

## A Check-List of Nebriini (Coleoptera: Carabidae) From Turkey and Species Belonging To Nebriini Tribe Collected From Kahramanmaraş and The Surrounding Province

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### Abstract

This investigation was carried out in Kahramanmaraş and surrounding towns of different altitudes, climate and vegetation. Five species belonging to Nebriini tribe (Carabidae), most of which are a new record for these regions, were determined in the study.

The species belonging to Nebriini tribe collected from Kahramanmaraş and the surrounding towns, photographs of the adult species and their male genitalia organs, monthly distribution and altitude and distribution in Turkey and in the world and their chorotypes were given in addition to chorotypes and a complete list of species belonging to Nebriini tribe in Turkey.

**Key words:** Carabidae, Nebriini, Kahramanmaraş.

### INTRODUCTION

The Carabidae is a huge, worldwide distributed beetle family which is an exceptionally interesting object of various biological observations. There are 40,000 species known in the world. They are usually predators. Primary importance of the family lies in the variety and the location of the food they consume. While some species are omnivorous, and some phytophage, most of them are carnivorous [1, 2, 3]. This family is common in Turkey as in the world. In Turkey, more than 1100 species of Carabidae have been recorded; 41 % of these are endemic [4]. 47 species are included in Nebriini tribe in Turkey [3, 4].

The aim of this study is to record the species belonging to Nebriini collected from Kahramanmaraş and surrounding towns, to give information about their geographic distribution, monthly distribution and the altitude at which they were collected. This study also aims to give the complete list of species belonging to Nebriini tribe and their chorotypes in Turkey and constitutes a source for the studies to be conducted in this field.

### MATERIALS AND METHODS

The material of this investigation was collected from Kahramanmaraş and surrounding towns of different altitudes, climate and vegetation with pitfall traps, from under of stone with hands between 2004 and 2005. The pitfall traps consisted of plastic cups filled with 25 % ethylene glycol set into the ground. The traps were emptied monthly [5, 6]. And specimens were dissected in the laboratory, male genitalia organs were prepared and both adult species and male genitalia organs were photographed with a digital camera. Materials were then identified to species. Some unidentified species were identified by Prof. Augusto Vigna Taglianti in Italy, who also checked the ones already identified. The specimens

are deposited in the Biology Department of Çukurova University.

For each species, a listing of the materials examined, species distribution and proposed chorotypes (items of classification based on distribution patterns as inferred from the comparative analysis of the geographical ranges of species were given [9]. Vigna Taglianti et al. [9] classification results from the comparison of over 3000 geographical ranges of terrestrial and freshwater animal species. Chorotypes are useful for interspecific faunistic and biogeographic comparisons. The present zoogeographical characterization is based on the chorotype classification of Anatolian fauna, recently proposed by Vigna Taglianti et al. (1999).

### RESULTS

In this study, 5 species belonging to Nebriini tribe of Carabidae were reported in Kahramanmaraş and the surrounding towns.

#### Tribe: Nebriini

#### Genus: *Leistus* Fröhlich, 1799

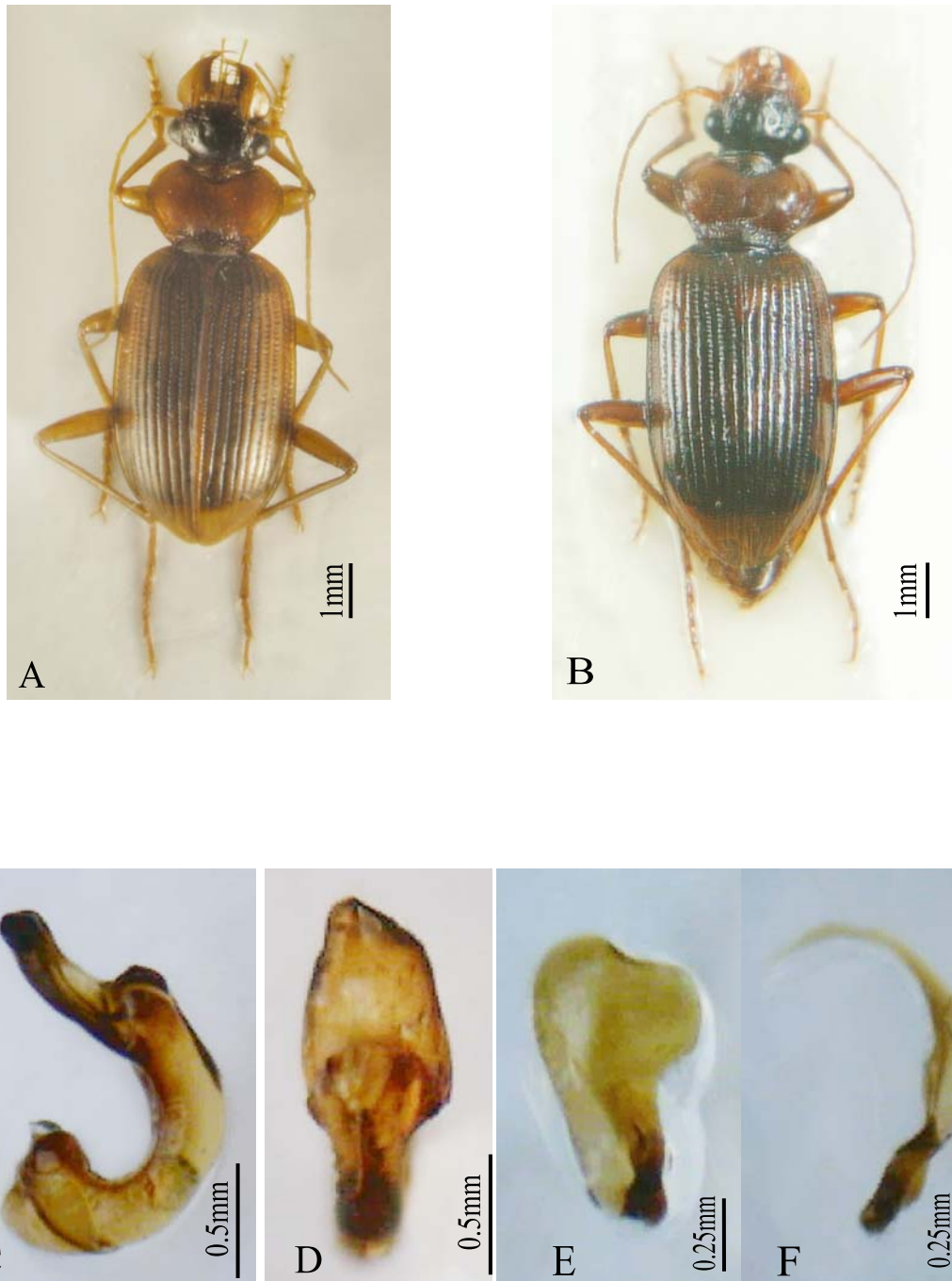
*Leistus (Leistus) caucasicus* Chaudoir, 1867 (Figure 1 A, B, C, D, E, F).

**Material examined:** Kahramanmaraş-Başkonuş: 10.IV.2004 1♀; 18.IV.2004 1♀; 01.V.2004 2♂♂, 3♀♀; 14.V.2004 4♂♂, 3♀♀; 28.V.2004 1♂; 29.V.2004 1♂, 1♀; 12.VI.2004 1♀; 12.XI.2004 1♂; 29.V.2005 3♂♂; 30.V.2005 1♀; Kahramanmaraş-Göksun-Çardak-Kuzutepesi: 19.VI.2004 3♀♀; Kahramanmaraş-Türkoğlu-Avşarlı (Meşelik): 07.V.2004 2♂♂.

**Distribution in the world:** Crimea [7]; Europe: Ukraine; North Africa: Tunisia; Asia: Cyprus, Israel, Syria [3].

**Distribution in the Turkey:** Anatolia (No locality) [4].

**Chorotype:** South west-Asiatic [4].



**Figure 1.** *Leistus caucasicus* Chaudoir; A) male, B) female, C) aedeagus in lateral view, D) aedeagus in dorsal view, E) left paramere, F) right paramere.

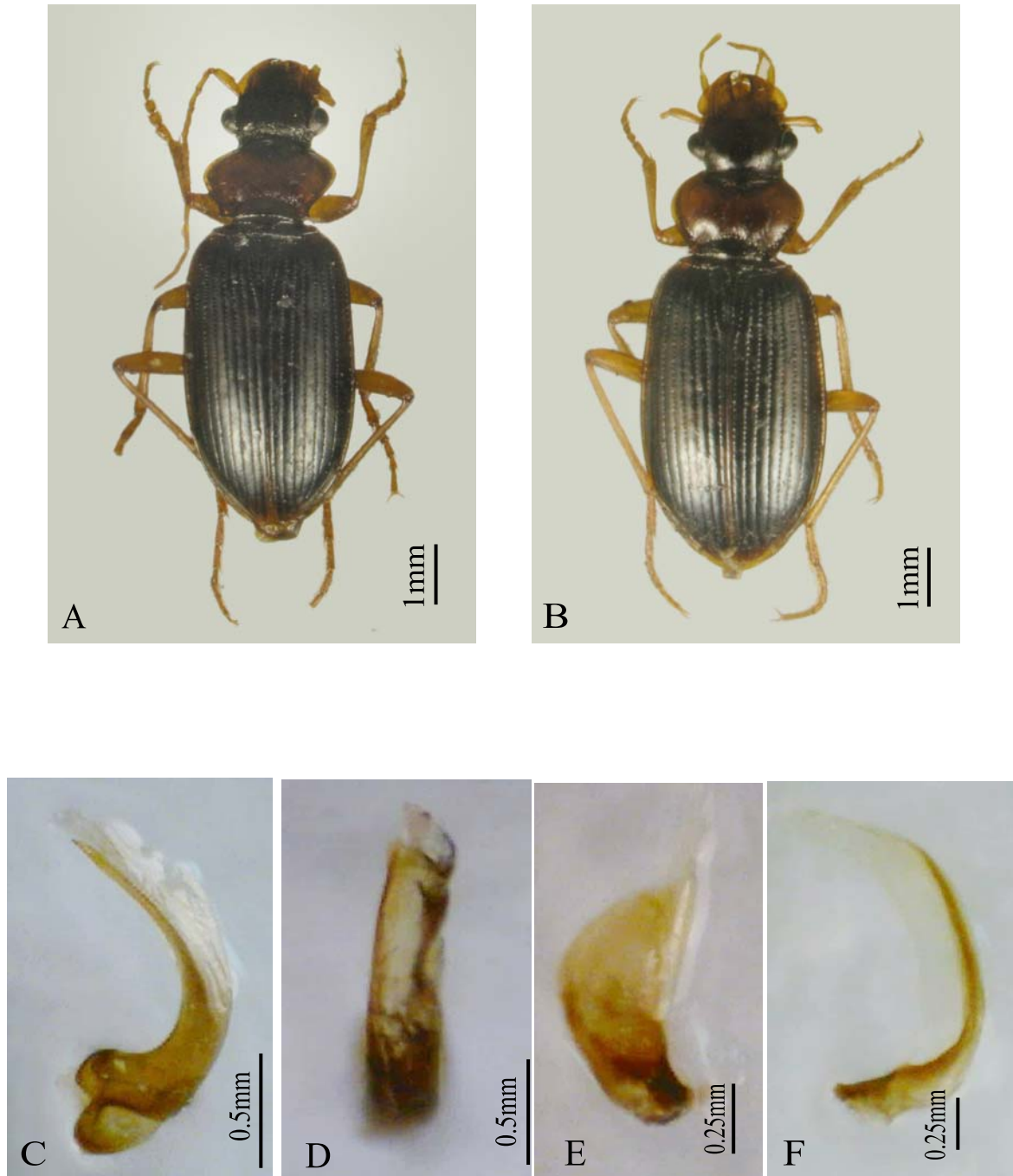
***Leistus (Pogonophorus) hermonis* Piochard de la Brûlerie, 1875** (Figure 2 A, B, C, D, E, F).

**Material examined:** Kahramanmaraş-Başkonuş: 18.IV.2004 1♀; 14.V.2004 2♂♂; 12.VI.2004 1♂.

**Distribution in the world:** Asia: Lebanon [3].

**Distribution in the Turkey:** Anatolia (No locality) [4].

**Chorotype:** East-Mediterranean [4].



**Figure 2.** *Leistus hermonis* Piochard de la Br ulerie; A) male, B) female, C) aedeagus in lateral view, D) aedeagus in dorsal view, E) left paramere, F) right paramere.

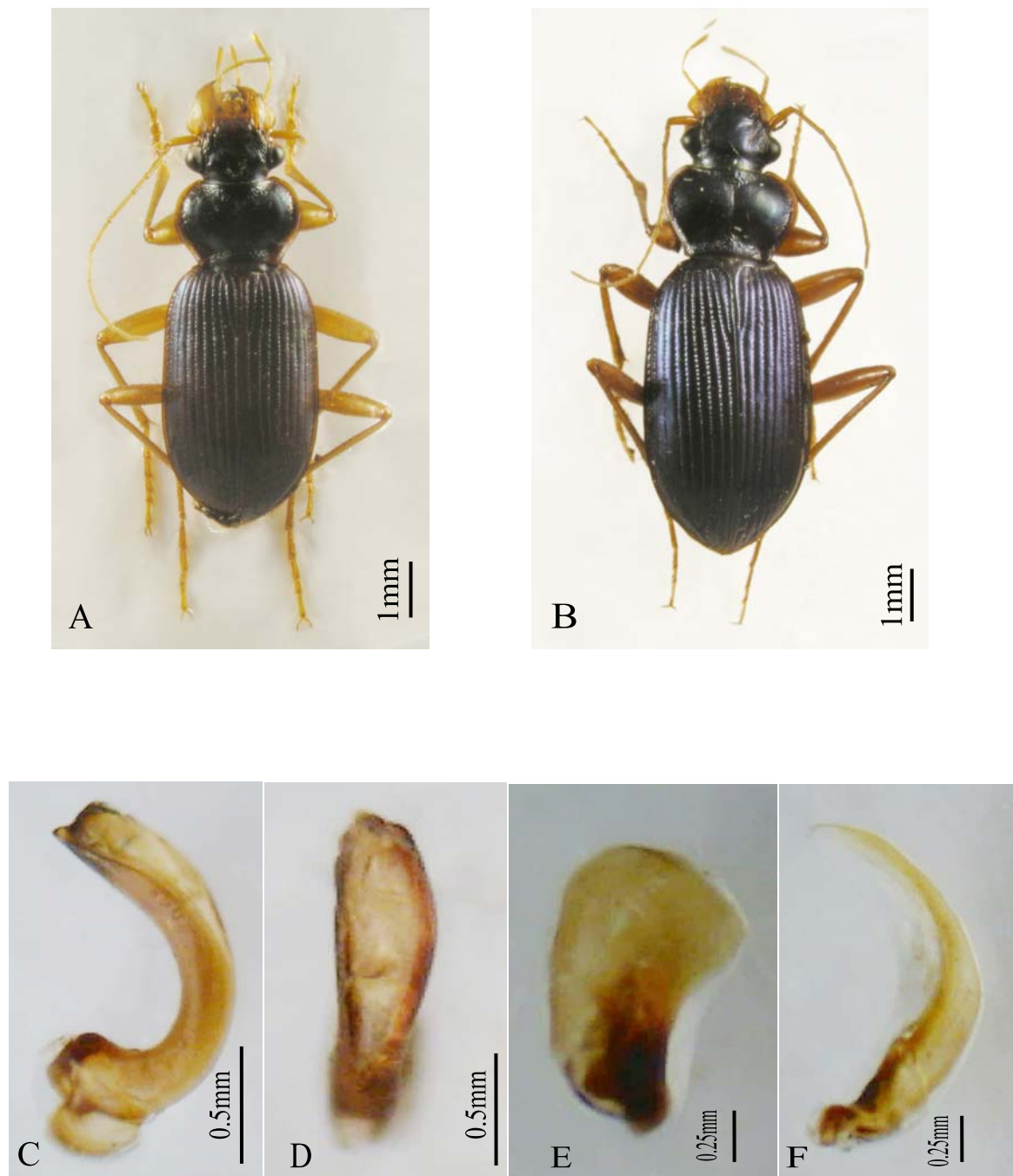
*Leistus (Pogonophorus) spinibarbis rufipes* Chaudoir, 1843 (Figure 3 A, B, C, D, E, F).

**Material examined:** Kahramanmaraş-Başkonuş: 10.IV.2004 1♀; 18.IV.2004 2♀♀; 01.V.2004 1♂, 1♀; 12.XI.2004 1♂, 1♀; Kahramanmaraş- ng t (Ormanlık): 07.V.2004 1♀; Kahramanmaraş- ng t ( z m Bađı): 05.IV.2004 1♀; Kahramanmaraş-Yenicekale: 29.III.2005 1♂. Osmaniye: 29.IV.2004 2♀♀.

**Distribution in the world:** Italy, Balkan Peninsula, Asia Minor, Cyprus [8]; **Avrupa:** Albania, Bosnia Herzegovina, Bulgaria, Croatia, Greece (incl. Crete), Hungary, Italy (incl. Sardinia, Sicily, San Marino), Macedonia, Slovenia, Yugoslavia (Serbia, Montenegro); **Asia:** Cyprus, Turkey [3].

**Distribution in the Turkey:** Anatolia (No locality) [4].

**Chorotype:** European [9].



**Figure 3.** *Leistus spinibarbis rufipes* Chaudoir; A) male, B) female, C) aedeagus in lateral view, D) aedeagus in dorsal view, E) left paramere, F) right paramere.

**Genus:** *Nebria* Latreille, 1802

*Nebria (Nebria) alpicola* Motschulsky, 1866 (Figure 4 A, B, C, D, E).

**Material examined:** Kayseri-Sarız: 25.VIII.2004 1♂; Kayseri-Sarız-Dokuzdolanbaç: 19.VI.2004 1♂; Kayseri-Sarız-Uzunahmet: 26.VIII.2005 1♂; Sivas-Gürün: 30.VIII.2004 1♂.

**Distribution in the world:** Asia: Turkey [3].

**Distribution in the Turkey:** Amasya [10]; Anatolia (No locality) [4].

**Chorotype:** Anatolian endemic [4].



**Figure 4.** *Nebria alpicola* Motschulsky; A) male, B) aedeagus in lateral view, C) aedeagus in dorsal view, D) left paramere, E) right paramere.

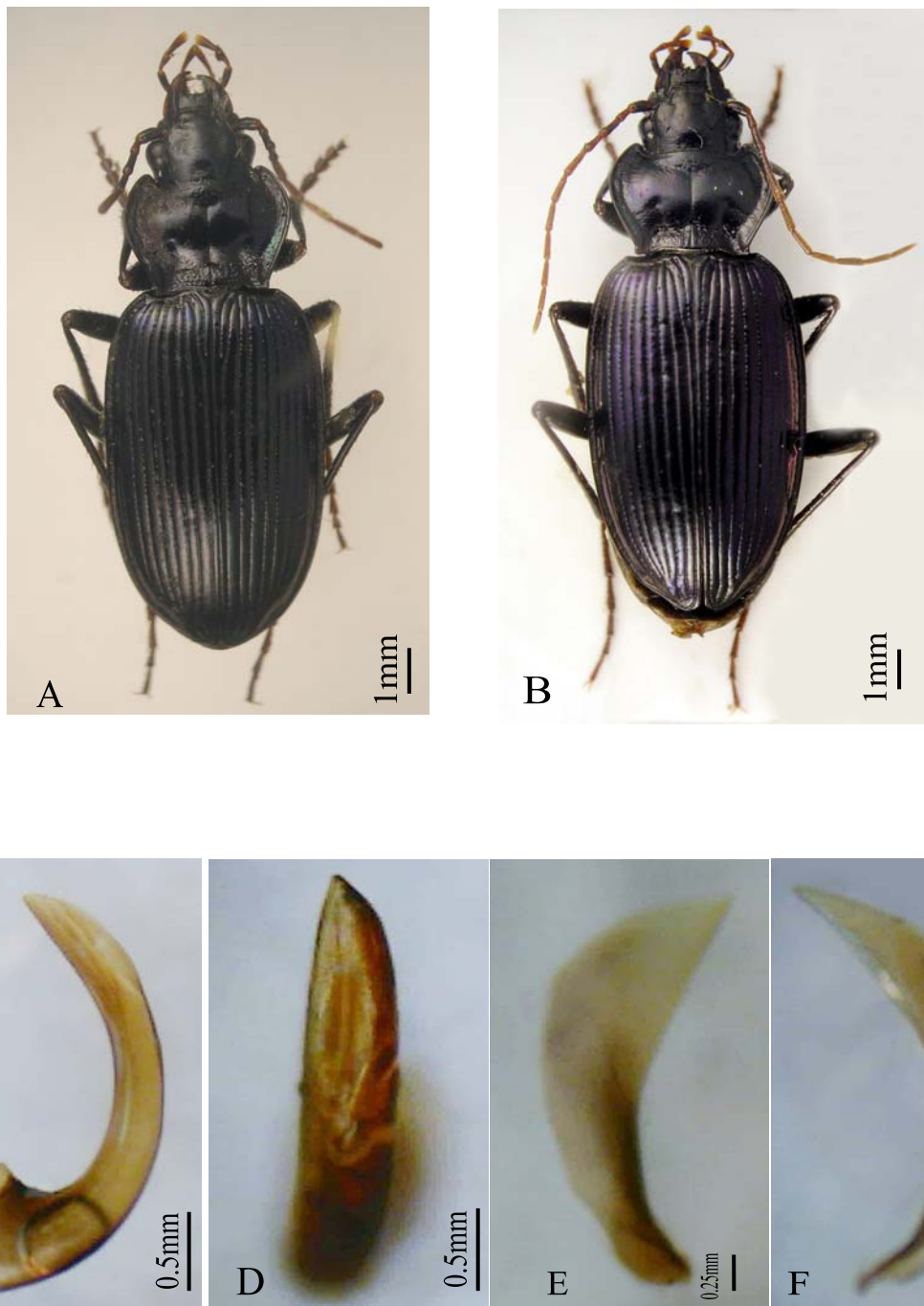
*Nebria (Nebria) hemprichi* Klug, 1832 (Figure 5 A, B, C, D, E, F).

**Material examined:** Adiyaman-Azaplı: 06.V.2004 1♀, Gaziantep-Nurdağı: 04.IV.2004 6♂♂; Gaziantep-Nurdağı-Yeşiloba: 13.XI.2004 1♂, 2♀♀; Kahramanmaraş-Atatürk Parkı: 11.XII.2003 1♂, 1♀; Kahramanmaraş-Başkonuş: 10.IV.2004 3♂♂, 1♀; 18.IV.2004 4♂♂, 4♀♀; 01.V.2004 1♀; 14.V.2004 4♂♂, 16♀♀; 29.V.2004 14♂♂, 10♀♀; 30.X.2004 2♂♂, 3♀♀; 12.XI.2004 22♂♂, 35♀♀; 19.XI.2004 18♂♂, 25♀♀; 29.V.2005 8♂♂, 12♀♀; 30.V.2005 10♂♂, 5♀♀; Kahramanmaraş-Çağlayancerit-Düzbağ (Cevizlik): 08.V.2004 2♂♂, 4♀♀; Kahramanmaraş-Göksun-Çardak-Kuzutepesi: 02.VI.2004 2♀♀; Kahramanmaraş-Nurhak: 09.V.2004 1♂; Kahramanmaraş-Türkoğlu-Avşarlı (Meşelik): 07.V.2004 3♀♀; Kahramanmaraş-Türkoğlu (Tigem): 22.IV.2004 1♀; 07.V.2004 2♂♂, 8♀♀; 01.VI.2004 12♂♂, 8♀♀; 17.V.2005 1♂, 1♀; 24.V.2005 3♂♂, 2♀♀; Kahramanmaraş-Türkoğlu-Çakallıhasanağa (Ceviz Bahçesi): 14.IV.2004 3♂♂, 5♀♀; Kahramanmaraş-Yavaşan: 25.VIII.2005 9♂♂, 5♀♀; Malatya-Karanlıkdere: 06.V.2004 2♂♂, Osmaniye-Bahçe-Hodur: 07.VII.2004 1♀.

**Distribution in the world:** Asia: Israel, Syria, Turkey [3].

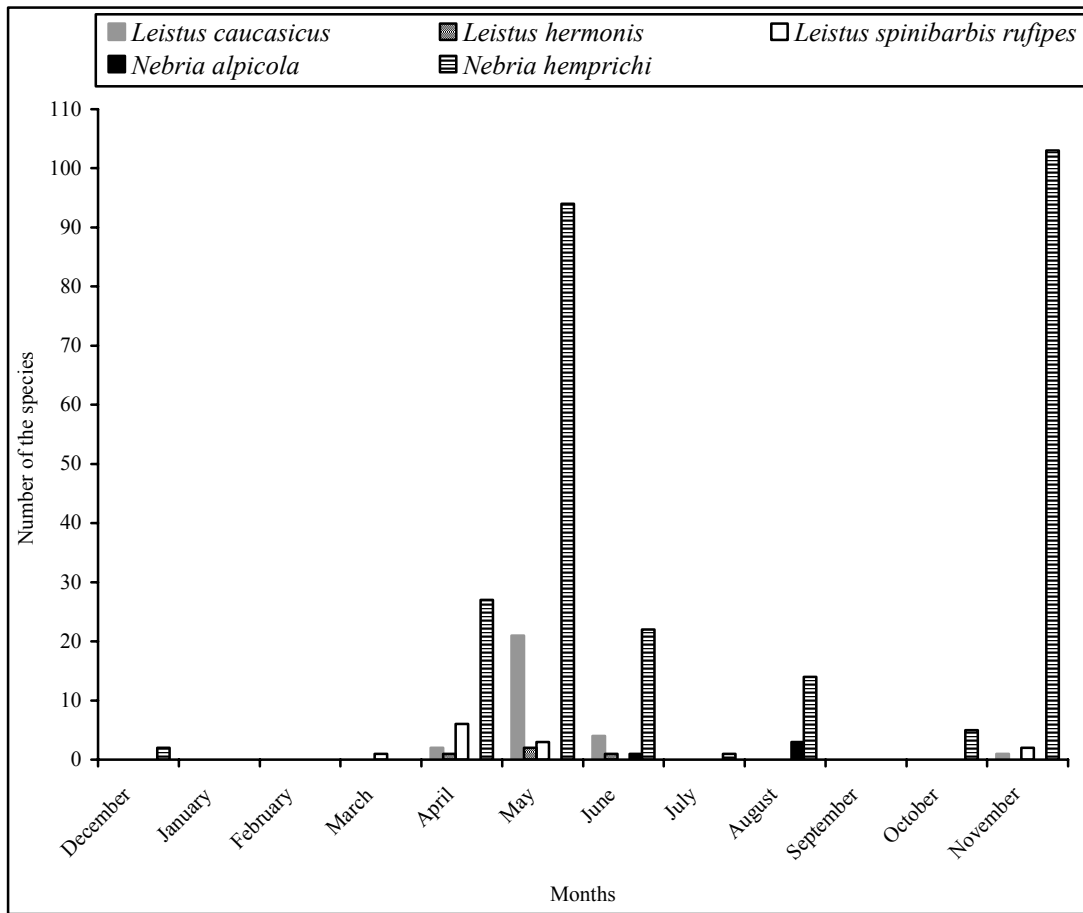
**Distribution in the Turkey:** Anatolia (No locality) [4].

**Chorotype:** East-Mediterranean [4].



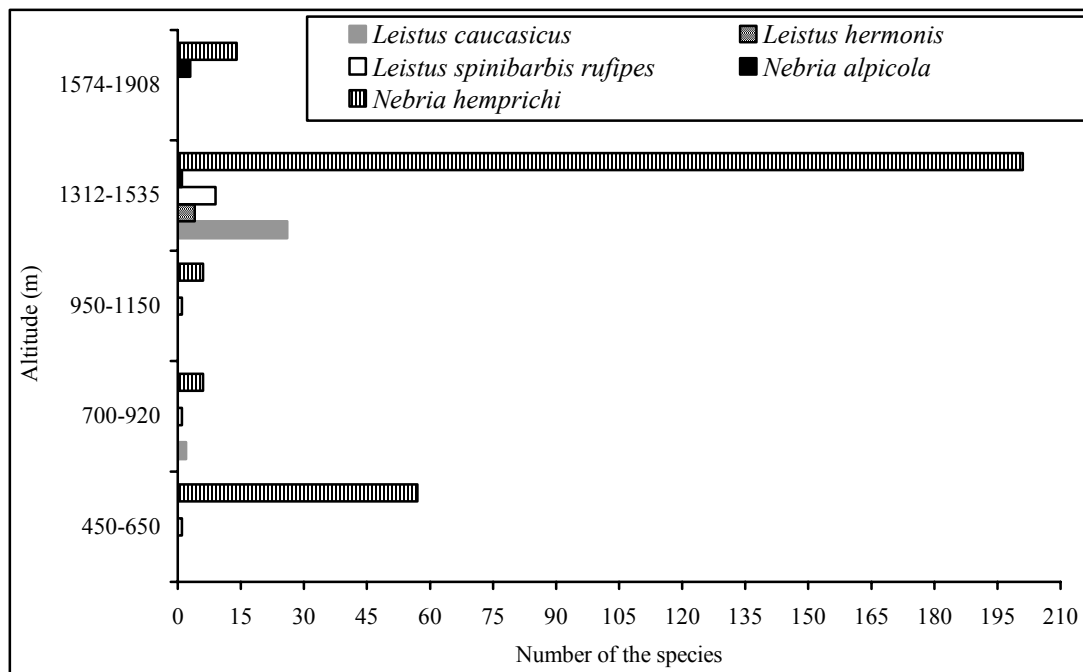
**Figure 5.** *Nebria hemprichi* Klug, 1832; A) male, B) female, C) aedeagus in lateral view, D) aedeagus in dorsal view, E) left paramere, F) right paramere.

Number of *L. caucasicus*, *L. hermonis*, *N. alpicola*, *N. hemprichi*, belonging to Nebriini tribe collected from the study area and their monthly distribution are given in the table 1.



**Table 1.** Number of the species collected from the research area and their monthly distribution.

The altitude of *L. caucasicus*, *L. hermonis*, *N. alpicola*, *N. hemprichi*, belonging to Nebriini tribe and the number of the species in this altitude are given in table 2.



**Table 2.** Number of the species collected from the research area and their distribution according to altitude. Their chorotypes [9] and a complete list of species belonging to Nebriini tribe in Turkey [3, 4] are given below.

**Species Belonging to Nebriini Tribe**

- 1. *Leistus* Fröhlich, 1799 subg. *Pogonophorus* Latreille, 1802**
1. *spinibarbis* (Fabricius, 1775)  
*spinibarbis abdominalis* Reiche, 1855
  2. *montanus* Stephens, 1828  
*montanus adanensis* Maran, 1941  
*montanus richteri* Shilenkov, 1999
  3. *parvicollis* Chaudoir, 1869
  4. *noesskei* Bänninger, 1931
  5. *hermonis* Piochard de la Brûlerie, 1875
  6. *rufomarginatus* (Duftschmid, 1812)
- 2. *Leistus* Fröhlich, 1799 subg. *Leistus* Fröhlich, 1799**
1. *fulvibarbis* Dejean, 1826  
*fulvibarbis fulvibarbis* Dejean, 1826
  2. *caucasicus* Chaudoir, 1867
  3. *fulvus* Chaudoir, 1846
  4. *chaudoiri* Perrault, 1986
  5. *femoralis* Chaudoir, 1846
  6. *ovitensis* Perrault, 1974
  7. *ledouxi* Perrault, 1986
- 3. *Nebria* Latreille, 1802 subg. *Eunebria* Jeannel, 1941**
1. *picicornis* (Fabricius, 1801)  
*picicornis luteipes* Chaudoir, 1850
  2. *nigerrima* Chaudoir, 1846
  3. *merkliana* Apfelbeck, 1904
  4. *jarrigei* Ledoux & Roux, 1990
- 4. *Nebria* Latreille, 1802 subg. *Nebria* Latreille, 1802**
1. *brevicollis* (Fabricius, 1792)
  2. *hemprichi* Klug, 1832
  3. *sinuosa* Ledoux & Roux, 1990
  4. *testacea* Olivier, 1811
  5. *defreinai* Kirschenhofer, 1981
  6. *coiffaiti* Ledoux, 1983
  7. *bonellii* (Adams, 1817)
- Distribution in the Turkey:** Altıparmak [10]
8. *fischeri* Faldermann, 1835
- Distribution in the Turkey:** Artvin [10]
9. *adjarica* Shilenkov, 1983
  10. *irregularis* Jedlicka, 1965)
  11. *turcica* Chaudoir, 1843  
*turcica lassallei* Ledoux & Roux, 1990
  12. *alpicola* Motschulsky, 1865
  13. *araschinica* Reitter, 1892
- Distribution in the Turkey:** Balıklı Göl, Erzurum [10]
14. *gotschi* Chaudoir, 1846
  15. *korgei* Jedlicka, 1965
- Distribution in the Turkey:** Orta Anadolu [10]
16. *mandibularis* Bates, 1872
- Distribution in the Turkey:** Hakkari [10]
17. *mirabilis* Ledoux & Roux, 1990
  18. *wiedemanni* Fischer von Waldheim, 1844
- Distribution in the Turkey:** Ilgazdağı [10]
19. *elliptipennis* Bates, 1874
  20. *pontica* Ledoux & Roux, 1990
  21. *deuveiana* Ledoux & Roux, 1990
  22. *glacialis* Ledoux & Roux, 1999
  23. *arcensis* Ledoux & Roux, 1990
  24. *thonitida* Ledoux & Roux, 1990
  25. *finissima* Ledoux & Roux, 1990
  26. *walterheinzi* Ledoux & Roux, 1990
  27. *uluderensis* Shilenkov & Heinz, 1984
  28. *oramarensis* Shilenkov & Heinz, 1984
- 5. *Nebria* Latreille, 1802 subg. *Pseudonebriola* Ledoux & Roux, 1989**
1. *crassiforma* Ledoux & Roux, 1989
- 6. *Eurynebria* Ganglbauer, 1891**
1. *complanata* Linne, 1767

**Chorotypes of Species**

- European
- European
- South-European  
South west-Anatolian endemic  
East-Mediterranean  
European
- Europeo-Mediterranean
- South west-Asiatic  
Armeno-Caucasian endemic  
Anatolian endemic  
Anatolian endemic  
North east-Anatolian endemic  
North east-Anatolian endemic
- European
- Anatolian endemic  
North west-Anatolian endemic  
North east-Anatolian endemic
- Turano-European  
East-Mediterranean  
North east-Anatolian endemic  
East-Mediterranean  
East-Anatolian endemic  
South west-Anatolian endemic  
Armeno-Caucasian endemic
- Anatolian endemic
- North east-Anatolian endemic  
North east -Anatolian endemic  
North-Anatolian endemic
- North-Anatolian endemic  
East-Anatolian endemic
- Anatolian endemic  
East-Anatolian endemic
- East-Anatolian endemic
- East-Anatolian endemic  
North west-Anatolian endemic
- East-Anatolian endemic  
North east-Anatolian endemic  
North east -Anatolian endemic  
North east -Anatolian endemic  
East-Anatolian endemic  
East-Anatolian endemic  
North east -Anatolian endemic  
South-Anatolian endemic  
East-Anatolian endemic  
East-Anatolian endemic
- South-Anatolian endemic
- Indo-Mediterranean

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