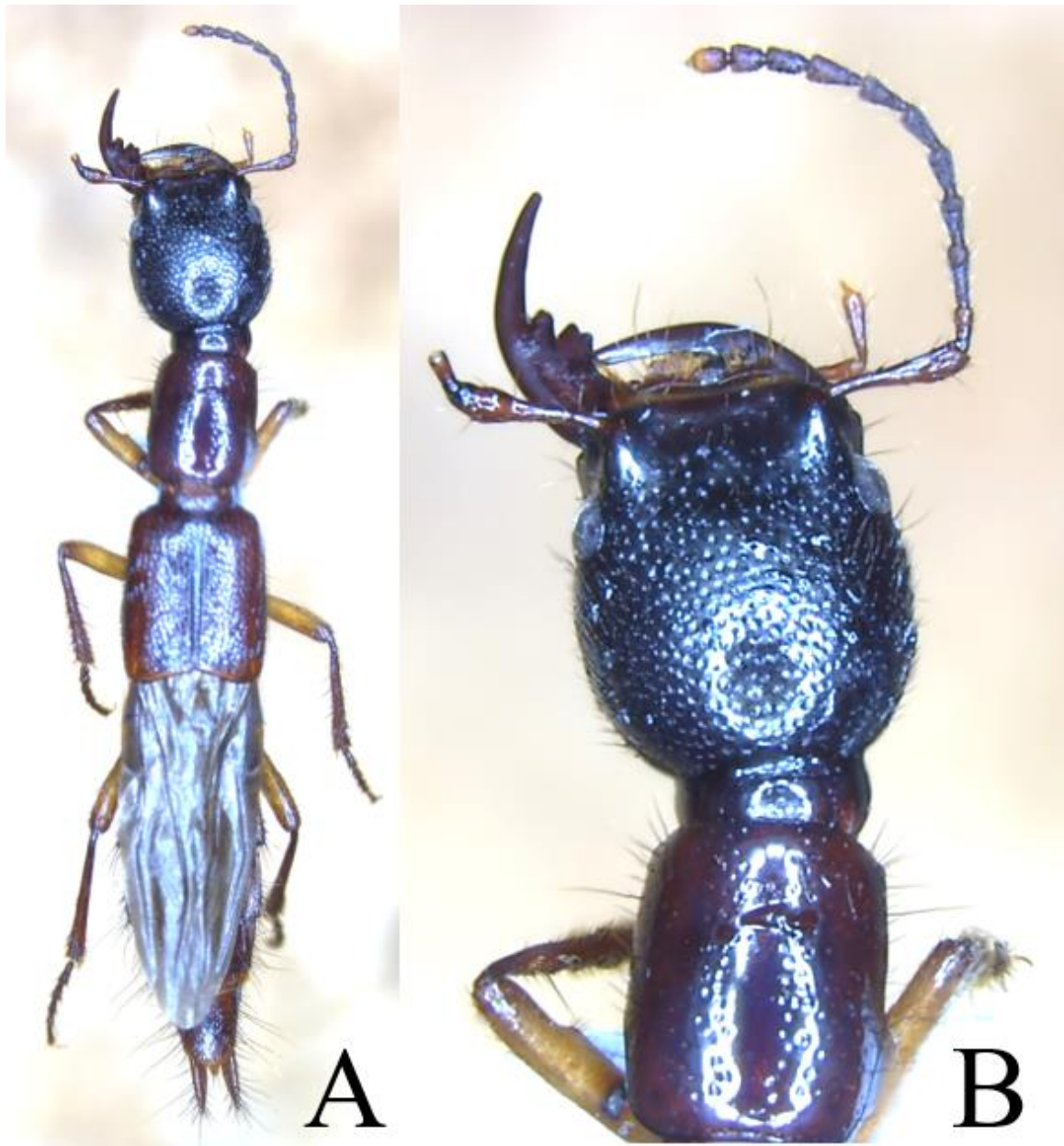
**Figure 1.** A) *Anotylus breviceps*, male, dorsal view. B) Close-up of head of same specimen with white arrow showing diagnostic bifurcate rostrum. The specimen was captured in the dung of white-tailed deer found in Great Falls Park, Fairfax County, Virginia, during 25 October 2019. Body length 3.1 mm.



**Figure 2.** A) *Anotylus exiguus*, dorsal view. B) Close-up of head of same specimen showing diagnostic strigose pronotum and elytra. The specimen was captured in the dung of white-tailed deer found in Great Falls Park, Fairfax County, Virginia, during 25 October 2019. Body length 1.9 mm.



**Figure 3.** A) *Anotylus insignitus*, dorsal view. B) Close-up of head showing acuminate rostrum. Specimens were captured in white-tailed deer dung found in Great Falls Park, Fairfax County, Virginia, during 25 October 2019 (A) and 15 November 2019 (B). Body length 3.7 mm.

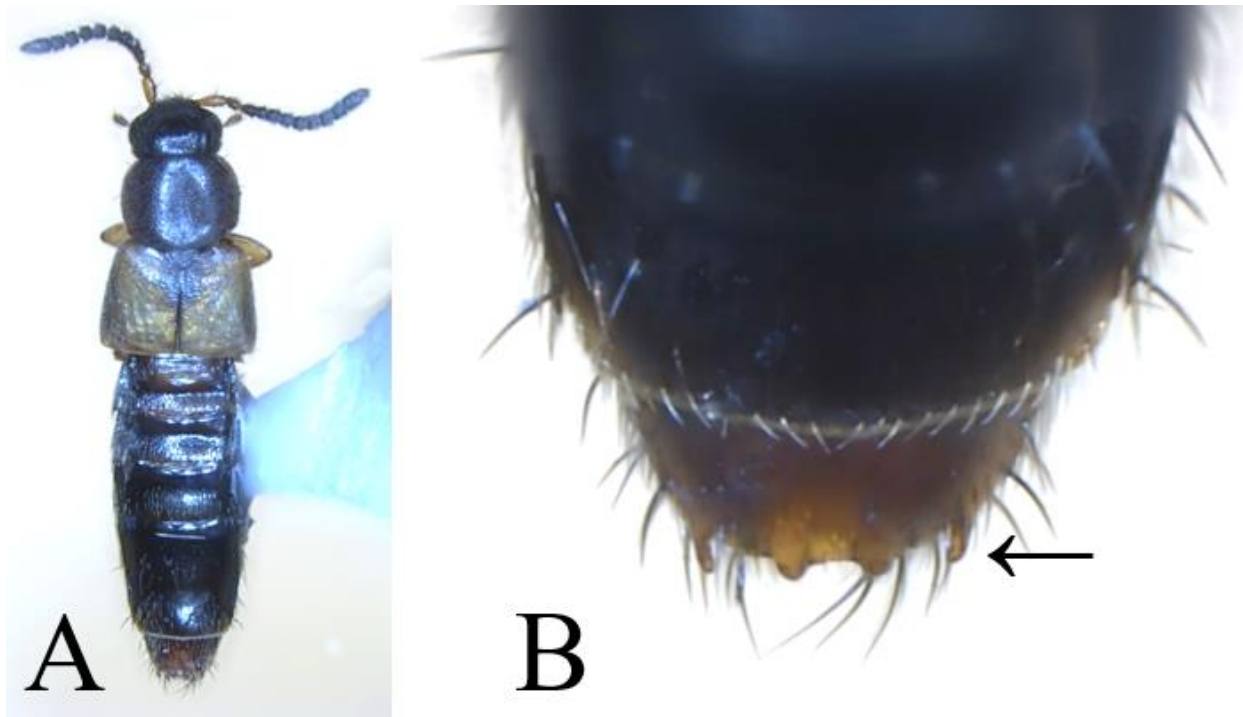


**Figure 4.** A) *Homaeotarsus strenuus*, dorsal view. B) Magnified view of the head and pronotum of the same specimen. Collected at Little Hunting Creek in a Malaise trap set during 5–19 May 2017. Body length 14 mm.





**Figure 5.** A) *Lithocharis nigriceps*, female, dorsal view. B) Magnified view of the head, pronotum and elytra of the same specimen Collected at Little Hunting Creek in a Malaise trap set during 16–30 July 2018. Body length 4.0 mm.



**Figure 6.** *Stethusa spuriella*, male, dorsal view. B) Eighth tergite of same specimen with arrow showing distinctive spinulose armature at the apex. Collected at Great Falls Park from deer dung during 25 October 2019. Body length 2.8 mm.

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