

# *COLYDIUM NOBLECOURTI* PARMAIN, ECKELT & SCHUH, 2024 (COLEOPTERA: ZOPHERIDAE): NEW BEETLE SPECIES FOR THE FAUNA OF SERBIA AND NEW RECORDS OF THE GENUS *COLYDIUM* FABRICIUS, 1792 IN SERBIA

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## Abstract

The study presents the first data on *Colydium noblecourtii* in Serbia. Specimens of *Colydium* from the authors' collection, originating from southeastern, southern, and southwestern Serbia, were reexamined, identifying all three European *Colydium* species in the region. All records of *Colydium* in Serbia need to be revised.

KEY WORDS: Balkan Peninsula, Tenebrionoidea, distribution, saproxylic beetles.

## Introduction

The genus *Colydium* Fabricius, 1792 (Coleoptera: Zopheridae) includes 33 species globally (Węgrzynowicz, 1999; Parmain *et al.*, 2024), three of which occur in the Palaearctic: *Colydium elongatum* Fabricius, 1787, *C. filiforme* Fabricius, 1792, and the recently described *C. noblecourtii* Parmain, Eckelt & Schuh, 2024. In Serbia, only *C. elongatum* and *C. filiforme* have been recorded so far (Węgrzynowicz, 1999; Parmain *et al.*, 2024). The newly described species, *C. noblecourtii*, has been reported in several countries, including Andorra, Austria, Bosnia and Herzegovina, Croatia, the Czech Republic, France, Germany, Iran, Italy, Poland, Slovenia, Slovakia, Spain, Turkey, (Parmain *et al.*, 2024, Ruta *et al.*, 2025).

Beetles of the genus *Colydium* are associated with various tree species, both deciduous and coniferous, where they inhabit wood-boring beetle galleries, such as those of the Curculionidae (Scolytinae), Bostrichidae, Eucnemidae, and Lymexylidae (Burakowski & Ślipiński, 1986; Węgrzynowicz, 1999). They are most commonly found in living trees with necrotic areas or dying trees. *Colydium* species are facultative predators that also consume fungi and decomposed organic matter (Węgrzynowicz, 1999; Ślipiński & Lawrence, 2010).

An examination of specimens from the authors' collections confirmed the presence of all three European species of the genus in Serbia.

## Materials and Methods

The examined beetles are deposited in the authors' collections. The photographs were taken with Nikon D5100 and Nikon FTZ II cameras mounted on a Nikon SMZ1500 stereomicroscope and a Nikon Eclipse Ni microscope, respectively.

## Results

### *Colydium noblecourti* Parmain, Eckelt & Schuh, 2024

Material examined: Gornja Studena, surroundings of Niška Banja, Mt. Suva Planina, southeastern Serbia, 43.1318° N, 22.0642° E, 1 105 m a.s.l., 08.05.2018, 2 ex. adults, under the bark of a dead, standing *Fagus sylvatica* L. (Fig. 1).

Remark: The species is new for Serbia. According to Parmain *et al.* (2024), *C. noblecourti* prefers coniferous trees – *Pinus* spp., *Abies alba* Mill. and *Picea abies* (L.) H. Karst., although it has been found on deciduous trees such as *Fagus sylvatica* L. and *Carpinus betulus* L. This is confirmed by the present record, where the species was found on *Fagus sylvatica* L.

### *Colydium elongatum* (Fabricius, 1787)

Material examined: Donja Trnica, surroundings of Trgovište, southern Serbia, 43.2253° N, 22.0303° E, 591 m a.s.l., 29.04.2019, 1 ex. adult, under the bark of a dying *Juglans* sp.; Gornja Studena, surroundings of Niška Banja, Mt. Suva Planina, southeastern Serbia, 43.1318° N, 22.0642° E, 1 105 m a.s.l., 08.05.2018, 1 ex. adult, under the bark of a dead and broken *Fagus sylvatica* L.; Marina Kutina, surroundings of Gadžin Han, southeastern Serbia, 43.1239° N, 22.0052° E, 330 m a.s.l., 28.05.2021, 1 ex. adult, under the bark of a dying *Quercus petraea* (Mattuschka) Liebl.

Remark: *Colydium elongatum* prefers deciduous trees such as oaks (*Quercus* spp.), beeches (*Fagus sylvatica* L.) and walnuts (*Juglans regia* L.), although it has also been found on firs (*Abies* spp.) in southern Europe (Parmain *et al.*, 2024).

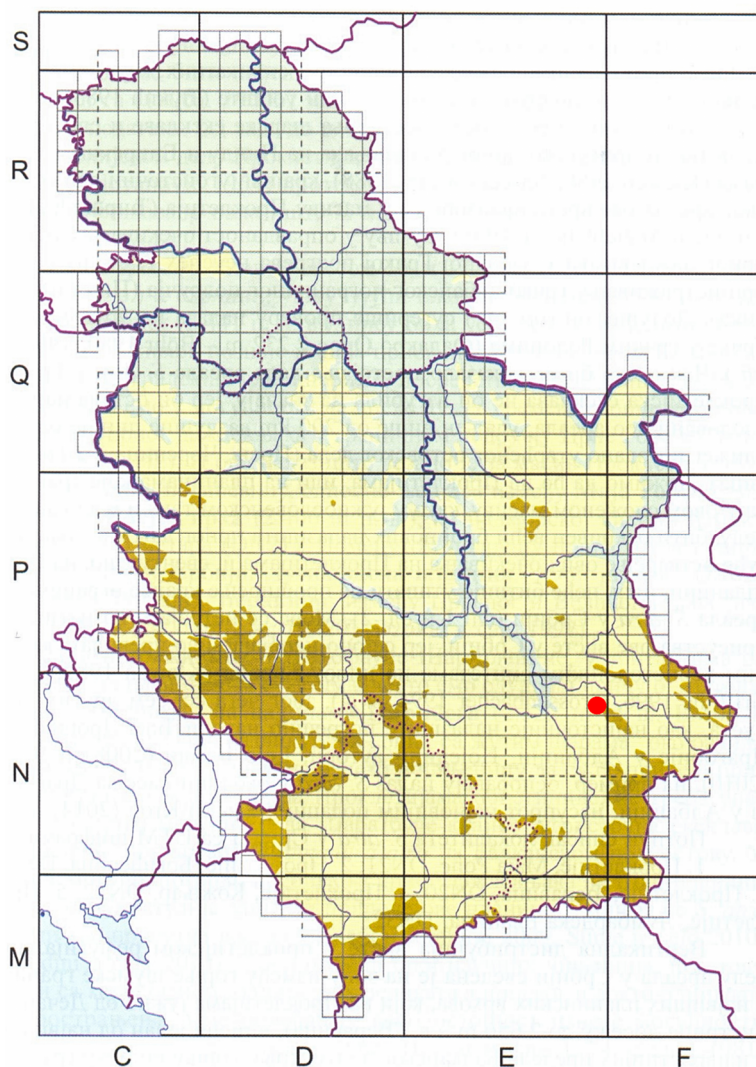


Figure 1. Occurrence of *Colydium noblecourtii* Parmain, Eckelt & Schuh, 2024 in Serbia.

### *Colydium filiforme* Fabricius, 1792

Material examined: Družiniće, surroundings of Sjenica, Uvac Special Nature Reserve, southwestern Serbia, 43.2129° N, 19.5703° E, 1 141 m a.s.l., 01.07.2019, 1 ex. adult, under the bark of a dead *Quercus* sp.; Slavinja, surroundings of Pirot, southeastern Serbia, 43.0907° N, 22.5118° E, 800 m a.s.l., 26.05.2021, 1 ex. adult, under the bark of a dying *Fagus sylvatica* L.

Remark: *Colydium filiforme* is a species that prefers oaks, especially those with large trunk diameters, although it has also been observed on beeches in France (Bouget *et al.*, 2019, Parmain *et al.*, 2024). *Colydium filiforme* is considered a primeval forest relict in Central Europe (Eckelt *et al.*, 2018).

## Discussion

Adults of the three European *Colydium* species can be easily identified using the key of Parmain *et al.* (2024). The lateral grooves on the pronotum, which are shallow and faint in *C. noblecourti* but distinct in the remaining species (Fig. 2), seem to be very helpful in taxonomy. The apex of the apical ventrite is angled in *C. noblecourti*, whereas it is rounded in the other two species. The coloration may serve as an additional distinguishing feature – *C. noblecourti* always has entirely black elytra, while *C. elongatum* has relatively lighter elytra at the basal part, and *C. filiforme* has a distinctly lighter, brown basal part (Ruta *et al.*, 2025). In doubtful cases, the male copulatory organs provide reliable diagnostic features. In *C. noblecourti*, the apex of the penis is rounded, with the lateral margins remaining parallel over a relatively longer portion. In contrast, in *C. elongatum*, the penis apex is distinctly pointed, and the lateral margins are more curved. (Fig. 3).

All records of the presence of *Colydium* in Serbia need to be re-evaluated, with particular attention to the potential confusion between *C. elongatum* and the newly described *C. noblecourti*.

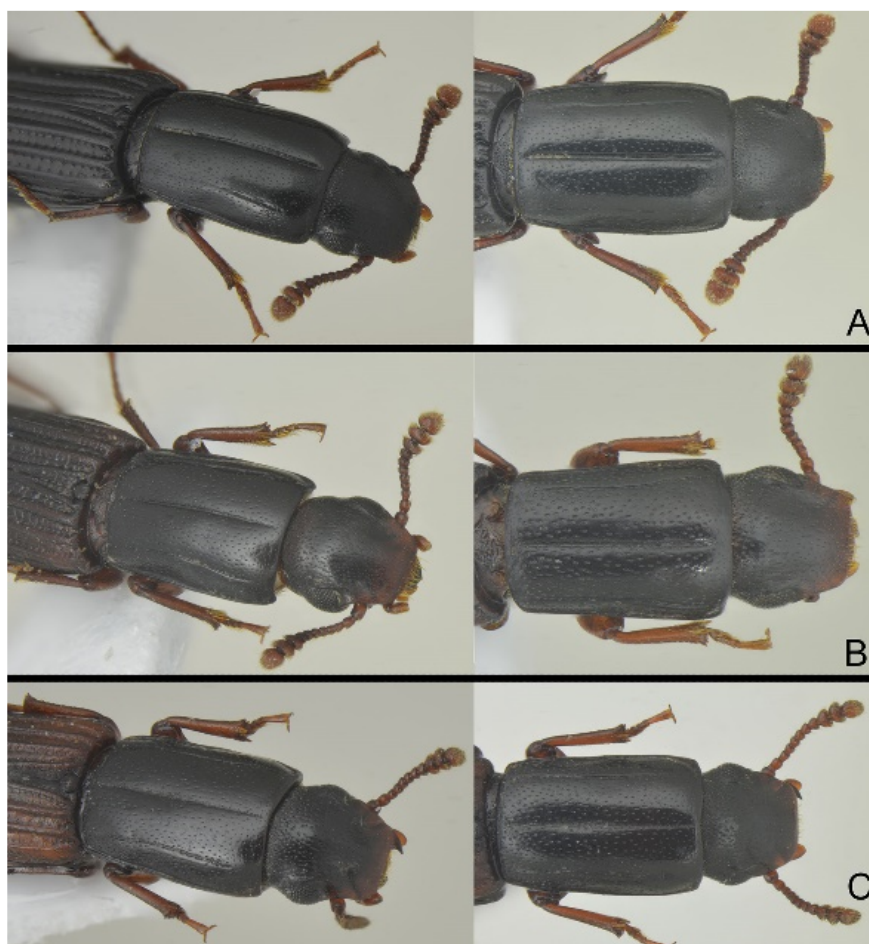


Figure 2. *Colydium* spp., head and pronotum (left – dorsolateral aspect, right – dorsal aspect): A – *C. noblecourti*, B – *C. elongatum*, C – *C. filiforme* (photo R. Ruta).

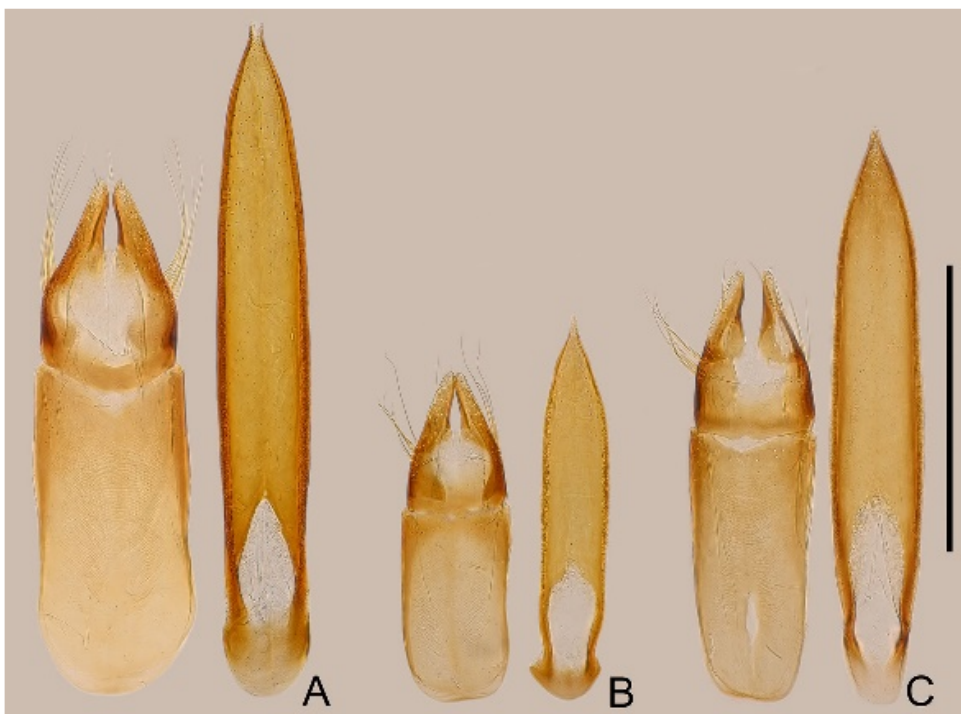


Figure 3. *Colydium* spp., tegmen (left) and penis (right): A – *C. noblecourtii*, B – *C. elongatum*, C – *C. filiforme*. Scale bar = 0.5 mm (photo R. Ruta).

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## References

- Bouget, C., Brustel, H., Noblecourt, T., & Zagatti, P. (2019). Les Coléoptères saproxyliques de France. Catalogue écologique illustré. Muséum national d'Histoire naturelle, Paris, 744 pp. [in French]
- Burakowski, B., & Ślipiński, S. A. (1986). Gwozdnikowate – Colydiidae, Bothrididae, Cerylidae, Anommidae. *Klucze do Oznaczania Owadów Polski*, 19(59), 1-86. [in Polish]
- Eckelt, A., Müller, J., Bense, U., Brustel, H., Bussler, H., Chittaro, Y., Cizek, L., Frei, A., Holer, E., Kadej, M., Kahlen, M., Köhler, F., Möller, G., Mühle, H., Sanchez, A., Schaffrath, U., Schmidl, J., Smolis, A., Szallies, A., Németh, T., Wurst, C., Thorn, S., Christensen, R. H. B., & Seibold, S. (2018). "Primeval forest relict beetles" of Central Europe: a set of 168 umbrella species for the protection of primeval forest remnants. *Journal of Insect Conservation*, 22, 15-28. DOI: 10.1007/s10841-017-0028-6

- Parmain, G., Eckelt, A., & Schuh, R. (2024). The genus *Colydium* Fabricius in Europe (Coleoptera, Zopheridae, Colydiinae) with description of a new species, *Colydium noblecourtii* sp. nov. *Deutsche Entomologische Zeitschrift*, 71(2), 289-301. DOI 10.3897/dez.71.121389
- Ruta, R., Marczak, D., Mroczyski, R., & Kwiatkowski, A. (2025). *Colydium noblecourtii* Parmain, Eckelt & Schuh, 2024 (Coleoptera: Zopheridae) – nowy dla fauny Polski gatunek chrząszcza. *Acta entomologica silesiana*, 33 (online 004), 1-7. DOI 10.5281/zenodo.14799923 [in Polish]
- Ślipiński, A., & Lawrence, J. F. (2010). 11.9. Zopheridae Solier, 1834. In: Leschen, R. A. B., Beutel, R. G., Lawrence, J. F., Ślipiński, S. A., (Eds.) *Coleoptera, Beetles. Volume 2: Morphology and Systematics (Elateroidea, Bostrichiformia, Cucujiformia partim)*. De Gruyter, Berlin-New York, 548-559.
- Węgrzynowicz, P. (1999). A revision of the genus *Colydium* Fabricius, 1792 (Coleoptera: Zopheridae: Colydiinae). *Annales Zoologici*, 49(3), 265-328.

## COLYDIUM NOBLECOURTI PARMAIN, ECKELT & SCHUH, 2024 (COLEOPTERA: ZOPHERIDAE) – НОВА ВРСТА ТВРДОКРИЛЦА ЗА ФАУНУ СРБИЈЕ И НОВИ НАЛАЗИ РОДА COLYDIUM FABRICIUS, 1792 У СРБИЈИ

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### Извод

У раду је наведен први податак о налазу *Colydium noblecourtii* у Србији. Такође, анализирани су примерци рода *Colydium* из збирке аутора, који потичу из југоисточне, јужне и југозападне Србије. То је омогућило утврђивање присуства све три европске врсте *Colydium* на овом подручју. Све податке о присуству *Colydium* у Србији је потребно верификовати.

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