

**A NEW SPECIES OF FLEA BEETLE GENUS *ARGOPUS*  
FISHER VON WALDHEIM, 1824 FROM TURKEY  
(CHRYSOMELIDAE: GALERUCINAE: ALTICINI)**

**Hüseyin Özdikmen\*, Tülin Kılıç\*\*,  
Didem Coral Şahin\*\*\* and Neslihan Bal\***

\* Gazi University, Science Faculty, Department of Biology, 06500 Ankara, TURKEY. E-mails: ozdikmen@gazi.edu.tr; neslihanilkin@gmail.com

\*\* Plant Protection Research Institute-Bornova, Izmir, TURKEY. E-mail: tulin.kilic@tarimorman.gov.tr

\*\*\* Directorate of Plant Protection Central Research Institute, Ankara, TURKEY. E-mail: didemsahin@ziraimucadele.gov.tr

**[Özdikmen, H., Kılıç, T., Coral Şahin, D. & Bal, N. 2019. A new species of Flea Beetle genus *Argopus* Fischer Von Waldheim, 1824 from Turkey (Chrysomelidae: Galerucinae: Alticini). Munis Entomology & Zoology, 14 (1): 448-453]**

**ABSTRACT:** A new species, *Argopus circumaeadeagus* sp. nov., is described from İzmir province in Turkey. For the time being, the species is endemic to the Turkey. *Argopus circumaeadeagus* sp. nov. was compared with all European and Iranian species of *Argopus* Fischer von Waldheim, 1824. It can be distinctively differentiated from these species on the base of its aedeagal characters especially. Accordingly, the genus *Argopus* Fischer von Waldheim, 1824 of tribe Alticini (Chrysomelidae: Galerucinae) is recorded from Turkey for the first time.

**KEY WORDS:** Chrysomelidae, Galerucinae, Alticini, *Argopus*, new species, Turkey

The genus *Argopus* Fischer von Waldheim, 1824 numbers 30 species, which occur in the Palaearctic and Oriental regions (Bukejs, 2008). According to Döberl (2010) in Palaearctic catalogue of Löbl & Smetana (2010), the genus *Argopus* Fischer von Waldheim, 1824 includes 24 species in Palaearctic region. Only four species as *Argopus ahrensii* (Germar, 1817), *A. bicolor* Fischer von Waldheim, 1824, *A. brevis* Allard, 1859 and *A. nigritarsis* (Gebler, 1823) are known in Europe (Gruev & Döberl, 1997; Warchalowski, 2003, 2010; Döberl in Löbl & Smetana, 2010). Three of them (except for *A. nigritarsis*) are distributed also in Balkan countries near European Turkey (Thrace). Also only one species as *Argopus clematidis* Rapilly, 1978 is known in Iran near Asian Turkey (Anatolia). However, any species of the genus has not been recorded from Turkey until now (Ekiz et al., 2013; Özdikmen, 2014).

According to Doguet (1994), the species of *Argopus* Fischer von Waldheim, 1824 feed on Ranunculaceae (*Clematis*, *Trollius*, *Pulsatilla*, *Ranunculus*) and Asteraceae (*Cynara*, *Cirsium*). Larvae develop within leaf mines and pupate in soil. Jolivet (1991) mentioned some other host plants for this species as Fagaceae (*Quercus*), Rutaceae (*Citrus*), Euphorbiaceae (*Euphorbia*), Phytolaccaceae (*Phytolacca*) and which are not necessarily real host-plants.

Only one male specimen of *Argopus* was found in İzmir, Turkey. It is described as a new species. Thus, it is also the first record of the genus *Argopus* from Turkey.

***Argopus circumaeadeagus* sp. nov.**

(Figs. 1-3)

The new species *Argopus circumaeadeagus* sp. nov., comes from west Turkey, İzmir province. Now, it is a species endemic to Turkey, which was compared with

all European and Iranian species of *Argopus* Fischer von Waldheim, 1824. It can be distinctively differentiated from these species on the base of its aedeagal characters especially.

**HOLOTYPE:** Male – Turkey, İzmir province, Urla, Demircili, 03 May 2018 (1 specimen, ♂), on *Cynara scolynus* L. (Asteraceae), leg. T. Kılıç. The holotype is stored in Nazife Tuatay Plant Protection Museum (NTM) (Turkey, Ankara).

### **Description of holotype.**

**Length:** 3.81 mm.

**Body:** The whole body oval wide and short, subhemispheric. Almost completely brick red (except for black eyes and apical parts of mandibles). Upper side almost completely glabrous. Underside and legs clothed with short, rather dense, recumbent or semirecumbent reddish hairs.

**Head:** Almost completely brick red (except for black eyes and apical parts of mandibles). Almost entirely impunctated, at most here and there with very fine and very sparsely a few punctures. More or less distinctly pubescent behind base of antennae. Nasal carina wide. Frontal callus distinct. Frons and vertex smooth and glabrous. Antennae reddish, with sparse, reddish-yellow pubescence throughout their surfaces.

**Pronotum:** Trapezoidal and convex, widened basally. Completely brick red. Entirely glabrous and almost impunctated, at most here and there with very fine and very sparsely a few punctures. Pronotum clearly transverse and approximately as long as 3/5 its width.

**Scutellum:** Small and triangular. Completely brick red. Entirely glabrous. With a few punctures.

**Elytra:** Completely brick red. Entirely glabrous. Strongly convex, very rounded on the sides, with variable, very fine and scattered punctures. Punctures of elytra double (fine and stronger punctures mixed). Punctures on elytra more distinct and denser than on head and pronotum. Humeral callus more or less elevated. Epipleura entirely brick red. Elytra largest in the midlength.

**Legs:** Completely brick red and clothed with short, rather dense, recumbent or semirecumbent reddish-yellow hairs. Upper side of mid- and hind tibiae in apical half with broad longitudinal furrow delimited by ridges.

**Aedeagus:** In lateral view, apical part of median lobe slightly curved median foramen to apex. Sharpened towards to apex.

In dorsal view, median lobe broadly rounded apically, apex perceptibly protruded. Upper and lateral margins of orifice almost rounded. Dorsal plate distinct, large and entire. Median lobe in lateral parts and fore part of orifice thickened. Thickening in lateral parts approximately as wide as the fore part. Median lobe behind the dorsal plate more or less broadly hollowed to latero-median part, not only median part.

In ventral view, median lobe broadly rounded apically, apex perceptibly protruded, shaped as a finger. Median lobe with longitudinal, considerably flattened area in median part.

**Female:** Unknown.

**Differential diagnosis.** The new species *Argopus circumaedeagus* sp. nov., exerts considerable morphological features differentiation from other species of the genus. Mainly, aedeagus are unique in the new species. At least median lobe

broadly rounded apically in the new species while median lobe more or less narrowed or sharpened in the other species. See the description of the new species and key for the other diagnostic characters.

The closest species to the new species with regard to external morphological features is *A. ahrensii*. Then, *A. clematidis* is followed. Other two species *A. bicolor* and *A. nigritarsis* due to partly blackish or black body parts are clearly distinguished from the new species.

**Distribution:** The new species is known from İzmir province (Urla) in Aegean region of Turkey. For the time being, the species is endemic to the Turkey.

**Etymology:** The specific name of the new species is based on the shape of apical part of aedeagus.

**A key for the species of *Argopus* Fischer von  
Waldheim, 1824 in Western Palaearctic region  
(the key based on Bieńkowski, 2004; Warchalowski, 2010)**

1. Whole body uniformly brick red. Upper side of mid- and hind tibiae in apical half with broad longitudinal furrow delimited by ridges (Fig. 5).....**2**  
-. At least legs partly blackish or black. Upper side of mid- and hind-tibiae in apical half without furrow, but with narrow longitudinal mid ridge.....**5**
2. Punctures of elytra double (fine and stronger punctures mixed).....**3**  
-. Punctures of elytra very fine, almost uniform. Anterior angles of pronotum more distinctly protruding. Aedeagus stout, apex of aedeagus slightly but rather obtusely sharpened or rather obtusely sharpened. Length 3.8-4.5 mm. Europe (France, Greece (North Sporades Islands), Spain and North Africa (Algeria, Morocco, Tunisia). *Clematis*.....  
.....**A. brevis Allard, 1859**
3. Elytra largest in the midlength.....**4**  
-. Elytra largest in hind part. Apex of aedeagus narrowed. Length 4.3-4.8 mm. Asia (Iran). *Clematis*.....**A. clematidis Rapilly, 1978**
4. Apex of aedeagus slightly sharpened. Length 3.5-5.2 mm. Europe (Albania, Austria, Bosnia and Herzegovina, Belarus, Croatia, Czech Republic, Germany, Greece, Hungary, Italy, Latvia, Macedonia, Moldova, Poland, Romania, Russia, Slovakia, Slovenia, Switzerland, Ukraine, Serbia & Montenegro). *Clematis*.....**A. ahrensii (Germar, 1817)**  
-. Apex of aedeagus broadly rounded. Length 3.81 mm. Turkey. *Cynara*.....  
.....**A. circumaedeagus sp. nov.**
5. Dorsum rufous, 4<sup>th</sup>-11<sup>th</sup> antennomeres, underside, and legs black. Length 3.5-5.1 mm. Europe (Bulgaria, Croatia, Hungary, SE Poland, Romania, Slovakia, Ukraine, Serbia & Montenegro), Asia (Caucasus). *Clematis*, *Pulsatilla*.....  
.....**A. bicolor Fischer von Waldheim, 1824**  
-. Body rufous, 4<sup>th</sup>-11<sup>th</sup> antennomeres, tibiae, and tarsi black. Length 3.6-4.8 mm. Europe (Belarus, Hungary, Poland, Russia, Slovakia, Ukraine), Asia (China, East Siberia, Far East, Korea, Mongolia, Japan, Taiwan, Turkestan). *Pulsatilla*, *Adonis*, *Clematis*, *Phytolacca*.....  
.....**A. nigritarsis (Gebler, 1823)**

**LITERATURE CITED**

- Bukejs, A.** 2008. The first record of flea beetle *Argopus nigritarsis* (Gebler, 1823) (Coleoptera: Chrysomelidae) in Baltic and Fennoscandian fauna of Latvia. *Acta Zoologica Lituanica*, 18 (1): 71-73.
- Bieńkowski, A. O.** 2004. Leaf-beetles (Coleoptera: Chrysomelidae) of the Eastern Europe. New key to subfamilies, genera and species. Moscow: Mikron-print.
- Doguet, S.** 1994. Coléoptères Chrysomelidae, volume 2 Alticinae, Faune de France 80. Fédération Française des Sociétés de Sciences Naturelles, Paris, 694 pp.

- Döberl, M.** 2010. Alticinae. Pp. 491-562. In: Löbl I. & Smetana A. (ed.), Catalogue of Palaearctic Coleoptera, Vol. 6. Chrysomeloidea. Stenstrup: Apollo Books, 924 pp.
- Ekiz, A. N., Şen, İ., Aslan, E. G. & Gök, A.** 2013. Checklist of leaf beetles (Coleoptera: Chrysomelidae) of Turkey, excluding Bruchinae. *Journal of Natural History*, 47 (33-34): 2213-2287.
- Gruev, B. & Döberl, M.** 1997. General distribution of the flea beetles in the Palaearctic subregion (Coleoptera, Chrysomelidae: Alticinae). *Scipolia*, 37: 1-496.
- Jolivet, P.** 1991. Sélection trophique chez les Alticinae (Coleoptera, Chrysomelidae). *Bull. Mens. Soc. Linn. Lyon*, 60 (1): 26-40, (2): 53-72.
- Özdikmen, H.** 2014. Chorotype identification for Turkish Chrysomeloidea (Coleoptera) Part VIII – Chrysomelidae: Alticinae. *Munis Entomology & Zoology*, 9 (1): 325-375.
- Warchalowski, A.** 2003. The leaf-beetles (Chrysomelidae) of Europe and the Mediterranean region. Warszawa.
- Warchalowski, A.** 2010. The Palaearctic Chrysomelidae. Identification Keys. Vol. 1 & 2. Natura Optima Dux Foundation, Warszawa, 1212 pp.



Figure 1. The locality of *Argopus circumaeadeagus* sp. nov. in Turkey.



Figure 2. Holotype (male) of *Argopus circumaeadeagus* sp. nov., dorsal habitus (left), ventral habitus (right).

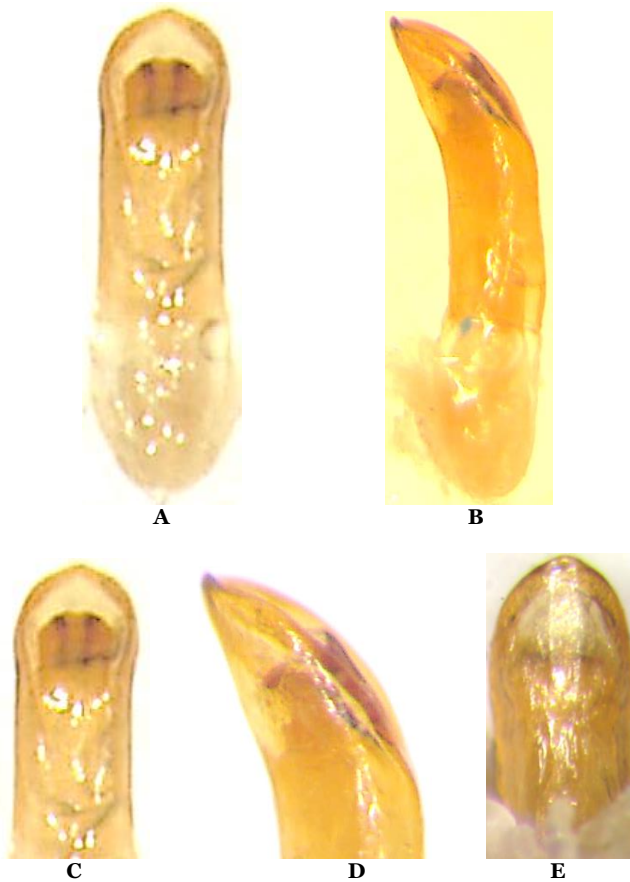


Figure 3. Aedeagus of *Argopus circumaeaeagus* sp. nov., A. Dorsal view, B. Lateral view, C. Apical part of median lobe in dorsal view, D. Apical part of median lobe in lateral view, E. apical part of median lobe in ventral view.

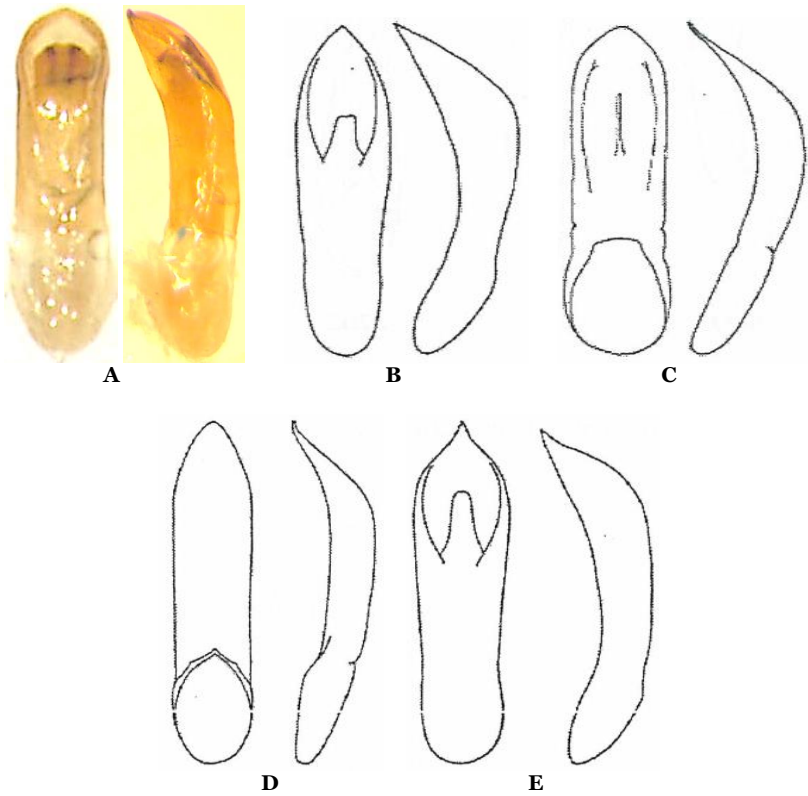


Figure 4. Aedeagus in dorsal and lateral view, A. *Argopus circumaeaeagus* sp. nov., B. *Argopus ahrensi* (Germar, 1817), C. *Argopus brevis* Allard, 1859, D. *Argopus bicolor* Fischer von Waldheim, 1824, E. *Argopus nigritarsis* (Gebler, 1823) (from A. Warchalowsky, 2010).

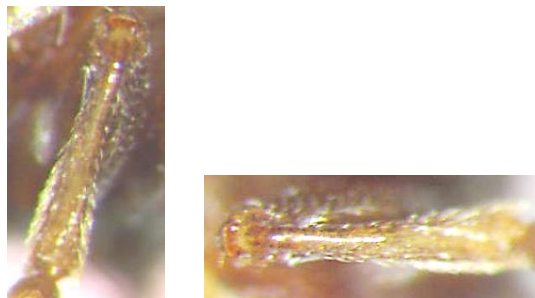


Figure 5. Broad longitudinal furrow in apical half of hind tibia.