for this study, and to Dr. Martin Baehr, Zoologische Staatssammlung, München, for valiable comments about this note.

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The genus *Scaurus*: Biogeography and Ecology

(Insecta, Coleoptera, Tenebrionidae)

Harold Labrique

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Ecological and biogeographical parameters of the mediterranean genus *Scaurus* are discussed. The high grade of endemism is tressed and it is shown that most taxa live at low altitudes and preferably in regions with a mediterranean bioclimate.

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The genus *Scaurus* Fabricius actually contains 30 species and 8 subspecies. This genus ranges around the Mediterranean basin with the exception of the Balkans and Asia minor where it is replaced by the genus *Cephalostenus* Solier. Like many other tenebrionid beetles living around the Mediterranean Sea, species of Scaurus are wingless. Most species are twilight or nocturnal beetles and, during the day, many are hidden under stones.

The genus *Scaurus* presents different types of distribution: betico-rifenian (such as *S. tingitanus* Peyerimhoff (f. typ.), maghrebian (such as *S. sancti-amandi* Solier), north-west mediterranean (such as *S. striatus* Fabricius), saharo-mediterranean (such as *S. aegyptiacus* Solier), turanian (such as *S. puncticollis* ssp. *macricollis* Allard), etc.

There are two interesting regions where the diversity is remarkable. The first one is the tripolitano-cyrenaïc region with 5-6 occurring species. In this region, *Scaurus sancti-amandi* Solier reaches his eastern limit of distribution and *S. carinatus* ssp. *vicinoides* Schuster reaches his western limit. The second region includes north-eastern Marocco and west-eastern Algeria with altogether 11-12 species occurring. In this region, some species reach their western limit of distribution (*S. varvasi* Solier, *S. angustus* Reiche, *S. atratus* Fabricius and *S. dubius* Solier) and others their eastern limit (*S. vicinus* Solier and *S. mesatlanticus* Peyerimhoff). One species is endemic in this region: *S. camelus* Kocher. Generally, the orano-maroccan block has a high diversity with several endemic species.

Concerning endemism, this is very important in the genus. Among the 38 known taxa, 23 could be considered as endemic, that is about 60.5 %. For example, in Marocco live 22 taxa and among these 11 are endemic, that is 50 % of all taxa living in this country and about 50 % of all endemic taxa. This richness of the maroccan fauna could be explained by the high diversity of habitats in this country.

Concerning the ecology of the species of the genus *Scaurus*, it can be stated that most taxa (66 %) inhabit areas with mediterranean bioclimate and only 4 taxa strictly inhabit the desert region. A morphological and phylogenetic study showed that the genus *Scaurus* can be divided into three lineages: the *Scaurus angustus* lineage (1 species), the *Scaurus tristis* lineage (24 taxa) and the *Scaurus punctatus* lineage (13 taxa). If we remove *Scaurus angustus* which is a very particular species, we could argue

that in the *Scaurus tristis* lineage 11 taxa among 24 (46 %) strictly inhabit subdesertic and desertic areas, whereas in the *Scaurus punctatus* lineage only 2 species among 13 (16 %) inhabit areas with comparable bioclimate. On the contrary, in the *Scaurus punctatus* lineage 10 taxa among 13 (76 %) strictly inhabit areas with mediterranean bioclimate, whereas in the *Scaurus tristis* lineage 10 taxa among 24 (41 %) inhabit similar areas.

Concerning the altitudinal distribution of the taxa of the genus *Scaurus*, only 3 among 38 taxa can be found at high altitude (>2000 m): namely *Scaurus mairei* Peyerimhoff (Hoggar), *S. alticola* Escalera and *S. kocheri* Peyerimhoff (High-Atlas, Marocco). Thus, the large majority of taxa (33=87 %) live at low altitude from 0-1000 m. If considering the two different lineages defined above we find in the *Scaurus uncinus* lineage 7 species among the 11 ranging from 0-1000 m can be found at an upper altitude which is 63.6 %. In the *Scaurus tristis* lineage the situation is quite different: only 4 species among 21 ranging from 0-1000 m can be found at an upper altitude which is only 19 %.

In conclusion we can state that in the genus *Scaurus* the number of endemic taxa is very high (60 %), but very few species (6) possess a very large distribution. Most taxa live at low or medium altitudes in areas of mediterranean bioclimate. Very few species (3) only have been found at high altitude.

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A tenebrionid society in southeastern Kazakhstan: composition, zoogeography and ecology

(Insecta, Coleoptera, Tenebrionidae)

Wolfgang Schawaller

Schawaller, W. (2003): A tenebrionid society in southeastern Kazakhstan: composition, zoogeography and ecology (Insecta, Coleoptera, Tenebrionidae). – Spixiana **26/1**: 54-55

Species composition of Tenebrionidae at a river bed with dense gallery forest in Kazakhstan is enumerated and the ecological and biogeographical conditions are discussed. No tenebrionid was found in the forest which is ascribed to rather recent origin of the forest which prevented forest-dwelling species to immigrate.

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Locality of study

Southeastern Kazakhstan, Charyn Canyon W Chundzha, 650 m, 43°37'N, 79°21'E, 10.-13.VI.1993 & 29.-31.V.2001. The Charyn river as a tributary of the river Ili comes from the Tien Shan mountains and has washed out an up to 20 metres deep canyon in the adjacent flat semidesert area. A sharp ecological contrast exists here: a quite humid forest as a river gallery and a quite dry belt of loamy soil. The level of the ground water is high, so the soil within this canyon is partly salty. The dense forest consists mainly of *Fraxinus*, *Populus* and *Salix* trees, and is often flooded, in daily as well as in seasonal intervals, depending from the weather and snow conditions in the upperstream mountains. In contary, the loam belt is quite open, only a few bushes, mainly tamarisks and *Haloxylon* are growing here.

Composition of fauna

27 species of Tenebrionidae have been recorded (all leg. and det. W. Schawaller, material in Museum Stuttgart). The faunal composition concerning subfamilies is: Lagriinae (7 %), Pimeliinae (45 %), Tenebrioninae (37 %), Alleculinae (7 %), Diaperinae (4 %), Coelometopinae (0 %).

Belopini: *Belopus calcaroides* Reitter,1920, *Belopus filiformis* (Motschulsky, 1872);

Tentyriini: *Anatolica lata* (Steven, 1829), *Anatolica subquadrata* Tauscher, 1812, *Microdera iliensis* Skopin, 1961, *Microdera tscharynensis* Kaszab, 1966, *Scythis affinis* Ballion, 1878, *Tentyria acuticollis* Reitter, 1900;

Adesmiini: *Adesmia panderi* Fischer von Waldheim, 1835;