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Coleoptera (Cerambycidae, Curculionidae) of the oil-polluted forests in North Eastern Azerbaijan

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A b s t r a c t : The paper concerns the data on representatives of Coleoptera collected from oil-polluted forests in North-Eastern Azerbaijan. During the survey 60 species Curculionidae and 25 species Cerambycidae were collected. Two Cerambycidae species (*Isotomus comptus* and *Chlorophorus hircanus*) are new for Azerbaijan fauna.

K e y w o r d s : Coleoptera, Cerambycidae, Curculionidae, entomofauna, oil pollution

Introduction

Mountainous forests in North-Eastern Azerbaijan are represented by trees and shrubs. The forests suffer from anthropogenic influence mainly expressed in oil pollution. Oil extraction followed by cutting down of trees, building of roads, boring of wells, inevitable oil floods, etc. leads to decrease in forests area from one hand and destroy of the direction of flow of subsoil waters causing the dry out of plants. All these factors have a destructive impact on biodiversity of entomofauna. Disturbance of the insect fauna in the forests may be served as a method of characterizing the level of disturbance of forests as a result of oil pollution. The beetles (Coleoptera) was selected for studying, because this group is highly diverse in this habitat and it might be expected that the maximum diversity would be found in areas where the forest has been undisturbed by oil pollution.

The data on quantitative and qualitative state of entomofauna in the polluted forests of the North-Eastern Azerbaijan are not investigated. Investigations on entomological fauna of this region mostly deal with the agrocenoses (SAMEDOV 1963, HİDAYATOV 1982, ABDINBEKOVA 1995). The aim of this paper is to contribute to the knowledge of the structure of entomofauna in the North-Eastern Azerbaijan forests that suffer from anthropogenic influence. One way to assess the differences between the sites studied is to know the differences in species numbers of families collected there. The study concentrated on comparisons between insect fauna of the undisturbed (UPS) and disturbed (HPS, LPS,) forest sites.

Our work (SA (LST.CLG.978563)) was financially supported by the NATO Scientific Program. It was planned for 2 years. The paper includes the checklist of Cerambycidae and Curculionidae collected during yearly survey.

Material and methods

The present study was carried from May to October in the forests of Gala-alti and Zeyva, which are located in the North-Eastern Azerbaijan. The area is characterized by mixed forests with vegetation consisted mainly of oak (*Quercus* L.), beech (*Fagus* L.), hornbeam (*Carpinus* L.), apple tree (*Malus* MILL.), medlar (*Mespilus* L.), pear (*Pyrus* L.), blackberry (*Rubus* L.), dog-rose (*Rosa canica*), hawthorn (*Crataegus* L.).

According to distance from source of pollution (oil wells) experimental wood cenoses situated 850-900 m.a.s.l. were divided into high polluted site (HPS), light polluted site (LPS) and unpolluted site (UPS). Annual mean temperatures in the region are around 10 °C with absolute minimum of -22 °C and absolute maximum between 40 °C and 10 °C. Average precipitation is 400 mm per year (BUDAGHOV 1988).

We used clap and sweep-net to collect the insects. Collected insects were immediately killed with an injection of ethyl acetate. Representative samples are deposited at the Institute of Zoology, Azerbaijan National Academy of Sciences and Ataturk University, Agriculture Faculty, Department of Plant Protection.

Results

Family R h y n c h i t i d a e

Rhynchites auratus (SCOPOLI 1763)

D e v e c h i : Zeyva (HPS), 25.5.2002, G. Tozlu; 1 ♀.

Rhynchites bacchus (LINNAEUS 1758)

D e v e c h i : Gala-alti (LPS), 24.5.2002, G. Tozlu; 1 ♂.

Rhynchites giganteus (KRYNICKI 1832)

D e v e c h i : Gala-alti (UPS), 24.5.2002, G. Tozlu; 1 ♂.

Family A t t e l a b i d a e

Rhynchites aequatus (LINNÉ 1767)

D e v e c h i : Gala-alti (UPS), 26.5.2002, G. Tozlu; 18 ♀ ♀. Gala-alti (LPS), 24.5.2002, G. Tozlu; 2 ♂ ♂.

Coenorrhinus pauxillus GERMAR 1824

D e v e c h i : Gala-alti (LPS), 24.5.2002, G. Tozlu; 1 ♀.

Family A p i o n i d a e

Apion miniatum GERMAR 1833

D e v e c h i : Zeyva (HPS), 27.5.2002, G. Tozlu; 14 ♂ ♂, Zeyva (HPS), 25.5.2002, G. Tozlu; 5 ♀ ♀.

***Protapion schoenherri* (BOHEMAN 1839)**

D e v e c h i : Gala-alti (UPS), 28.5.2002, G. Tozlu; 2 ♀ ♀, Gala-alti (UPS), 30.5.2002, G. Tozlu; 3 ♂ ♂.

***Protapion tifolii* (LINNÉ 1768)**

D e v e c h i : Zeyva (HPS), 25.5.2002, G. Tozlu; 1 ♀.

***Acanephodus onopordi* (KIRBY 1808)**

D e v e c h i : Gala-alti (LPS), 28.5.2002, G. Tozlu; 1 ♂, Gala-alti (UPS), 30.5.2002, G. Tozlu; 1 ♀.

***Ceratapion gibbirostre* (GYLLENHAL 1813)**

D e v e c h i : Zeyva (HPS), 27.5.2002, G. Tozlu; 1 ♂.

***Eutrichapion vorax* (HERBST 1797)**

D e v e c h i : Zeyva (HPS), 27.5.2002, G. Tozlu; 1 ♂.

***Holotrichapion pullum* (GYLLENHAL 1833)**

D e v e c h i : Gala-alti (UPS), 30.5.2002, G. Tozlu; 1 ♀.

***Metatrichapion reflexum* GYLLENHAL 1833**

D e v e c h i : Gala-alti (UPS), 30.5.2002, G. Tozlu; 1 ♀.

***Perapion oblongum* (GYLLENHAL 1839)**

D e v e c h i : Gala-alti (LPS), 24.5.2002, G. Tozlu; 1 ♀.

Family C u r c u l i o n i d a e

Subfamily E n t i m i n a e

***Otiorhynchus nasutus* STIERLIN 1883**

D e v e c h i : Zeyva (HPS), 27.5.2002, G. Tozlu; 3 ♀ ♀, Gala-alti (UPS), 24.5.2002, G. Tozlu; 2 ♂ ♂, Gala-alti (UPS), 28.5.2002, G. Tozlu; 4 ♂ ♂.

***Phyllobius lenkoranus* SCHILSKY 1911**

D e v e c h i : Gala-alti (LPS), 24.5.2002, G. Tozlu; 4 ♀ ♀, Gala-alti (UPS), 30.5.2002, G. Tozlu; 5 ♀ ♀.

***Phyllobius pictus* STEVENS 1829**

D e v e c h i : Gala-alti (UPS), 30.5.2002, I.G. Kerimova; 1 ♀.

***Phyllobius rusicus* STIERLIN 1884**

D e v e c h i : Gala-alti (LPS), 24.5.2002, G. Tozlu; 10 ♂ ♂, Gala-alti (LPS), 28.5.2002, G. Tozlu; 8 ♀ ♀, Gala-alti (UPS), 24.5.2002, G. Tozlu; 11 ♀ ♀, Gala-alti (UPS), 26.5.2002, G. Tozlu; 16 ♂ ♂.

***Polydrusus inustus* GERMAR 1824**

D e v e c h i : Gala-alti (UPS), 24.5.2002, G. Tozlu; 3 ♀ ♀, Gala-alti (LPS), 24.5.2002, G. Tozlu; 2 ♂ ♂, Gala-alti (UPS), 28.5.2002, G. Tozlu; 4 ♂ ♂, Gala-alti (LPS), 28.5.2002, G. Tozlu; 6 ♂ ♂, Gala-alti (UPS), 30.5.2002, I.G. Kerimova; 1 ♀, Zeyva (HPS), 25.5.2002, G. Tozlu; 5 ♀ ♀, Zeyva (HPS), 27.5.2002, G. Tozlu; 4 ♂ ♂.

***Polydrusus mollis* (STROEM 1768)**

D e v e c h i : Gala-alti (UPS), 30.5.2002, I.G. Kerimova; 1 ♀.

***Polydrusus pilifer* HOCHHUT 1847**

D e v e c h i : Gala-alti (UPS), 24.5.2002, G. Tozlu; 9 ♀ ♀, Gala-alti (UPS), 26.5.2002, G. Tozlu; 18 ♂ ♂, Gala-alti (UPS), 28.5.2002, G. Tozlu; 1 ♀, Gala-alti (UPS), 30.5.2002, G. Tozlu; 3 ♀ ♀, Zeyva (HPS), 25.5.2002, G. Tozlu; 6 ♂ ♂, Zeyva (HPS), 27.5.2002, G. Tozlu; 1 ♂.

***Sitona hispidulus* (FABRICIUS 1777)**

D e v e c h i : Gala-alti (LPS), 28.5.2002, G. Tozlu; 1 ♂.

***Sitona crinitoides* REITTER 1903**

D e v e c h i : Gala-alti (LPS), 28.5.2002, G. Tozlu; 4 ♂ ♂.

***Strophomorphus porcellus* SCHOENHERR 1832**

D e v e c h i : Gala-alti (UPS), 30.5.2002, G. Tozlu; 1 ♂.

***Ptochomorphus lateralis* (CHEVROLAT 1880)**

D e v e c h i : Gala-alti (UPS), 24.5.2002, G. Tozlu; 17 ♀ ♀, Gala-alti (UPS), 28.5.2002, G. Tozlu; 1 ♂, Zeyva (HPS), 25.5.2002, G. Tozlu; 3 ♂ ♂, Zeyva (HPS), 27.5.2002, G. Tozlu; 3 ♂ ♂.

Subfamily L i x i n a e (=Cleoninae)

***Larinus jaceae* (FABRICIUS 1775)**

D e v e c h i : Gala-alti (UPS), 30.5.2002, G. Tozlu; 5 ♀ ♀.

***Larinus planus* (FABRICIUS 1792)**

D e v e c h i : Gala-alti (LPS), 28.5.2002, G. Tozlu; 2 ♀ ♀, Zeyva (HPS), 27.5.2002, G. Tozlu; 1 ♂.

***Larinus syriacus* GYLLENHAL 1836**

D e v e c h i : Gala-alti (UPS), 28.5.2002, G. Tozlu; 1 ♂, Zeyva (HPS), 27.5.2002, G. Tozlu; 1 ♂.

***Larinus* sp. 1**

D e v e c h i : Gala-alti (UPS), 24.5.2002, G. Tozlu; 1 ♂, Zeyva (HPS), 27.5.2002, G. Tozlu; 5 ♀ ♀.

***Larinus* sp. 2**

D e v e c h i : Gala-alti (LPS), 28.5.2002, G. Tozlu; 2 ♂ ♂.

***Lixus angustatus* (FABRICIUS 1775)**

D e v e c h i : Zeyva (HPS), 25.5.2002, G. Tozlu; 2 ♂ ♂.

***Lixus scolopax* BOHEMAN 1836**

D e v e c h i : Gala-alti (UPS), 30.5.2002, G. Tozlu; 16 ♂ ♂.

***Coniocleonus nigrosuturatus* (GOEZE 1777)**

D e v e c h i : Gala-alti (UPS), 30.5.2002, I.G. Kerimova; 2 ♀ ♀.

***Cleonis pigra* (SCOPOLI 1763)**

D e v e c h i : Gala-alti (UPS), 30.5.2002, I.G. Kerimova; 1 ♀.

***Cyphocleonus deallatus* (GMELIN 1790)**

D e v e c h i : Zeyva (HPS), 27.5.2002, G. Tozlu; 1 ♀.

***Pseudocleonus marginicollis* FAHRAEUS 1842**

D e v e c h i : Gala-alti (UPS), 30.5.2002, G. Tozlu; 1 ♀.

Subfamily H y p e r i n a e

***Hypera postica* (GYLLENHAL 1813)**

D e v e c h i : Gala-alti (UPS), 24.5.2002, G. Tozlu; 1 ♀, Gala-alti (UPS), 30.5.2002, G. Tozlu; 5 ♂ ♂.

Subfamily E r i r h i n a e

***Dorytomus dejeani* FAUST 1882**

D e v e c h i : Gala-alti (UPS), 26.5.2002, G. Tozlu; 1 ♂.

***Dorytomus melanophthalmus* (PAYKULL 1792)**

D e v e c h i : Gala-alti (UPS), 26.9.2002, G. Tozlu; 1 ♀.

Subfamily T y c h i n i n a e

***Tychyus cuprifer* (PANZER 1799)**

D e v e c h i : Gala-alti (LPS), 28.5.2002, G. Tozlu; 1 ♀, Gala-alti (UPS), 30.5.2002, G. Tozlu; 4 ♂ ♂.

***Tychyus* sp.**

D e v e c h i : Gala-alti (LPS), 28.5.2002, G. Tozlu; 1 ♂.

Subfamily: Curculioninae

***Anthonomus rubi* (HERBST 1795)**

D e v e c h i : Zeyva (HPS), 27.5.2002, G. Tozlu; 2 ♀.

***Bradybatus* sp.**

D e v e c h i : Gala-alti (UPS), 30.5.2002, I.G. Kerimova; 1 ♀.

***Curculio glandium* MARSHAM 1802,**

D e v e c h i : Gala-alti (UPS), 24.5.2002, G. Tozlu; 1 ♂, Gala-alti (UPS), 26.5.2002, G. Tozlu; 1 ♂,
Gala-alti (UPS), 30.5.2002, I.G. Kerimova; 1 ♂.

***Curculio pyrrhoceras* MARSHAM 1802**

D e v e c h i : Gala-alti (UPS), 24.5.2002, G. Tozlu; 1 ♀.

***Curculio venosus* (GRAVENHORST 1807)**

D e v e c h i : Gala-alti (UPS), 24.5.2002, G. Tozlu; 2 ♂ ♂, Gala-alti (UPS), 26.5.2002, G. Tozlu;
2 ♂ ♂, Gala-alti (LPS), 24.5.2002, G. Tozlu; 2 ♀ ♀.

Subfamily Gymnetrinae

***Gymnetron labile* (HERBST 1795)**

D e v e c h i : Gala-alti (UPS), 30.5.2002, G. Tozlu; 1 ♀.

***Gymnetron rotundicolle* GYLLENHAL 1838**

D e v e c h i : Gala-alti (LPS), 28.5.2002, G. Tozlu; 1 ♀, Zeyva (HPS), 25.5.2002, G. Tozlu; 1 ♂.

Miarus* sp. pr. *ruficornis

D e v e c h i : Gala-alti (LPS), 28.5.2002, G. Tozlu; 2 ♀ ♀.

Subfamily Magdalidinae

***Magdalis ruficornis* (LINNAEUS 1758)**

D e v e c h i : Gala-alti (LPS), 24.5.2002, G. Tozlu; 11 ♂ ♂, Gala-alti (LPS), 28.5.2002, G. Tozlu;
3 ♀ ♀.

Subfamily Ceutorhynchinae

***Zacladus geranii* (PAYKULL 1800)**

D e v e c h i : Gala-alti (LPS), 24.5.2002, G. Tozlu; 1 ♀.

***Ceutorhynchus* sp. pr. *hirtulus* GERMAR 1824**

D e v e c h i : Gala-alti (UPS), 30.5.2002, G. Tozlu; 1 ♂.

***Trichosirocalus horridus* (PANZER 1801)**

D e v e c h i : Gala-alti (LPS), 28.5.2002, G. Tozlu; 4 ♂ ♂, 4 ♀ ♀, Zeyva (HPS), 27.5.2002, G. Tozlu; 1 ♂.

***Rhinoncus pericarpus* (LINNAEUS 1758)**

D e v e c h i : Zeyva (HPS), 27.5.2002, G. Tozlu; 2 ♀ ♀.

***Hadroplontus trimaculatus* (FABRICIUS 1775)**

D e v e c h i : Gala-alti (LPS), 28.5.2002, G. Tozlu; 1 ♀, Zeyva (HPS), 27.5.2002, G. Tozlu; 1 ♀.

***Mogulones t-album* (GYLLENHAL 1837)**

D e v e c h i : Gala-alti (LPS), 28.5.2002, G. Tozlu; 1 ♀.

***Mogulones hyrcanus* KOROTYAEV 1992**

D e v e c h i : Zeyva (HPS), 25.5.2002, G. Tozlu; 1 ♂, Zeyva (HPS), 27.5.2002, G. Tozlu; 1 ♀.

***Glocianus brevicollis* (SCHULTZE 1896)**

D e v e c h i : Gala-alti (LPS), 28.5.2002, G. Tozlu; 1 ♀.

***Prisistus caucasicus* (KIRSCH 1878)**

D e v e c h i : Gala-alti (LPS), 24.5.2002, G. Tozlu; 1 ♂, Gala-alti (LPS), 28.5.2002, G. Tozlu; 4 ♂ ♂, Gala-alti (UPS), 30.5.2002, G. Tozlu; 19 ♂ ♂.

***Prisirus obsoletus* (GERMAR 1824)**

D e v e c h i : Gala-alti (UPS), 30.5.2002, G. Tozlu; 1 ♀.

Family C e r a m b y c i d a e

Subfamily C e r a m b y c i n a e

***Cerambyx scopoli* (FUESSLY 1775)**

D e v e c h i : Gala-alti (LPS), 28.5.2002, I.G. Kerimova; 1 ♂.

***Chlorophorus hircanus* PIC 195**

D e v e c h i : Gala-alti (UPS), 17.06.2002, I.G. Kerimova; 1 ♂.

***Chlorophorus sartor* (MÜLLER 1766)**

D e v e c h i : Gala-alti (LPS), 10.7.2002, I.G. Kerimova; 1 ♂, Gala-alti (LPS), 10.7.2002, Sh.M. Maharramova; 1 ♂, Gala-alti (LPS), 10.7.2002, E.A. Huseynova; 1 ♀.

***Clytus rhamni* (GERMAR 1817)**

D e v e c h i : Zeyva (UPS), 23.5.2002, E.A. Huseynova; 1 ♀.

***Isotomus comptus comptus* (MANNERHEIM 1825)**

D e v e c h i : Zeyva: (UPS), 13.7.2002, I.G. Kerimova; 1 ♀, 1 ♂.

***Molorchus monticola* PLAVILSTSHIKOV 1931**

D e v e c h i : Gala-alti (UPS), 24.5.2002, I.G. Kerimova; 1 ♂, Gala-alti (UPS), 26.5.2002, I.G. Kerimova; 1 ♂, Gala-alti (UPS), 30.5.2002, I.G. Kerimova; 1 ♂.

***Certallum ebulinum* LINNÉ 1767**

D e v e c h i : Gala-alti (UPS), 30.5.2002, I.G. Kerimova; 1 ♀.

***Rosalia alpina* (LINNAEUS 1758)**

D e v e c h i : Zeyva (UPS), 13.5.2002, I.G. Kerimova; 3 ♂ ♂, 2 ♀ ♀.

***Stenopterus rufus transcaspicus* PLAVILSTSHIKOV 1940**

D e v e c h i : Zeyva (HPS), 13.7.2002, I.G. Kerimova; 2 ♂ ♂.

Subfamily L e p t u r i n a e

***Cortodera flavimana* (WALTL 1838)**

D e v e c h i : Gala-alti (LPS), 24.5.2002, E.A. Huseynova; 1 ♂.

***Melanoleptura scutellata scutellata* (FABRICIUS 1781)**

D e v e c h i : Zeyva (UPS), 13.7.2002, I.G. Kerimova; 1 ♂.

***Paracorymbia tesserala* (CHARPENTIER 1825)**

D e v e c h i : Zeyva (HPS), 04.5.2002, Sh.M. Maharramova; 1 ♀, Zeyva (HPS), 13.7.2002, I.G. Kerimova; 1 ♂.

***Paracorymbia tonsa* (J. & K. DANIEL 1891)**

D e v e c h i : Zeyva (HPS), 04.5.2002, I.G. Kerimova; 1 ♂, Zeyva (HPS), 04.5.2002, E.A. Huseynova; 2 ♂ ♂, Gala-alti (UPS), 24.5.2002, I.G. Kerimova; 1 ♂, Gala-alti (LPS), 18.06.2002, E.A. Huseynova; 1 ♀, Gala-alti (LPS), 5.7.2002, Sh.M. Maharramova; 1 ♀, Gala-alti (LPS), 5.7.2002, E.A. Huseynova; 1 ♀, Gala-alti (LPS), 5.7.2002, I.G. Kerimova; 2 ♀ ♀, 2 ♂ ♂, Gala-alti (LPS), 10.7.2002, I.G. Kerimova; 7 ♂ ♂, Gala-alti (LPS), 10.7.2002, Sh.M. Maharramova; 2 ♂ ♂, 2 ♀ ♀, Gala-alti (LPS), 10.7.2002, E.A. Huseynova; 1 ♂, Zeyva (HPS), 13.7.2002, Sh.M. Maharramova; 1 ♀.

***Pedostrangalia verticenigra* (PIC 1892)**

D e v e c h i : Gala-alti (UPS), 29.5.2002, I.G. Kerimova; 1 ♂.

***Rutpella maculata maculata* (PODA 1761)**

D e v e c h i : Gala-alti (LPS), 10.7.2002, E.A. Huseynova; 2 ♀ ♀, Gala-alti (LPS), 10.7.2002, I.G. Kerimova; 4 ♀ ♀, Gala-alti (LPS), 10.7.2002, Sh.M. Maharramova; 2 ♂ ♂, Zeyva (HPS), 13.7.2002, I.G. Kerimova; 1 ♂, 1 ♀.

***Stenurella bifasciata bifasciata* (O.F. MÜLLER 1776)**

D e v e c h i : Gala-alti (LPS), 5.7.2002, E.A. Huseynova; 1 ♀, Gala-alti (LPS), 5.7.2002, I.G. Kerimova; 1 ♂, Gala-alti (LPS), 10.7.2002, I.G. Kerimova; 1 ♀.

***Stenurella nigra* (LINNAEUS 1758)**

D e v e c h i : Gala-alti (UPS), 30.5.2002, I.G. Kerimova; 1 ♀.

***Dinoptera collaris* (LINNAEUS 1758)**

D e v e c h i : Gala-alti (UPS), 26.5.2002, I.G. Kerimova; 2 ♀ ♀, Gala-alti (UPS), 29.5.2002, I.G. Kerimova; 2 ♂ ♂.

***Rhagium fasciculatum* FALDERMANN 1837**

D e v e c h i : Zeyva (UPS), 23.5.2002, Sh.M. Maharramova, 1 ♀.

Subfamily L a m i i n a e

***Agapanthia subchalybaea* REITTER 1898**

D e v e c h i : Zeyva (HPS), 04.5.2002, I.G. Kerimova; 1 ♂, Zeyva (UPS), 23.5.2002, I.G. Kerimova; 10 ♂ ♂, 5 ♀ ♀, Gala-alti (UPS), 24.5.2002, E.A. Huseynova; 1 ♀, Gala-alti (UPS), 29.5.2002, I.G. Kerimova; 2 ♂ ♂, 2 ♀ ♀.

***Agapanthia persicola* REITTER 1894**

D e v e c h i : Gala-alti (UPS), 29.5.2002, I.G. Kerimova; 2 ♂ ♂.

Subfamily D o r c a d i o n a e

***Dorcadion* sp.**

D e v e c h i : Gala-alti (UPS), 29.5.2002, I.G. Kerimova; 1 ♀, Gala-alti (UPS), 30.5.2002, I.G. Kerimova; 1 ♀, 2 ♂ ♂.

***Opsilia coerulescens* (SCOPOLI 1763)**

D e v e c h i : Gala-alti (UPS), 30.5.2002, Sh.M. Maharramova; 1 ♂.

***Phytoecia icterica icterica* (SCHALLER 1789)**

D e v e c h i : Zeyva (HPS), 22.5.2002, I.G. Kerimova; 1 ♂, Gala-alti (UPS), 24.5.2002, I.G. Kerimova; 1 ♀, Zeyva (HPS), 25.5.2002, I.G. Kerimova; 1 ♀, Gala-alti (UPS), 30.5.2002, I.G. Kerimova; 1 ♂.

***Brachyleptura cordigera* (FUESSLY 1775)**

D e v e c h i : Gala-alti (LPS), 10.7.2002, I.G. Kerimova; 1 ♂.

Isotomus comptus and *Chlorophorus hircanus* presented in the checklist were recorded for the first time for Azerbaijan entomofauna (KERIMOVA 2003).

Discussion

Results of comparison between insect fauna of the undisturbed and disturbed forest sites are presented in the figure. As it is shown from the figure 14 % of total collected species were found out in the high-polluted sites (HPS), 20 % in the light-polluted site (LPS) and 43 % in the unpolluted site (UPS). From total number of species 5 % were found out both in the HPS and LPS, 8 % in the HPS and UPS, 8 % in the LPS and UPS and only 2 % in the HPS, LPS, UPS.

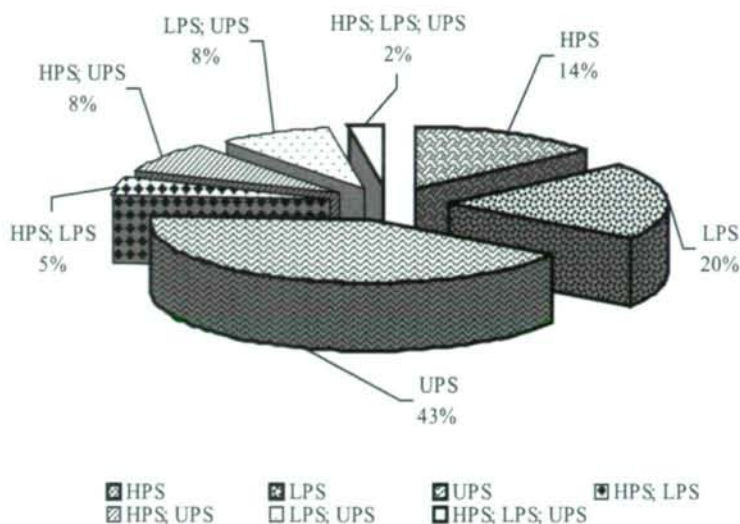


Fig.: Percentage of species occupation in undisturbed and disturbed sites

In spite of the fact that some species were at the same time found in 3 sites (HPS, LPS, UPS) or in 2 sites (HPS, LPS; LPS, UPS or HPS, UPS), specimens collected from undisturbed site are rather more than those collected from disturbed sites.

Among species collected from undisturbed site there is such a beautiful beetle of the Azerbaijan fauna as *Rosalia alpina*. This is the threatened species included in Red Book of the republic. It was recorded on the old beech (*Fagus L.*) in the unpolluted site. However the oil exploitations are a great threat for its habitat. Development of all new and new oil fields in the forest causes the reduction of the size of insect habitats. It also reduces the genetic diversity of the species living there. The reduction of genetic resources of a species on the one hand and often changes of habitats on the other hand diminishes their adaptability to changing situations. This significantly reduces their ability to survival.

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Zusammenfassung

Die Arbeit widmet sich ausgewählten Käferfamilien, gesammelt in ölverseuchten Wäldern Nordost Aserbaidschans. 60 Arten Curculionidae und 25 Arten Cerambycidae wurden nachgewiesen, die Bockkäfer *Isotomus comptus* und *Chlorophorus hircanus* sind neu für die Fauna Aserbaidschans.

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Tab. 1: Quantitative distribution of species of Curculionidae and Cerambycidae in the sites studied

No.	Species	Family	Sites		
			UPS	LPS	HPS
1.	<i>Coenorhinus aequatus</i>	Curculionidae	18	2	-
2.	<i>Ceratapion onopordi</i>	"___"	1	1	-
3.	<i>Phyllobius ruscicus</i>	"___"	27	18	-
4.	<i>Phyllobius lenkoranus</i>	"___"	5	4	-
5.	<i>Curculio venosus</i>	"___"	4	2	-
6.	<i>Prisistus caucasicus</i>	"___"	19	5	-
7.	<i>Thychius cuprifer</i>	"___"	4	1	-
8.	<i>Otiorynchus nasutus</i>	"___"	6	-	3
9.	<i>Polydrusus pilifer</i>	"___"	31	-	7
10.	<i>Polydrusus inustus</i>	"___"	8	8	9
11.	<i>Ptochomorphus lateralis</i>	"___"	18	-	6
12.	<i>Larinus syriacus</i>	"___"	1	-	1
13.	<i>Larinus</i> sp. 1	"___"	1	-	5
14.	<i>Larinus planus</i>	"___"	-	2	1
15.	<i>Trichosirocalus horridus</i>	"___"	-	8	1
16.	<i>Gymnetron rotundicolle</i>	"___"	-	1	1
17.	<i>Hadroplontus trimaculatus</i>	"___"	-	1	1
18.	<i>Agaphanthis subchalybaea</i>	Cerambycidae	5	-	15
19.	<i>Phytoecia icterica icterica</i>	"___"	2	-	2
20.	<i>Paracorymbia (Paracorymbia) tonsa</i>	"___"	1	12	4
21.	<i>Rutpella maculata maculata</i>	"___"	-	6	2

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