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A COMPARATIVE STUDY ON THE FAUNA OF *ALTICINAE* (*COLEOPTERA, CHRYSOMELIDAE*) IN THE ASIAN PART OF TURKEY AND THE ADJACENT COUNTRIES GEORGIA, ARMENIA, IRAN, IRAQ AND SYRIA

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Abstract. The *Alticinae* fauna of Asiatic Turkey with that of Georgia, Armenia, Iran, Iraq and Syria separately is compared. The number of the taxa (incl. the endemics) in the region and in each of the studied countries is pointed out. The common taxa for Asiatic Turkey and each of the rest of the countries are listed. The taxa are biogeographically typified. Caucasian, Armenian, Steppe (Pontic) and Transasiatic faunistic groups of taxa are added and characterized.

Key words. *Alticinae, Chrysomelidae, Coleoptera*, faunistical and biogeographical comparison, Asiatic Turkey, Georgia, Armenia, Iran, Iraq, Syria

Introduction

A comparative research on the *Alticinae* fauna in the Asiatic Turkey and the Balkan Peninsula was published by GRUEV (2002). The here proposed work is a continuation, comming to present this time a comparison between the fauna of the same subfamily in the Asiatic Turkey and that in each of the adjacent countries Georgia, Armenia, Iran, Iraq and Syria.

While the Caucasus area is the connection of Asiatic Turkey with Europe to the North-East (the western connection of Asiatic Turkey with Europe is the European part of Turkey), than Armenia and Iran mark connections between Asiatic Turkey and the Irano-Turanian and the Armenian biogeographical centers. Syria, along with the western part of Asiatic Turkey, belongs to the eastern Mediterranean. That position defines Asiatic Turkey as a biogeographical "bridge" connecting Europe and the Mediterranean with the inerior of Asia. About the role of that "bridge" testifies the presence in Asiatic Turkey of various elements from Asia, Europe and the Mediterranean in its complete fauna (respectivelly in the *Alticinae* fauna) - on one hand, and the presence of faunistic elements in Europe (especially in South-East Europe) immigrated into it from South-West Asia - on the other hand.

The aim of this work is to present the faunistic and biogeohgraphic differensces and similaritis of *Alticinae* in the Asiatic Turkey and in its eastwards situated adjacent countries.

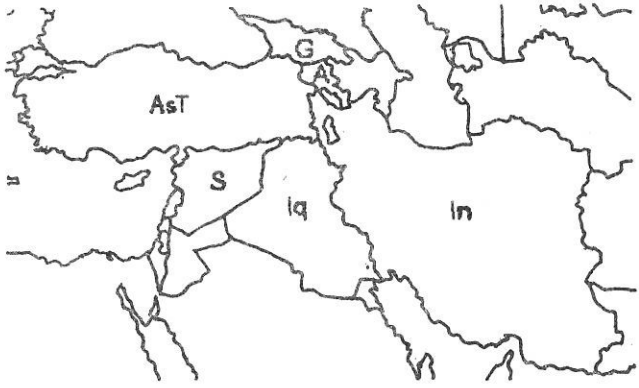
Geographical comparison of the countries
(see the map)

a. *Area*. The studied region covers about 3,128,000 sq. km : **Iran** - 1,648,000 sq. km, **Asiatic Turkey** - 760,000 sq. km, **Iraq** - 434,920 sq. km, **Syria** - 185,200 sq. km, **Armenia** - 29,800 sq. km.

b. *Geographical belonging*. EUROPE: **Georgia** (incl. Adzharia, Abkhasia and South Ossetia). ASIA: **Armenia** - South Transcaucasia; **Asiatic Turkey, Iraq** and **Syria** - Near East; **Iran** - Middle East

c. *Relief*. **Asian Turkey**. Predominantly mountainous with average height of about 2800 m. Highest point - 5165 m. Lowlands - by the Mediterranean Sea and the Aegean Sea. **Georgia**. Predominantly mountainous. Highest point - 5068 m. Lowlands - Colchis (by the Black Sea in Adzharia). **Armenia**. Predominantly mountainous. Highest point - 4090 m. Lowlands -Ararat plane. **Iran**. Mainly mountainous, and with many plateau territories and high desert planes. Highest point - 5604 m. Lowlands - southwestwards by the Persian Gulf, the Strait of Hormuz and the Gulf of Oman, northwarts by the Caspian Sea. **Iraq**. Mainly lowlands and plateau deserts. Highest points - from 2305 m to 3598 m only on the boundaries with Turkey and Iran. **Syria**. Mainly plateau deserts. Small mountainous parts in the West (highest point - 2814 m on the Libanian boundary). Lowlands - by the Mediterranean Sea and the rivers El-Assi and Euphrates.

d. *Climate*. **Asiatic Turkey**. Southwards - subtropical mediterranean, in the interior - temperate-continental and mountainous-continental, in some places - semi-desert or semi-steppe; by the Black Sea - temperate-warm. **Georgia**. Westwards - temperate-warm with subtropical features; in the interior - temperate-continental mountainous. **Armenia**. Predominantly dry continental. **Iran**. In the most part of the territory - Subtropic continental; by the south golfs - hot tropical. **Iraq**. Dry subtropical. **Syria**. Westwards - subtropic mediterranean. In the interior - dry continental.



AsT – Asiatic Turkey, **G** – Georgia, **A** - Armenia, **In** – Iran, **Iq** – Iraq, **S** - Syria

Faunistic comparison of *Alticinae* in the countries

The sources of the faunistic data are: ASLAN ET AL. (1999, 2003), ASLAN, ÖZBEK (1998, 1999), ASLAN, WARCHALOWSKI (2001), BIONDI (1997), DÖBERL (2000), DOGUET, BERGEAL (2000, 2001), FRITZLAR (2001), FURTH (1997), GÖK, AYVAZ (2000), GÖK ET AL. (2002, 2003), GÖK, ÇILBIROGLU (2003), GÖK, GÜRBÜZ (2002), GRUEV (1995, 1998, 2002 a), GRUEV, ASLAN (1998), GRUEV, DÖBERL (1997; in press), KISMALI (1999), KISMALI ET AL. (1995), KONSTANTINOV (1998, 2000), WARCHALOWSKI (1993, 1998, 1998 a, 1998 b).

List of the *Alticinae* taxa in the studied region

(Abbreviations: **AT** - Asiatic Turkey, **G** - Georgia, **A** - Armenia, **In** - Iran, **Iq** - Iraq, **S** - Syria, **BB** - Biogeographical belonging) (see also part "Biogeographical comparison of *Alticinae* of the countries")

TAXON	AT	G	A	In	Iq	S	BB
AESCHROCNEMIS							
anatolica (Heikertinger, 1922)	+						End
caucasica (Weise, 1886)		+					CaEnd
delagrangei (Pic, 1903)						+	End
laterufa (Pic, 1909)	+	+					Ca
ossetica Heikertinger, 1922)		+					End
pubipennis (Reitter, 1892)		+					Ca
rhodopensis (Gruev, 1973)	+						EsbM
serbica (Kutschera, 1860)	+						EsbM
whiteheadi (Warchalowski, 1998)	+						End
ALTICA							
ampelophaga Guerin-Meneville, 1858	+						AtlM
ancyrensis (Weise, 1897)	+		+				EM
bicarinata (Kutschera, 1860)	+			+	+	+	EM
brevicollis Foudras, 1860	+		+	+			ME
breviuscula (Weise, 1900)				+			SbIn
bulgharensis Kral, 1969	+						End
carduorum Guerin-Menneville, 1858	+	+	+				TrPal
carinthiaca (Weise, 1888)			+				SibE
deserticola (Weise, 1989)	+		+	+	+	+	SbIn
globicollis (Weise, 1889)	+		+	+			Ca
hampei (Allard, 1867)	+		+				Ca
helianthemi (Allard, 1859)		+					SibE
impressicollis (Reiche, 1862)	+			+		+	ME

jarmilae Kral, 1979	+	+					ESbM
lythri Aube, 1843	+						ME
mohri Lopatin, 1990				+			End
oleracea (Linnaeus, 1758)	+	+	+	+			TrPal
palustris (Weise, 1888)	+	+	+	+			SibE
pontica (Ogloblin, 1925)	+						End
quercetorum Foudras, 1860 s. str.	+	+	+				ME
quercetorum seliceti (Weise, 1888)			+				ME
rosicola Kral, 1969			+				Ca
tamaricis Schrank, 1785	+		+	+	+		TrPal
tsharinensis (Ogloblin, 1921)		+	+				SbIn
viridula (Weise, 1889)		+	+	+			Ca
ANTHOBIODES							
turcica (L. Medvedev, 1975)	+						EM (sub- (endemic of Asiatic Turkey and Rhodos)
APHTHONA							
abdominalis (Duftschmid, 1825)	+	+	+	+			TrPal
atrovirens (Foerster, 1849)	+						ME
beckeri Jacobson, 1895		+					SibE
bergeali Fritzlar, 2001	+						End
bonvouloiri Allard, 1860	+			+		+	EM
claripes Rapilly, 1978				+			End
crassicornis Lopatin, 1990	+						End
czwalinae Weise, 1888				+			SibE
euphorbiae (Schrank, 1781)	+	+	+			+	SibE
flava Guillebeau, 1894	+						ME
flaviceps Allard, 1859	+	+	+	+	+	+	SbIn
franzi Heikertinger, 1944	+		+			+	SibE
fuentei Reitter, 1901	+			+			HM
gracilis Faldermann, 1837	+	+	+	+	+		SbIn
hauseri Heikertinger, 1911				+			SbIn
jacobsoni Ogloblin, 1926				+			SbIn
jordanica Mohr, 1962						+	EM
konstantinovi Lopatin, 1998	+						Ca
kuntzei Roubal, 1931	+					+	ESbM
lutescens (Gyllenhal, 1808)	+	+	+	+			SibE
maculata Allard, 1876	+		+	+	+	+	SbIn
mohri Warchalowski, 1973				+			End
nigriceps (W. Redtenbacher, 1842)	+	+	+				HSbM
nigriscutis Foudras, 1860	+	+	+				SibE
nonstriata (Goeze, 1777)	+	+	+	+			ME

ovata Foudras, 1860	+						ME
pygmaea (Kutschera, 1861)	+	+	+			+	ME
reitteri Allard, 1884		+	+				CaEnd
rugipennis Ogloblin, 1926	+	+	+				SbIn
semicyanea Allard, 1859	+	+	+	+		+	SibE
syriaca Heikertinger, 1944	+				+	+	EM
testaceicornis Weise, 1894		+					CaEnd
venustula (Kutschera, 1861)	+						ME
violacea (Koch, 1803)	+	+	+				SibE
warchalowskii Fritzlar, 2001	+						End
weiseana Konstantinov, 1998				+			SbIn
ARGOPUS							
clematidis Rapilly, 1978				+			End
BATOPHILA							
fallax Weise, 1888	+	+		+			St(P)
olexai Kral, 1964	+	+					Eux
CHAETOCNEMA							
aerosa (Letzner, 1846)	+						ME
arenacea (Allard, 1860)	+						HSbM
arida Foudras, 1860	+						ME
aridula (Gyllenhal, 1827)	+						TrPal
brenskei Pic, 1910				+			SbIn
breviuscula (Faldermann, 1884)	+		+	+	+	+	TrPal
chlorophana (Duftschmid, 1825)	+				+	+	ME
concinna Marsham, 1802)	+	+	+				HPal
conducta (Motschulsky, 1838)	+		+	+		+	SbIn
confusa (Boheman, 1851)	+						ME
coyei (Allard, 1863)	+		+	+	+	+	ESbM
heptapotamica Lubischev, 1963		+					SbIn
hortensis (Geoffroy, 1785)	+	+		+	+	+	HPal
jelineki Lopatin, 1990				+			End
major (Jacquelin du Val, 1852)	+			+	+	+	TrPal
mannerheimi (Gyllenhal, 1827)	+						TrPal
montenegrina Heikertinger, 1912	+		+	+			SbIn
nebulosa Weise, 1886				+			SbIn
nocticolor Rapilly, 1978				+			End
obesa (Boieldieu, 1859)	+				+		SibE
oblonga Lopati, 1990				+			End

orientalis (Bauduer, 1874)	+	+		+	+	+	SbIn
picipes Stephens, 1831	+	+	+	+			TrPal
procerula *(Rosenhauer,* 1856)	+						ME
psylloides Pic, 1909				+	+		SbIn
sahlbergi (Gyllenhal, 1827)	+						TrPal
scheffleri (Kutschera, 1864)	+			+	+		HSbM
schlaeflii (Stierlin, 1866)				+	+		SbIn
semicoerulea (Koch, 1803)	+						SibE
tibialis (Illiger, 1807)	+			+	+	+	SibE
turhalus Iyriboz, 1934	+						End
CREPIDODERA							
aurata (Marsham, 1802)	+	+	+	+			HPal
aurea (Geoffroy, 1785)	+	+	+				SibE
fulvicornis (Fabricius, 1792)	+	+		+			TrPal
lamina (Bedel, 1901)	+	+					ME
plutus (Latreille, 1804)	+	+		+			TrPal
wittmeri (Doguet, 1976)				+			End
DEROCREPIS							
rufipes (Linnaeus, 1758)	+						SibE
DIBOLIA							
carpathica Weise, 1893	+	+	+				ME
chevrolari Allard, 1861						+	HM
cryptocephala (Koch, 1803)	+		+				SibE
cynoglossi (Koch, 1803)	+		+				ME
depressiuscula Letzner, 1847	+						SibE
femoralis Redtenbacher, 1849	+						ME
iranica Mohr, 1981				+			End
kralii Mohr, 1981	+			+			SbIn
occultans (Koch, 1803)	+			+			ME
phoenicia Allard, 1866	+	+					ESbM
rufofemorata Reitter, 1896	+					?+	EM
rugulosa Redtenbacher, 1849	+	+	+				ME
schillingii (Letzner, 1847)	+		+				ME
tricolor Reitter, 1899	+		+				Arm
weisei Mohr, 1981		+					End
zangezurica Iablokoff-Khnzorian, 1968	+		+	+			Arm
EPITRIX							
abeillei (Bauduer, 1874)	+			+	+	+	SbIn
atropae Foudras, 1860	+		+				ME
caucasica (Heikertinger, 1950)	+	+		+			SbIn