

## A STUDY OF THE SPECIES COMPOSITION OF SCOLYTIDAE (COLEOPTERA) OF NORTH AND NORTHWESTERN IRAN

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[Самин Н., Сакенин Х., Растегар Дж. О видовом составе короедов (Scolytidae, Coleoptera) Северного и Северо-Западного Ирана]

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Ключевые слова: *жесткокрылые, Coleoptera, Scolytidae, фауна, кормовые растения, Иран*

**Summary.** The fauna of Scolytidae (Coleoptera) from north and northwestern Iran is studied in this paper. A total 49 species from 24 genera were collected. Of these six species: *Carphoborus pini* Eichhoff, 1881, *Crypturgus numidicus* Ferrari, 1867, *Ernopocerus caucasicus* (Lindemann, 1876), *Hylurgops palliatus* (Gyllenhal, 1813), *Phloeophthorus brevicollis* (Kolenati, 1846), *Pteleobius vittatus* (Fabricius, 1787) are new records for Iranian fauna. Data on hostplants are provided for most species.

**Резюме.** Работа посвящена фауне жуков семейства Scolytidae (Coleoptera) северного и северо-западного Ирана. Всего обнаружено 49 видов из 24 родов. 6 видов: *Carphoborus pini* Eichhoff, 1881, *Crypturgus numidicus* Ferrari, 1867, *Ernopocerus caucasicus* (Lindemann, 1876), *Hylurgops palliatus* (Gyllenhal, 1813), *Phloeophthorus brevicollis* (Kolenati, 1846), *Pteleobius vittatus* (Fabricius, 1787) впервые приводятся для фауны Ирана. Для большинства видов указаны кормовые растения.

### INTRODUCTION

Scolytidae is the family of beetles of the superfamily Curculionoidea. This very specialized group is adapted to the life within substrate. Economic importance of this group attracts special attention to the study of their species composition and ecology [May, 1994; Legalov, 2006; Oberprieler et al., 2007; Legalov et al. 2010].

In a managed forest, the amount of dead wood is significantly lower than in a natural forest both at the stand and landscape level. According to e.g. Siitonen et al. [2000], the volume of dead wood in an old natural spruce forest can be almost tenfold compared with an old managed forest [Linder, Östlund, 1992]. As a tree starts to senesce, various decomposing organisms, including insects and fungi, begin to colonize such resources. Bark beetles (Coleoptera, Scolytidae) are among the first insect groups to attack a dead or weakened tree. Most of the species that have benefited from modern forestry are capable of reproducing in logging slash or timber storage sites and benefit of the warm climate of the clearings [Nuorteva, 1968; Campbell, Liegel, 1996]. Most bark beetle species are harmless to healthy living trees, but some, notably the spruce bark beetle *Ips typographus* (L.), can attack and kill healthy trees. *Pityogenes chalcographus* (L.) can also attack and kill trees, but it does not seem to threaten healthy trees [Hedgren, 2004]. Usually the abundance of *I. typographus* is low and the beetles only attack dead or weakened trees under stress from e.g. drought or fungi [Anderbrant et al., 1988].

The fauna of Iranian Scolytidae was poorly studied so far [Modarres Awal, 1997]. The objective of this research is a preliminary study on the scolytids in north and

northwestern Iran.

### MATERIALS AND METHODS

This study was conducted in different areas of north and northwestern Iran, including 6 provinces (Ardabil, East Azarbaijan, Golestan, Guilan, Mazandaran and West Azarbaijan) during the years 2004-2008. The trap logs were prepared as 2-3 m in length and 10-20 cm in diameter and placed inside the forests to collect scolytid beetles in spring and summer. Trap logs were checked every 15-20 days and were brought into the laboratory and kept under constant conditions. The emerged adults were killed with ethyl acetate. In addition, several insect collections of different universities in Iran were checked and their data are used in this paper.

### RESULTS

Totally 49 species of Scolytidae from 24 genera were collected from North and Northwestern Iran. The list of species is presented below.

Genus *Carphoborus* Eichhoff, 1864

*Carphoborus minimus* (Fabricius, 1798)

**Material:** East Azarbaijan province: Tabriz, 3 specimens, on *Cedrus libani*, April 2007.

*Carphoborus pini* Eichhoff, 1881

**Material:** West Azarbaijan province: Khoy, 1 specimen, on *Pinus pinea*, July 2005. New record for Iran.

Genus *Chaetoptelius* Fuchs, 1913

*Chaetoptelius vestitus* (Rey, 1860)

**Material:** Guilan province: Astara, 2 specimens, July 2006.

Genus *Crypturgus* Erichson, 1836

*Crypturgus cinereus* (Herbst, 1793)

**Material:** Ardabil province: Ardabil, 1 specimen, on *Picea orientalis*, September 2006. East Azarbaijan province: Maragheh, 2 specimens, on *Cedrus libani*, July 2007.

*Crypturgus dubius* Eichhoff, 1871

**Material:** Guilan province: Rasht, 3 specimens, on *Pinus sylvestris*, August 2008.

*Crypturgus numidicus* Ferrari, 1867

**Material:** Golestan province: National Park, 2 specimens, on *Pinus pinea*, March 2004. New record for Iran.

Genus *Dryocoetes* Eichhoff, 1864

*Dryocoetes alni* (Georg, 1856)

**Material:** West Azarbaijan province: Ourmieh, 2 specimens, July 2005.

*Dryocoetes villosus* (Fabricius, 1792)

**Material:** Mazandaran province: Savadkooh, 4 specimens, April 2008.

Genus *Ernopocerus* Balachowsky, 1949

*Ernopocerus caucasicus* (Lindemann, 1876)

**Material:** West Azarbaijan province: Khoy, 1 specimen, July 2005. New record for Iran.

Genus *Hylastes* Erichson, 1836

*Hylastes angustatus* (Herbst, 1793)

**Material:** East Azarbaijan province: Arasbaran, 4 specimens, on *Picea orientalis*, August 2007.

*Hylastes attenuatus* Erichson, 1836

**Material:** Golestan province: National Park, 5 specimens, on *Pinus brutia*, March 2004.

*Hylastes brunneus* Erichson, 1836

**Material:** West Azarbaijan province: Oshnavieh, 3 specimens, on *Pinus nigra*, July 2004.

Genus *Hylesinus* Fabricius, 1801

*Hylesinus crenatus* (Fabricius, 1787)

**Material:** Ardabil province: Germy, 4 specimens, September 2007.

Genus *Hylurgops* LeConte, 1876

*Hylurgops glabratus* (Zetterstedt, 1828)

**Material:** Mazandaran province: Qaemshahr, 2 specimens, on *Abies nordmanniana*, March 2006.

*Hylurgops palliatus* (Gyllenhal, 1813)

**Material:** Guilan province: Lahijan, 1 specimen, on *Pinus pinea*, March 2008. New record for Iran.

Genus *Ips* De Geer, 1775

*Ips acuminatus* (Gyllenhal, 1827)

**Material:** West Azarbaijan province: Mako, 3 specimens, on *Abies nordmanniana* ssp. *bornmuelleriana*, September 2005.

*Ips mannsfeldi* (Wachtl, 1879)

**Material:** East Azarbaijan province: Arasbaran, 2 specimens, on *Pinus brutia*, August 2007.

Genus *Kissophagus* Chapuis, 1869

*Kissophagus hederæ* (Schmidt, 1843)

**Material:** East Azarbaijan province: Arasbaran, 3 specimens, August 2007.

Genus *Orthotomicus* Ferrari, 1867

*Orthotomicus laricis* (Fabricius, 1792)

**Material:** West Azarbaijan province: Mako, 2 specimens, on *Pinus nigra*, September 2005.

*Orthotomicus proximus* (Eichhoff, 1867)

**Material:** East Azarbaijan province: Tabriz, 3 specimens, on *Cedrus libani*, April 2007.

*Orthotomicus suturalis* (Gyllenhal, 1827)

**Material:** Guilan province: Roodbar, 1 specimen, on *Pinus sylvestris*, June 2007.

Genus *Phloeophthorus* Wollaston, 1854

*Phloeophthorus brevicollis* (Kolenati, 1846)

**Material:** Mazandaran province: Ramsar, 1 specimen, on *Olea europaea*, August 2004. New record for Iran.

*Phloeophthorus rhododactylus* (Marsham, 1802)

**Material:** West Azarbaijan province: Piranshahr, 2 specimens, on *Ficus carica*, June 2005.

Genus *Phloeosinus* Chapuis, 1869

*Phloeosinus armatus* Reitter, 1887

**Material:** East Azarbaijan province: Arasbaran, 4 specimens, on *Cupressus sempervirens*, August 2007.

*Phloeosinus cedri* Brisout de Barneville, 1883

**Material:** Mazandaran province: Behshahr, 2 specimens, on *Cedrus libani*, August 2007.

Genus *Phloeotribus* Latreille, 1796

*Phloeotribus scarabaeoides* (Bernard, 1788)

**Material:** Ardabil province: Meshkinshahr, 3 specimens, on *Pinus nigra*, June 2006.

Genus *Pityogenes* Bedel, 1888

*Pityogenes bidentatus* (Herbst, 1784)

**Material:** West Azarbaijan province: Mako, 2 specimens, on *Picea orientalis*, September 2005.

*Pityogenes calcaratus* (Eichhoff, 1878)

**Material:** East Azarbaijan province: Maragheh, 3 specimens, on *Pinus brutia*, June 2007.

*Pityogenes irkutensis* Eggers, 1910

**Material:** Guilan province: Astara, 2 specimens, on *Pinus sylvestris*, July 2006.

*Pityogenes quadridens* (Hartig, 1834)

**Material:** Mazandaran province: Sari, 4 specimens, on *Picea orientalis*, August 2007.

Genus *Pityokteines* Fuchs, 1911

*Pityokteines curvidens* (Germar, 1824)

**Material:** East Azarbaijan province: Arasbaran, 2 specimens, August 2007.

Genus *Pityophthorus* Eichhoff, 1864

*Pityophthorus micrographus* (Linnaeus, 1758)

**Material:** West Azarbaijan province: Ourmieh, 2 specimens, June 2005.

Genus *Pteleobius* Bedel, 1888

*Pteleobius kraatzi* (Eichhoff, 1864)

**Material:** West Azarbaijan province: Ourmieh, 2 specimens, August 2005.

*Pteleobius vittatus* (Fabricius, 1787)

**Material:** Mazandaran province: Savadkooh, 1 specimen, April 2008. New record for Iran.

Genus *Scolytus* Geoffroy, 1762

*Scolytus amygdali* Guerin, 1847

**Material:** Mazandaran province: Ramsar, 6 specimens, on *Pyrus* sp., August 2004.

*Scolytus intricatus* (Ratzeburg, 1837)

**Material:** East Azarbaijan province: Arasbaran, 7 specimens, on *Quercus frainetto*, August 2007.

*Scolytus kirschi* Skalitzky, 1876

**Material:** West Azarbaijan province: Ourmieh, 2 specimens, on *Fagus sylvatica*, July 2005.

*Scolytus multistriatus* (Marsham, 1802)

**Material:** Guilan province: Rasht, 1 specimen, on *Ulmus* sp., August 2008.

*Scolytus pygmaeus* (Fabricius, 1787)

**Material:** Golestan province: Gonbad, 1 specimen, on *Ulmus minor*, March 2004.

*Scolytus rugulosus* (Müller, 1818)

**Material:** West Azarbaijan province: Piranshahr, 3 specimens, on *Prunus domestica*, June 2005.

Genus *Taphrorychus* Eichhoff, 1878

*Taphrorychus bicolor* (Herbst, 1793)

**Material:** East Azarbaijan province: Maragheh, 3 specimens, on *Fagus sylvatica* ssp. *orientalis*, June 2007.

*Taphrorychus ramicola* (Reitter, 1894)

**Material:** Golestan province: Gorgan, 2 specimens, on *Corylus avellana*, March 2004.

Genus *Thamnurgus* Eichhoff, 1864

*Thamnurgus caucasicus* Reitter, 1887

**Material:** Golestan province: Gorgan, 1 specimen, March 2004.

*Thamnurgus delphinii* (Rosenhauer, 1856)

**Material:** Ardabil province: Meshkinshahr, 2 specimens, June 2006.

*Thamnurgus varipes* Eichhoff, 1878

**Material:** East Azarbaijan province: Maragheh, 4 specimens, June 2007.

Genus *Tomicus* Latreille, 1802

*Tomicus destruens* (Wollaston, 1865)

**Material:** Golestan province: National Park, 4 specimens, March 2004.

Genus *Xyleborus* Eichhoff, 1864

*Xyleborus dispar* (Fabricius, 1792)

**Material:** Golestan province: Gorgan, 3 specimens, on *Corylus avellana*, March 2004. Mazandaran province: Sari, 2 specimens, on *Populus nigra*, August 2007. Guilan province: Lahijan, 1 specimen, on *Carpinus betulus*, March 2008.

*Xyleborus eurygraphus* (Ratzeburg, 1837)

**Material:** East Azarbaijan province: Arasbaran, 2 specimens, on *Pinus brutia*, August 2007.

Genus *Xyloterus* Erichson, 1836

*Xyloterus lineatus* (Olivier, 1795)

**Material:** West Azarbaijan province: Piranshahr, 1 specimen, June 2005.

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