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## A new species of *Cassida undecimnotata* group from Turkey (Coleoptera: Chrysomelidae: Cassidinae)

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ABSTRACT. *C. strejceki* n. sp. is described from E Turkey, additional faunistic records of the other species of the group are given.

Key words: entomology, taxonomy, new species, faunistics, Coleoptera, Chrysomelidae, Cassidinae, *Cassida*, Turkey.

*Cassida undecimnotata* group is well characterized by structure of tarsi with reduced sole (last segment elongated and distinctly reaching behind marginal setae of third segment) and typical colouration (red elytra with 11 black spots often increased and connected). The group was recently revised by BOROWIEC & ŚWIĘTOJAŃSKA (2001), they included five species (three described before and two new). The group comprises: *C. medvedevi* LOPATIN, 1965, *C. moori* BOHEMAN, 1856, *C. tianshanica* BOROWIEC & ŚWIĘTOJAŃSKA 2001, *C. transcaucasica* BOROWIEC & ŚWIĘTOJAŃSKA 2001, and *C. undecimnotata* GEBLER, 1841. All species are very close and partly overlapping (see BOROWIEC & ŚWIĘTOJAŃSKA 2001), they are mostly separated geographically. No species has been recorded from Turkey. The most western species in distribution is *C. transcaucasica*. The present specimens are intermediate between *C. transcaucasica* and *C. moori*. They have distinct characters and are treated as valid species-level taxa. Their description is given bellow together with new records of other species of the group.

Abbreviations used in text:

FK - coll. F. KANTNER, Lipí, Czech Republic;

HNHM - Hungarian Natural History Museum, Budapest, Hungary (O. MERKL);

JS - coll. J. STREJČEK, Praha, Czech Republic;

LS - Department of Zoology, Faculty of Biological Sciences, University of South Bohemia, České Budějovice, Czech Republic;

NMP - National Museum, Prague, Czech Republic (J. HÁJEK);

HT - holotype;

PT - paratype.

***Cassida strejceki* n. sp.**

ETYMOLOGY

Dedicated to Jaromír STREJČEK, excellent Czech specialist in Curculionidae and Chrysomelidae, who gave me opportunity to study this interesting species.

DIAGNOSIS

It is intermediate species between *Cassida transcaucasica* and *C. moori*. From the other species of the group it differs in large size (slightly larger than *C. moori*), elytral disc distinctly more convex (slightly less than *C. transcaucasica*) and the base of elytra wider than the base of pronotum. *C. moori* is similar in large size and stout body, but has less convex, slightly depressed elytral disc with well marked longitudinal elevations, almost straight basal margin with very small basal teeth and pronotum dull, densely punctuate. *C. strejceki* is slightly larger than the largest specimens of *C. moori* and distinctly stouter, has more convex disc, longitudinal elevations are short and hardly visible, basal margin sinuate with large basal teeth (only *C. transcaucasica* has larger basal teeth) and pronotum shiny, sparsely punctuate. *C. transcaucasica* is smaller, not so stout, the base of elytra is always as wide as pronotum and has more convex disc. It also has pronotum always regularly semicircular (*C. strejceki* has more or less developed angulations, but they are not as distinct as in *C. moori*), slightly dull and its puncturation is not as sparse and fine as in *C. strejceki*. All the colour photos of *C. undecimnotata* group, synonymic notes and bionomics, are available on BOROWIEC & ŚWIĘTOJAŃSKA 2002.

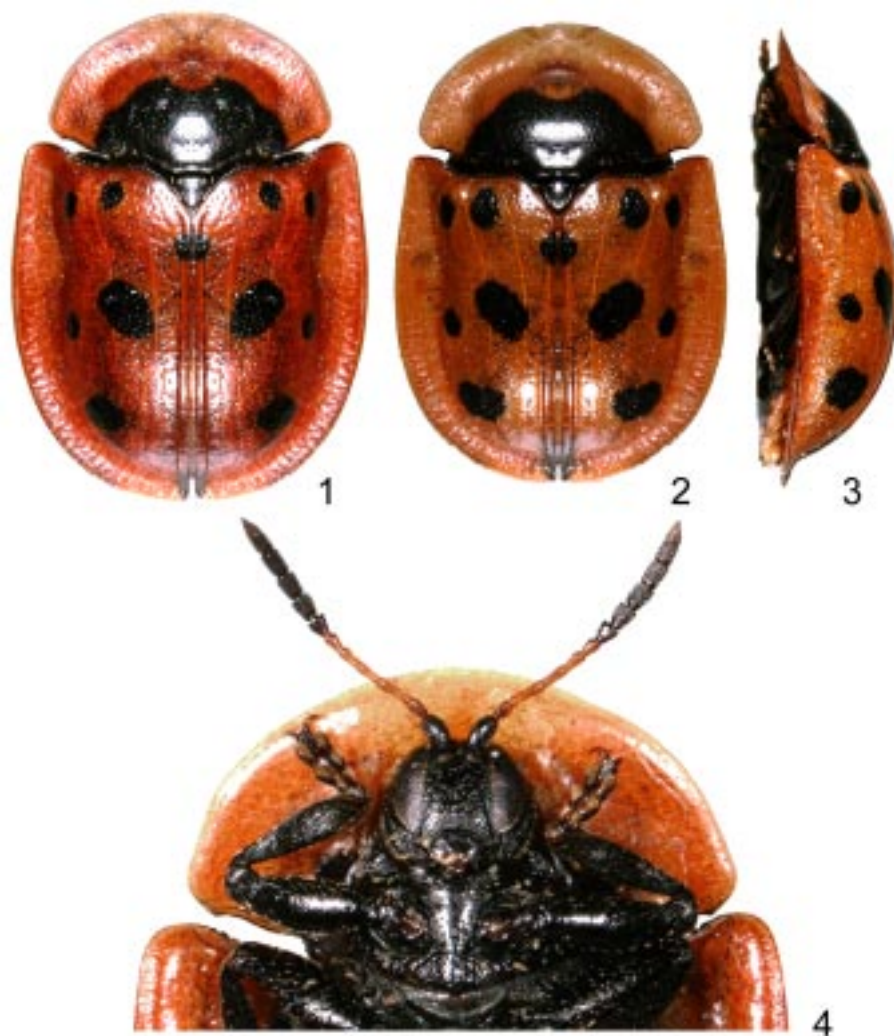
DESCRIPTION

Length: 8.52-8.91 mm (mean 8.71 mm), width: 6.07-6.33 mm (mean 6.19 mm), length of pronotum: 2.71-2.76 mm (mean 2.74 mm), width of pronotum: 4.99-5.18 mm (mean 5.10 mm), length/width ratio: 1.403-1.409 (mean 1.407), width/length of pronotum ration 1.84-1.88 (mean 1.85); measured at 3 specimens. Body stout, oval (fig. 1, 2).

Pronotum red with large black spot which covers most of the pronotal disc. Scutellum black. Elytral disc red with eleven black spots (1 in anterior part of suture, 4 across base, 4 across middle and 2 on slope). Elytral pattern in studied specimens constant. Explanate margin of elytra red, sutural apex black. Clypeus

and thorax black. Abdomen black with narrow yellow margin. Antennal segments 3-6 yellowish, segment 2 distinctly infuscate black in its inner part, remainder segments black.

Pronotum almost semicircular with little angulation and maximum width close to base. Pronotal disc distinctly bordered from marginalia, sparsely punctate, shiny and has two distinct impressions in basal part. Marginalia form a shallow gutter. Scutellum triangular with shallow, but distinct impressions. Base of elytra slightly wider than base of pronotum. Disc almost regularly convex



1-4. *Cassida strejceki* n. sp.: 1 - female dorsal, 2 - male dorsal, 3 - male lateral, 4 - head, antennae, prosternum and fore legs

(fig. 3), without tubercles or impressions. Punctuation fine, sparse and mostly irregular, only punctures along suture tend to form more or less regular rows. The second interval slightly elevated, visible only in its first 1/3 of length, others flat. Marginal row distinct. The whole surface of disc smooth and moderately shiny. Explanate margin of elytra as wide or slightly wider than in *Cassida moori* and tends to form a shallow gutter and in sutural part is interrupted by gap.

Clypeus narrow, almost twice as long as wide, dull, microreticulate and punctuate, clypeal grooves distinct, moderately deep and converging in arch which ends close to antennal insertions (*Cassida moori* has clypeus more broad almost as wide as long and clypeal grooves less marked; *C. transcaucasica* has clypeus very similar in shape but it is shiny and less punctuate). Labrum shallowly emarginate. Eyes large. Prosternal process strongly expanded apically, with punctures and wrinkles on the sides of apex (fig. 4).

Antennae stout, distal antennal segments longer than wide (in *Cassida moori* they are as wide as long and in *C. transcaucasica* only slightly longer than wide). Length ratio of segments: 100:49:89:66:55:43:53:64:59:65:112. Segment 3 1.8 longer than segment 2 and 1.4 longer than segment 4 (fig. 4).

Claws simple, divergent.

Aedeagus and spermatheca typical for the group, without specific characters.

Biology unknown.

#### DISTRIBUTION

E Turkey: Mus.

#### MATERIAL EXAMINED

Holotype, male: "E Turkey: Buglan Gec, NW Mus, 24.v.2001, M. Rejzek lgt."; two paratypes, females: same data (HT and 1 PT at LS, 1 PT at JS). All specimens provided with red label: "HOLOTYPE [PARATYPE] *Cassida strejceki* n. sp. L. Sekerka det. 2006".

#### ADDITIONAL FAUNISTIC RECORDS

##### *Cassida moori* BOHEMAN, 1856

CHINA: Juldus, 1, (HNHM); Turfan, 1, (HNHM).

KAZAKHSTAN: Aksaj, Alma-Ata env., 30.V.1974, 2, (LS).

KYRGYZSTAN: Ketmen-Tjube, 1, (LS).

VARIA: "M. Altai", 1, (LS).

Distribution: China: Xinjiang, Kazakhstan and Kyrgyzstan. New to China.

##### *Cassida tianshanica* BOROWIEC & ŚWIĘTOJAŃSKA, 2001

KYRGYZSTAN: Chan-Tengri, 1, (LS); Tian-Shan Mts., Kyliy-su, 1, (LS); Tian-Shan Mts., Musart, 2, (1 HNHM, 1 LS).

Distribution: Mountains of E Kazakhstan and Kyrgyzstan.

Note. The two specimens from Musart have pronotum without black spot (all types have pronotal disc with black spot), but they are well characterized by almost narrow base of elytra with very small black teeth.

***Cassida transcaucasica* BOROWIEC & ŚWIĘTOJAŃSKA, 2001**

ARMENIA: Araxesthal, Caucasus, 9, Leder & Reitter, (5 HNHM, 3 LS, 1 NMP).

VARIA: "Caucasus", 1, Reitter, (LS); "Transcaucas.", 1, (NMP).

Distribution: Armenia, Azerbaijan, Georgia and NW Iran.

***Cassida undecimnotata* GEBLER, 1841**

AFGHANISTAN: Zarmast Pass, 2200-2300 m, prov. Herat, 25.X.1964, 1, O. Jakeš, (LS).

CHINA: Illi, Kuldja ("Kuldscha, Ober Illi"), 1, (LS); Kuldja ("Kuldscha"), 2, (NMP).

KAZAKHSTAN: Kentaur cirk., Karatau Mts., 800 m, V.1994, 1, I. Pljushtch, (LS); Kujuk per., Kara-Tau chr., V.1981, 1, (LS).

KYRGYZSTAN: Kyrgyz Mts., Tokmak ("Alexander Geb., Tokmak"), 1899, 2, F. Hauser, (HNHM); Tokmak, 1, (LS).

TAJIKISTAN: Ak-sou-Thal, prov. Kuliab, 1898, 2, F. Hauser, (HNHM); Baldschuan, 1, (HNHM); Baldschuan, Karateghin Mts., 924 m, 1898, 3, F. Hauser, (2 HNHM, 1 LS); Bulbulchasma, 11.V.1987, 2, J. Kaláb, (FK); Bulbulchasma, Babatak hills, 70 km SW of Dushanbe, 5.-11.V.1987, 1, P. Čechovský, (FK); 5 km E of Dushanbe, 18.IV.1985, 1, Kapler, (LS); Dushanbe, Nurek, 29.IV.1977, 2, J. Pradáč, (1 LS, 1 NMP).

TURKMENISTAN: Ghindukush Mts., Paropamiz ridge, 800 m, 20 km N of Kuschka, Chemenbit, 20.IV.1993, 1, P. Čechovský, (LS); Kopet-Dagh Mts., Bikrova, 300 m, 58°08'E 37°59'N, 6.IV.1993, 4, 17.IV.1993, 1, M. Herblay, Gy. László & A. Podlussány, (4 HNHM, 1 LS); Kopet-Dagh Mts., Dushak, 2300 m, 57°54'E 37°57'N, 6.-8.VII.1992, 1, Gy. Fábán, B. Herczig, A. Podlussány & Z. Varga, (HNHM).

UZBEKISTAN: Aman-Kutan, 1300-1400 m, 1.-2.VI.1959, 1, A. Čejchan, (LS), 27.VI.1977, 1, J. Pradáč, (NMP); Ost-Buchara, Tschitschantan, Nufswald, 1898, 5, F. Hauser, (4 HNHM, 1 LS); Samarkand, 1, Reitter, (NMP); Taschkent, 1, (HNHM, paratype of *C. undecimnotata* var. *undecimguttata* Reitter, 1890); HNHM); Zeravshen Mts., pr. Amankutan, 1200 m, 21.V.1990, 1, E. Strejčková, (LS), 1700 m, 26.V.1990, 1, J. Strejček, (LS), 1600 m, 28.V.1990, 2, E. Strejčková, (JS), 1600 m, 28.V.1990, 1, J. Strejček, (JS), 1300 m, 29.V.1990, 1, E. Strejčková, (JS), 1500 m, 30.V.1990, 1, E. Strejčková, (JS).

VARIA: "Turkmenia", 15, Leder & Reitter, (12 HNHM, incl. HT and 9 PT of *C. undecimnotata* var. *undecimguttata* Reitter, 1890, 1 LS, 2 NMP); "Turkest, Margelan", 2, (HNHM).

Comments: BOROWIEC & ŚWIĘTOJAŃSKA (2001) have mentioned that this species is mostly lowland and midland in distribution and occur up to 1200 m. I have reported some specimens of *C. undecimnotata* from Afghanistan, which were collected above 2000 m (SEKERKA 2004) and some specimens exceeding 1200 m are also presented here, thus determination of *C. undecimnotata* and *C. medvedevi* based on elevation is wanting. Type specimens of *C. undecimnotata* var. *undecimguttata* have the following label (white background with red border): “Holotypus [or Paratypus] *Cassida* 11-notata var. 11-guttata Reitter 1890“

Distribution: Afghanistan, Iran, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan and China: Xinjiang.

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