https://doi.org/10.61698/nje.v72n1.7 © Norwegian Journal of Entomology. 10 June 2025

Xorides indicatorius (Latreille, 1906) (Hymenoptera, Ichneumonidae, Xoridinae) new to Norway

ARNSTEIN STAVERLØKK & FRODE ØDEGAARD

Staverløkk, A. & Ødegaard, F. 2025. *Xorides indicatorius* (Latreille, 1906) (Hymenoptera, Ichneumonidae, Xoridinae) new to Norway. *Norwegian Journal of Entomology* 72, 71–73.

The subfamily Xoridinae is a relatively small and rare group within the species rich family of Ichneumonidae. *Xorides indicatorius* (Latreille, 1906) is recorded from two hot-spot locations in southern Norway. A total of 12 species of *Xorides* are currently recorded from Norway.

Key words: Hymenoptera, Ichneumonidae, Xoridinae, *Xorides indicatorius*, parasitoid, xylophagous, Norway.

Arnstein Staverløkk, Norwegian Institute for Nature Research (NINA), Høgskoleringen 9, NO-7034 Trondheim, Norway. E-mail: arnstein.staverlokk@nina.no

Frode Ødegaard, Norwegian University of Science and Technology (NTNU), Department of Natural History, NO-7491 Trondheim, Norway. E-mail: frode.odegaard@ntnu.no

Introduction

All species of *Xorides* Latreille, 1809 (Ichneumonidae, Xoridinae), are idiobiont ectoparasitoids of xylophagous beetles (Broad *et al.* 2018, Hilszczański 2002). Idiobiont ectoparasitoids often paralyze their hosts by injecting venom secretions into hosts and stop the further development of it (idiobionts). The parasitoid then feeds from the outside by using their mouthparts to pierce the host's cuticle (Quicke 2015). The adult *Xorides* attack larvae, and sometimes pupae and pharate adults (Broad *et al.* 2018). Species are easy to distinguish from other genera of the subfamily Xoridinae by the unidentate mandibles and the peg-like setae projecting from the subapical flagellomeres of the females (Figure 1). Of the 170 species described worldwide, only 13 species are recorded from Fennoscandia (Yu *et al.* 2016, Johansson *et al.* 2022).

Material & methods

The specimens were collected with dark coloured Malaise trap (MT) from Watkinson & Doncaster. Traps were set out on hot- and dry locations with various degrees of dead wood. For the stacking image, several partially focused images were taken and then combined using Zerene Stacker 1.04 © (2009–2017) software. The coordinates for the locations are given in decimal degrees (Grid: Latitude/Longitude hddd. Dddd; datum: WGS84). The faunistic division within Norway follows Endrestøl (2021) and are given in bold. Specimens are stored in the insect collection at and NTNU University Museum (Vitenskapsmuseet) and Norwegian Institute for Nature Research (NINA).

Results

ICHNEUMONIDAE
Xoridinae

***Xorides indicatorius* (Latreille, 1906)**

Material: NORWAY, [**BØ**], Øvre Eiker: Lilleby [N59.77886º E9.93383º], MT 12 July–16 August 2012, 1 ♀, leg. Frode Ødegaard, coll. NTNU; [**TEY**], Drangedal: Lustjerna (1 year old fire field) [N59.06564º E9.27903º], MT1 26 June–28 August 2024, 1 ♀ (Figure 1), leg. Arnstein Staverløkk, coll. NINA.

Biology. The host(s) of *Xorides indicatorius* remains unknown, but like the observations in Sweden, there are large birch stumps also on these two locations (Johanson *et al.* 2022). The Cerambycidae *Aegomorphus clavipes* (Schranck, 1781) has been proposed as a potential host (Johansson *et al.* 2022).

Localities. The locality in Drangedal is an old mixed forest with dominance of big trees of *Pinus sylvestris*, *Betula* sp., and before a fire took place in 2023, an old pine forest with rocky and hilly terrain. The year after the fire, lots of dead wood and half-burned tall trees were left. The locality Lilleby is a steep south west faced rocky hill, mixed with rockfall and mixed forest with large amounts of dead wood. The forest is dominated with birch *Betula* sp., aspen *Populus tremulae* and Norway spruce *Picea abies.* Both localities are considered to be very hot during summer.

Distribution. *X. indicatorius* is known from Austria, Bulgaria, Finland, France, Germany, Greece, Hungary, Italy, Poland, Romania, Russia, Slovakia, Spain, Sweden, Ukraine, and United Kingdom (Šedivý 1989, Yu *et al.* 2016, Johansson *et al.* 2022).

FIGURE 1. Female specimen of *Xorides indicatorius* (Latreille, 1906) from Drangedal, Norway. Photo: Arnstein Staverløkk.

Discussion

With the new records of *Xorides indicatorius* a total of 12 species of *Xorides* have been found in Norway. As the other additional species recorded from Northern Europe have a more southern distribution with no records close to Norway, it is not likely that more species of *Xorides* would be found in Norway in the future. On the other hand, it might be that a more thoroughly taxonomic study of for the *X. depressus* and *X. praecatorius* complex will reveal additional sibling species (Johansson *et al.* 2022). *X. indicatorius* is obviously a rare species all over Scandinavia (Johansson *et al.* 2022) that is difficult to find in random catches, for instance Malaise traps. In the future more focus should be on revealing the host by hatching and careful field studies. In Sweden this species is red-listed under near threatened (NT), while in Finland the species is treated as vulnerable (VU) (Hyvarinen *et al.* 2019, Johansson *et al.* 2022).

Aknowledgements. The material in this study was obtained as bycatch from the Hymenoptera projects funded by the Norwegian Taxonomy Initiative hosted by the Norwegian Species Information Centre. Thanks to Niklas Johansson for confirming the species determination.

References

Broad, G.R., Shaw M.R. & Fitton M.G. 2018. Ichneumonid wasps (Hymenoptera: Ichneumonidae): their classification and biology. *Handbooks for the identification of British Insects* 7 (12), 1–480.

Endrestøl, A. 2021. Strand-systemet 4.0. Insekt-Nytt 46(1), 43–72.

Hilszczański, J. 2002. Polish xoridines and their host associations (Hymenoptera, Ichneumonidae: Xoridinae). Parasitic Wasps: evolution, systematics, biodiversity and biological control. Proceedings of Symposium Koszeg, Hungary, May 2001. Melika, G. & Thuroczy, C. (eds), 294–298.

Hyvarinen, E., Juslen, AK., Kemppainen, E., Uddstrom, A., & Liukko, U-M. (Eds.) 2019. Suomen lajien uhanalaisuus 2019 – Punainen kirja: The 2019 Red List of Finnish Species. Ymparistoministerio & Suomen ymparistokeskus. http://hdl.handle.net/10138/299501

Johansson, N., Hilszczański, J. & Ødegaard, F. 2022. Revision of the Scandinavian species of *Xorides* Latreille, 1809 (Hymenoptera: Ichneumonidae: Xoridinae), with an illustrated key to the species of Northern Europe. [Revision av de skandinaviska arterna av *Xorides* Latreille, 1809 (Hymenoptera: Ichneumonidae; Xoridinae.) med en illustrerad nyckel till de nordeuropeiska arterna.]. *Entomologisk Tidskrift* 143(4), 183–222.

Quicke, D. 2015. The Braconid and Ichneumonid Parasitoid Wasps: Biology, Systematics, Evolution and Ecology. Wiley Blackwell, Oxford, 681 pp.

Yu, D.S.K., van Achterberg, C. & Horstmann, K. 2016. Taxapad 2016, Ichneumonoidea 2015 (Biological and taxonomical information), Taxapad Interactive Catalogue Database on flashdrive.

Šedivý, J. 1989. Ichneumonidae. In Šedivý, J. (ed.): Enumeration insectorum Bohemoslovakiae (Checklist of Czechoslovak insects) vol. III (Hymenoptera). Acta Faunistica Entomologica Musei Nationalis Pragae 19:49–94.

Received: 25 March 2025
Accepted: 6 April 2025