ANNALS OF THE UPPER SILESIAN MUSEUM IN BYTOM
ENTOMOLOGY

Vol. **31 (online 003)**: 1–6 ISSN 0867-1966, eISSN 2544-039X (online) Bytom, 23.02.2022

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Silvanoprus angusticollis (Reitter, 1876) (Coleoptera: Silvanidae) – a new migrant in Polish coleopterofauna

http://doi.org/10.5281/zenodo.6244239

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Abstract: A new occurrence of *Silvanoprus angusticollis* (Reitter, 1876) (Coleoptera: Silvanidae) has been recorded in Poland. So far, this Asian beetle species has been reported from Germany and France. New records in Poland designate the third region of its occurrence in Europe.

Key words: Cucujoidea, silvanid flat bark beetles, faunistics, synanthropes, alien species, Silesia.

A beetle species *Silvanoprus angusticollis* (Reitter, 1876) from the family Silvanidae was known initially from the Oriental and eastern part of Palearctic realms. It was described based on specimens from China and Japan (Reitter 1876). Later, this species was also shown from the areas of Afghanistan, India, China, Nepal, Bhutan, North Korea, Thailand and eastern Siberia (Halstead 1993, Löbl & Smetana 2007). The species was introduced to North America in the early 1940s. So far, it has been reported from the area of several states (Halstead 1993, Downie & Arnett 1996), as well as from Canada (Bousquet *et al.* 2013, Klimaszewski *et al.* 2015). Recently, this species has also been recorded in Europe, in Germany (EPPO 2017) and France (Barnouinet *et al.* 2021).

Only one species of this genus has been known from Poland – *Silvanoprus fagi* (Guérin-Ménéville, 1844). Its representants inhabit the subcortical environment on spruce and several species of deciduous trees (Burakowski *et al*. 1986, Miłkowski *et al.* 2019). In contrast, *S. angusticollis* inhabits litter, haystacks, compost piles and granaries (Halstead 1993). Among the related species of the genus *Silvanus* Latreille, 1804 known from Poland, only recently recorded *Silvanus recticollis* Reitter, 1876 (Miłkowski *et al*. 2019) occurs in similar habitats. The other two, *S. bidentatus* (Fabricius, 1792) and *S. unidentatus* (Olivier, 1790), live under the bark of deciduous trees (Burakowski *et al.* 1986).

Silvanoprus angusticollis (Fig. 1) is similar to the species of the genus *Silvanus* Latreille, 1804 and is sometimes confused with it (Halstead 1993). However, species of the genus *Silvanus* similar to those of the genus *Silvanoprus* do not occur in Poland, although they may

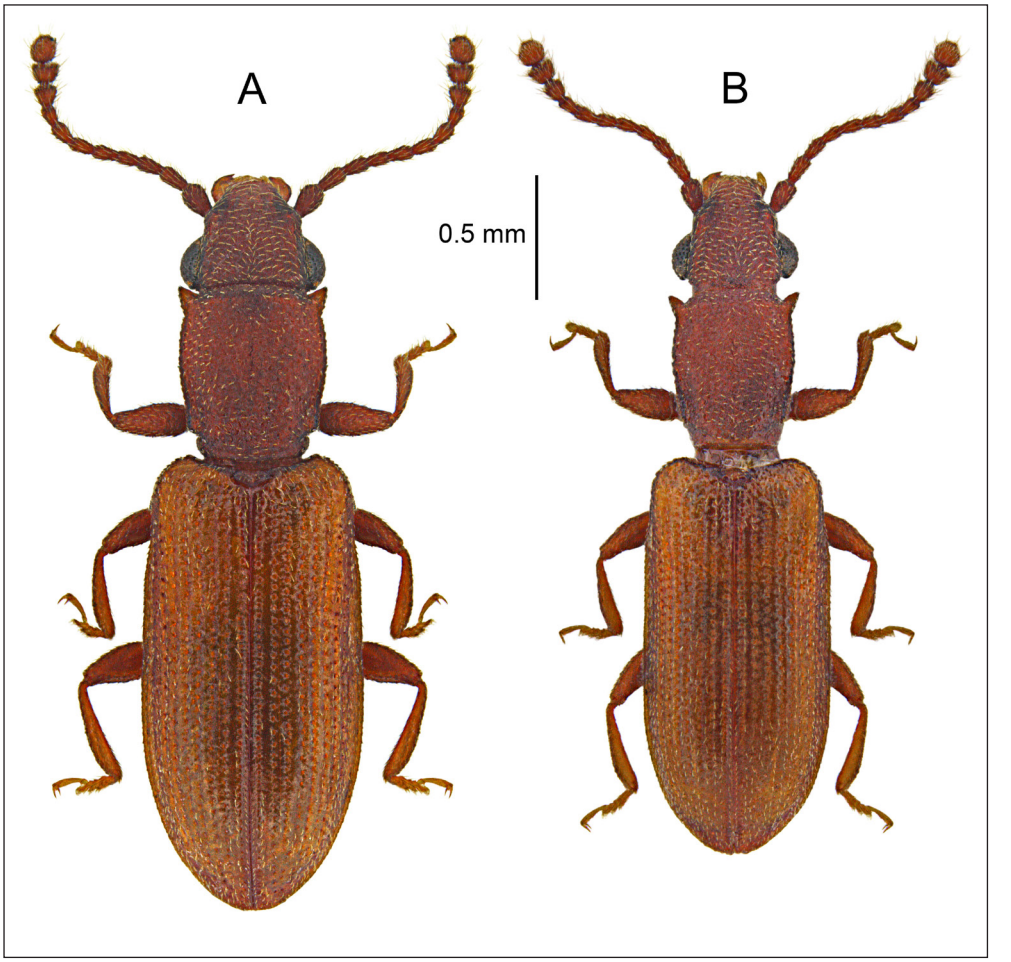

Fig. 1. *Silvanoprus angusticollis* specimens from Mikołów Paniowy, A – female, B – male (photo by N. Kaszyca-Taszakowska).

probably be introduced. Identifying Polish Silvanidae with the help of the identification key of Ślipiński (1983) is impossible, as it does not include recently introduced species. The most helpful key for identification is Halstead (1993), but it does not include *S. fagi*, the only native species of this genus found in Poland.

The most important feature in determining whether to belong to the genus is the structure of the third segment of tarsus – beetles of the genus *Silvanoprus* Reitter, 1911 have a lobed appendage at the end (Fig. 2A), while it is absent in specimens of the genus *Silvanus* (Fig. 2B). During preparation, the terminal tarsomere can be slightly shifted upwards so that the object is better exposed.

In Poland, *Silvanoprus angusticollis* was collected at three sites.

Upper Silesia:

– Brynek Park [CA39], 9.10.2015 – 10 exx., leg. H. Szołtys, det. J. Grzywocz, coll. USMB;

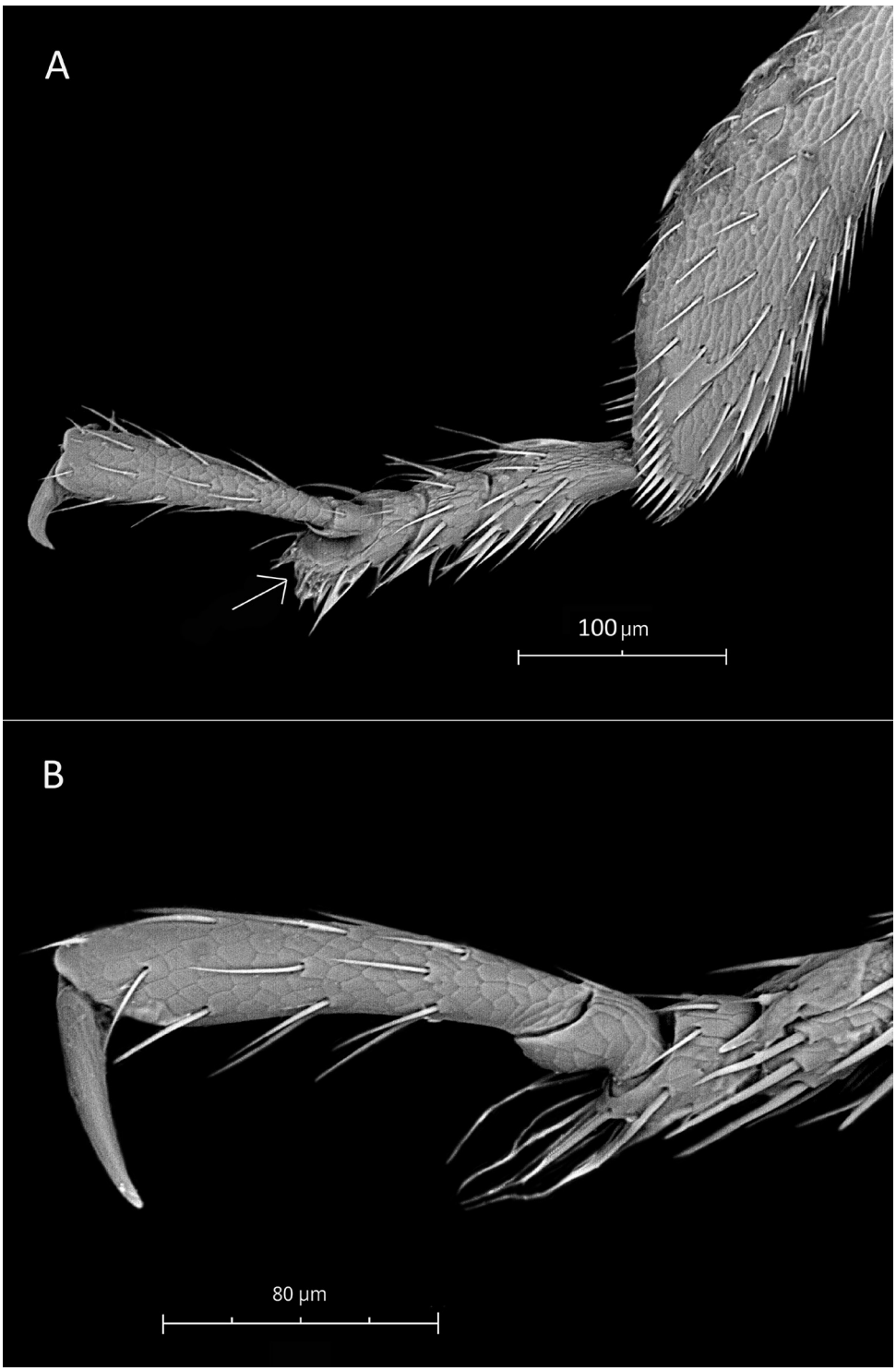

Fig. 2. Hind tarsus, A – *Silvanoprus angusticollis*, B – *Silvanus unidentatus* (micrography by N. Kaszyca-Taszakowska).

– Mikołów Paniowy [CA46] (Fig. 3), 25.09.2021 – 22 exx., 3.10.2021 – 43 exx., 9.10.2021 – 1 ex., 31.10.2021 – 14 exx., leg. et det. J. Grzywocz, coll. USMB;

– Ruda Śląska Wirek, „Minerwa" [CA47] (Fig. 4), 3.10.2021 – 2 exx., leg. et det. J. Grzywocz, coll. USMB. The beetles were obtained by sifting moldy hay.

In Ruda Śląska Wirek, the collection site was a storage yard for biomass generated during maintenance works in urban green areas (Fig. 3). In 2018, another species of the Silvanidae family was caught in this place for the first time in Poland – *Silvanus recticollis* Reitter, 1876 (Miłkowski *et al.* 2019). In this location, the proximity of the railway embankment and the A4 motorway lane are important migration trails.

Fig. 3. Mikołów Paniowy, site locality of *Silvanoprus angusticollis* (photo by J. Grzywocz).

Fig. 4. Ruda Śląska Wirek, site locality of *Silvanoprus angusticollis* (photo by J. Grzywocz).

The beetles were sown from small amounts of moldy hay lying on the side of a dirt road (Fig. 4). Not without significance, in this case, was the proximity of a large farm focused on cattle breeding. There are large amounts of stored straw, hay, and silos with feed supplies on its premises. Probably from there, the beetles reached the moldy hay. Apart from *S. angusticollis*, it was possible to catch several dozen other beetles species belonging to different families. They were often large series, counted in hundreds or even thousands of individuals.

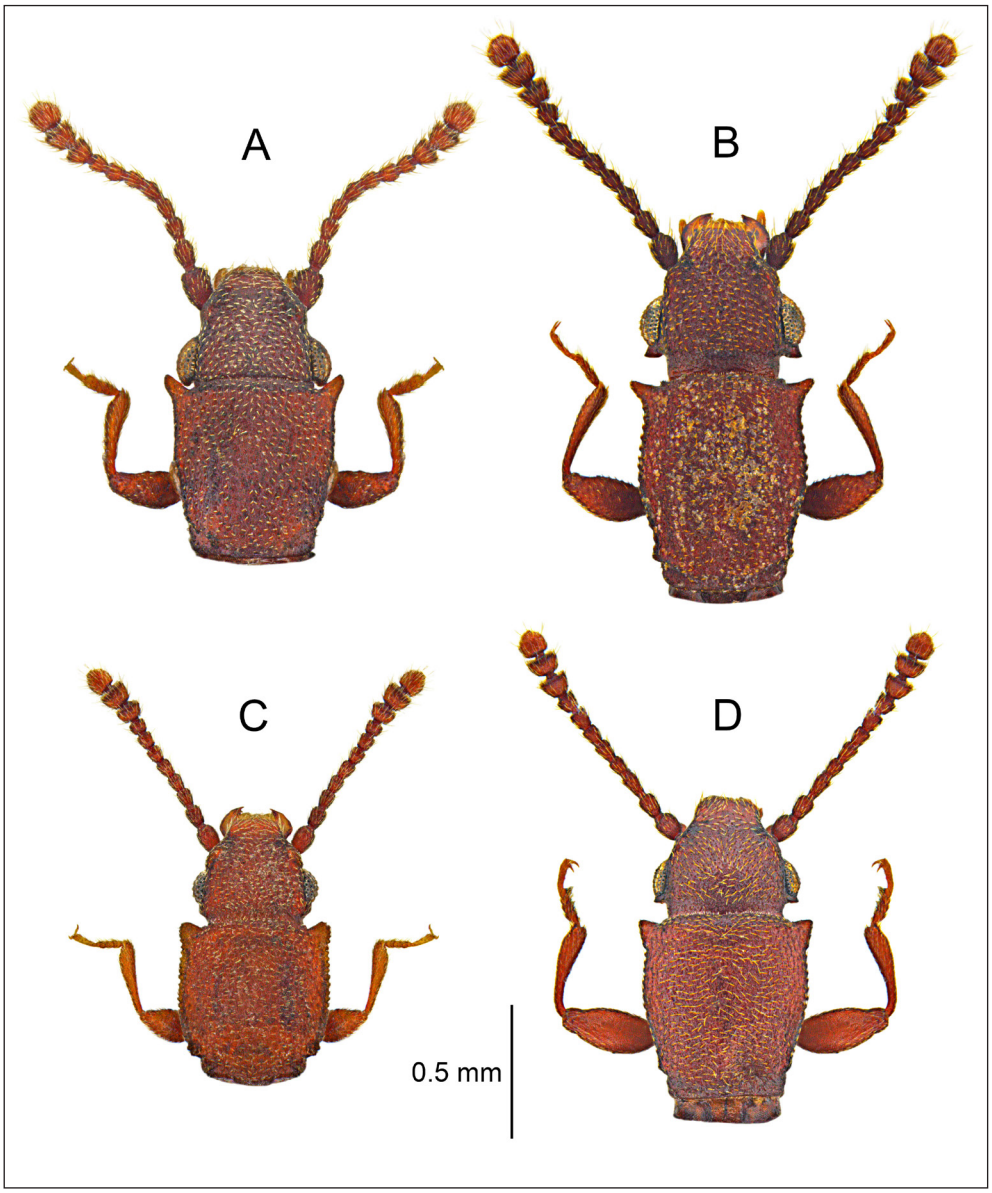

Fig. 5. Head, and pronotum: A – *Silvanoprus fagi*, a specimen from Ruda Śląska; B – *Silvanus bidentatus*, a specimen from Brynek; C – *Silvanus recticollis*, a specimen from Ruda Śląska; D – *Silvanus unidentatus*, a specimen from Brynek. All specimens from USMB collection, photo by N. Kaszyca-Taszakowska.

Figure 5 (A–D) presents species of the genera *Silvanoprus* and *Silvanus* reported so far from Poland.

Silvanus angusticollis is another species on the list of species introduced in recent decades from other continents to the territory of Poland. Soon, it may be shown from other areas and, like in the USA, it will become a permanent element of Polish coleopterofauna.

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Accepted: 10 February 2022; published: 23 February 2022