

A new Galerucinae species from Iran and new records for Iranian leaf beetle fauna (Coleoptera, Chrysomelidae)

Новый вид подсемейства Galerucinae из Ирана и новые указания для фауны жуков-листоедов Ирана (Coleoptera, Chrysomelidae)

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Abstract. *Phyllobrotica lorestanica* sp. nov., from Iran is described, illustrated and compared with closely related *P. binotata* Ogloblin, 1936 and *P. adusta* (Creutzer, 1799). *Coptocephala fallaciosa* Fairmaire, 1884, *Radymna nigrifrons* (Laboissière, 1914) and *Clytra weisei* Monrós, 1953 are recorded for the first time from Iran. Habitus and aedeagus of *Radymna nigrifrons* (Laboissière, 1914) are illustrated.

Резюме. Описан новый для науки вид *Phyllobrotica lorestanica* sp. nov. из Ирана; даны изображения его внешнего вида, эдеагуса и сперматеки; приведено сравнение с близкими ему *P. binotata* Ogloblin, 1936 и *P. adusta* (Creutzer, 1799). Впервые для фауны Ирана указаны *Coptocephala fallaciosa* Fairmaire, 1884, *Radymna nigrifrons* (Laboissière, 1914) и *Clytra weisei* Monrós, 1953. Даны изображения габитуса и эдеагуса *Radymna nigrifrons* (Laboissière, 1914).

Key words: leaf beetles, Iran, Chrysomelidae, Galerucinae, Cryptocephalinae, *Phyllobrotica*, *Radymna*, *Coptocephala*, new species, new records

Ключевые слова: жуки-листоеды, Иран, Chrysomelidae, Galerucinae, Cryptocephalinae, *Phyllobrotica*, *Radymna*, *Coptocephala*, новый вид, новые указания

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Introduction

A fauna of the family Chrysomelidae of Iran is relatively well studied. The Palaearctic species of *Phyllobrotica* Chevrolat, 1837 were reviewed by Ogloblin (1936). West Palaearctic *Phyllobrotica* species were recently reviewed by Bezděk (2010). Also the key to identification of Palaearctic *Phyllobrotica* species was given by Warchałowski (2010). Nevertheless it is regularly updated with new species and records. I provide the description of a new *Phyllobrotica* species and new records for 3 species of *Coptocephala* Chevrolat, 1836, *Clytra* Laicharting, 1781 and *Radymna* Reitter, 1913.

Material and methods

This work is based on material collected by Alexander Prosvirov in Iran in 2018. The photographs of *P. binotata* Ogloblin, 1936 and *P. adusta* (Creutzer, 1799) were taken from specimens housed in Zoological Institute RAS (St Petersburg). Measurements were made using MBS-20 stereomicroscope equipped with the grid ocular. Proportions of antennal and tarsal segments are given in scale 1: 4 (1 = 0.25 mm). Photographs of the habitus were taken with a Canon EOS 80D digital camera with combined Canon EF 70–200 mm f/4.0L IS USM and inverted Minolta

MC Rokkor-PF 50 mm f/1.7 objectives. Photographs of aedeagus were made by a Canon EOS 80D digital camera with Canon Extender EF 1.4 X II and with combined Canon EF 70–200 mm f/4.0L IS USM and inverted Minolta MC Rokkor-PF 50 mm f/1.7 objectives. Photographs of spermatheca were made by a Canon EOS 80D digital camera with Canon Extender EF 1.4 X II and with combined Canon EF 70–200 mm f/4.0L IS USM and inverted EFS 18–55 mm f/3.5–5.6 objectives. Stacking of layers was performed with the Zerene Stacker Professional 1.04.

Exact label data are given for the all material; a slash (/) separates different lines on labels. The abbreviation PR denotes P. Romantsov's private collection (St Petersburg).

Results

Clytra weisei Monrós, 1953

Material examined. **Iran:** 1 female, "Iran, Kurdistan Prov., Marivan / County, Sarshiv Distr., / ca. 4.4 km WNW of Gugjeh Vill., / N 35°45'57.8", E 046°26'17.6", / h=1832 m, 23.VI.2018 / Prosvirov A. leg." (PR).

Distribution. Turkey, Syria, Iraq (Regalin & Medvedev, 2010) and Iran (new record).

Comments. This species was also recorded from "Kurdistan" (Regalin & Medvedev, 2010) but without attribution to a country.

Coptocephala fallaciosa Fairmaire, 1884

Material examined. **Iran:** 1 male, "S Iran, Fars prov., / Sarvestan env., / 7–8. 05.20017 A. Klimenko leg." (PR); 1 male, 1 female, "Iran, West Azerbaijan Province, / 13 km NW from Beytas / 36.741463 N 45.591122 E / 23.VI.2018 Prosvirov A. leg." (PR).

Distribution. Turkey, Syria, Israel (Regalin & Medvedev, 2010) and Iran (new record).

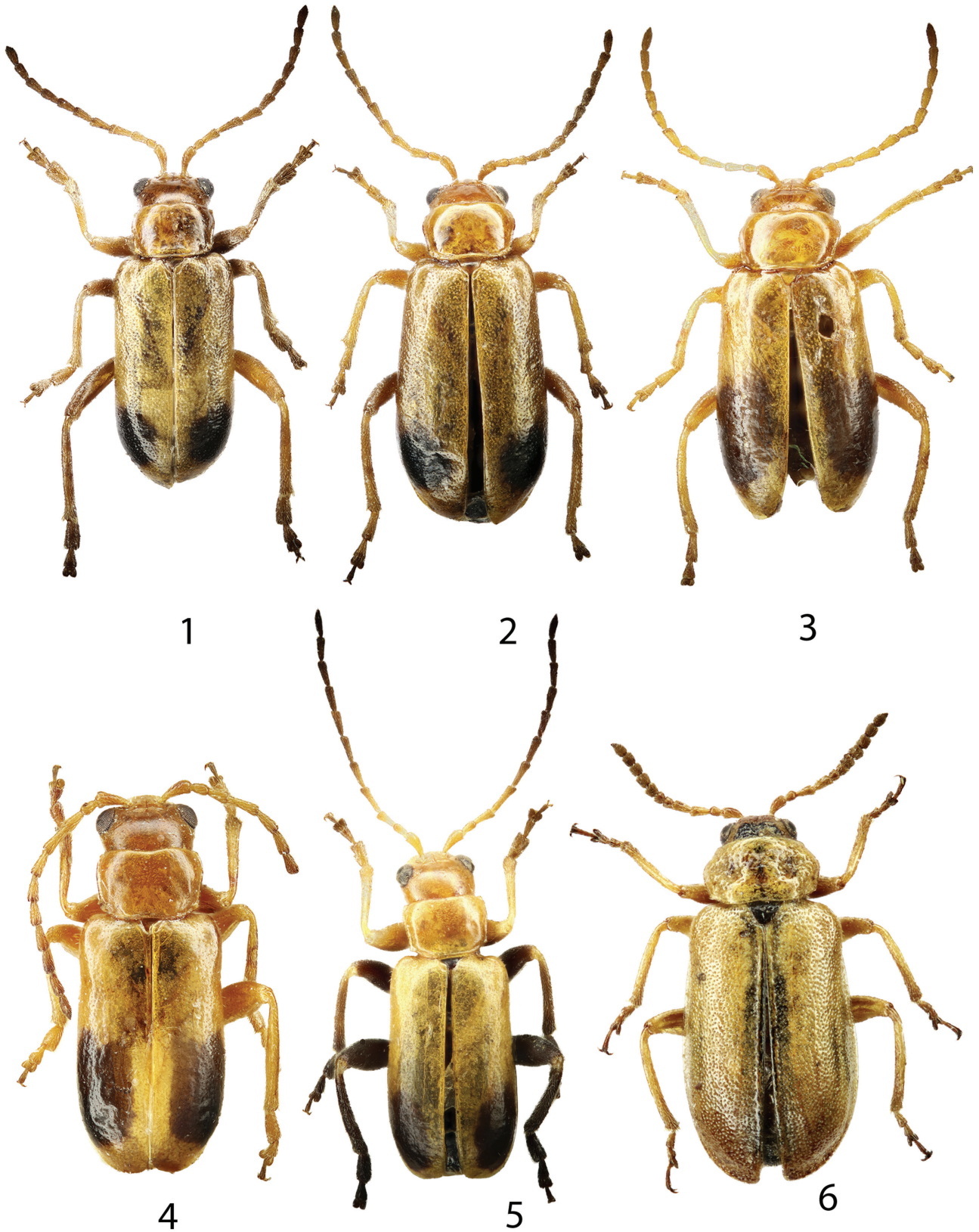
Phyllobrotica lorestanica sp. nov.

(Figs 1, 2, 7, 8, 16, 17)

Holotype. Male, **Iran**, "Iran, Lorestan Prov., Ali-gudarz County, / Besharat Distr., ca. 3.1 km WNW of / Gilan Vill., env. of Durak Vill., / N 33°06'42.4", E 049°34'19.0", / h=1936 m, 17.VI.2018 / Prosvirov A. leg." (PR).

Paratype. One female, same data as for holotype (PR).

Description. Male (holotype). Body elongate, flattened, parallel-sided and glabrous. Head and antennae entirely pale brown. Pronotum, scutellum and elytra pale brown, elytra with two black round spots in the apical quarter. Prosternum pale brown, meso-, metasternum and abdomen black. Legs entirely pale brown. Front part of head impunctate, shining. Labrum transverse, with rounded lateral margins. Its anterior margin slightly concave in middle, with a few thin pale setae. Anterior margin of clypeus straight with a few long setae; nasal keel wide, glabrous, weakly convex. Frontal tubercles triangular, convex, contiguous, distinctly grooved medially, separated from vertex by straight distinct furrow. Eyes large, oval, strongly convex. Vertex impunctate, covered with microsculpture. Antennae robust, 0.67 times as long as body, length proportions of segments are as 20:8:12:17:15:14:13:13:12:12:15 (1 = 0.25 mm), width proportions (in the widest part) are as 8:5:7:7:7:6:6:6:6:6. Segments 1–10 slightly enlarged at distal parts, apical segment acuminate. Maxillary palps with penultimate segment enlarged, apical segment conical as long as previous segment. Pronotum 1.47 times as wide as long, widest at anterior third. Its surface impunctate, shining, with fine microsculpture. Anterior and posterior margins almost straight, lateral margins sinuate. Anterior angles nearly rectangular, posterior angles obtusely angular. Anterior margin unbordered, lateral and posterior margins bordered. Angles with setigerous pore bearing single long pale seta; lateral margins with a few extra short setae near angles. Scutellum triangular, impunctate, with fine microsculpture. Elytra 2 times as long as wide, parallel-sided, moderately dense covered with fine punctures and microsculpture. Humeral calli well-developed with sparse short erect hairs. Epipleura not developed. Legs slender, tibiae without apical spurs. Segment 1 of all tarsi enlarged, slightly wider than segment 3; segment 1 of hind tarsi 0.95 times as long as two following segments combined. Length proportions of tarsal segments 16:10:6:12 for fore tarsi, 19:11:6:13 for middle tarsi, and 20:11:6:14 for hind tarsi; width proportions of tarsal segments 1–3:11:7:10 for fore tarsi, 11:8:10 for middle tarsi, and 11:8:9 for hind tarsi. Claws appendiculate. Abdomen (Fig. 17) with two groups of long hairs in middle of ventrites 1–3. Ventrite 4 with narrow groove in middle. Ventrite 5 with



Figs 1–6. *Phyllobrotica* and *Radymna* spp., dorsal view: 1, 2, *Phyllobrotica lorestanica* sp. nov., male holotype (1) and female paratype (2); 3, *P. binotata*, female holotype; 4, *P. binotata*, male; 5, *P. adusta*, male; 6, *Radymna nigrifrons*, male.



Figs 7–17. *Phyllobrotica* and *Radymna* spp.: 7, 8, *Ph. lorestanica* sp. nov.; 9, 10, *Ph. binotata*; 11, 12, *Ph. adusta*; 13, 14, *R. nigrifrons*; 15, *Ph. binotata*; 16, 17, *Ph. lorestanica* sp. nov., paratype (16) and holotype (17). Aedeagus, dorsal (7, 9, 11, 13) and lateral (8, 10, 12, 14) views; spermatheca (15, 16); abdomen (17).

elongate median cavity. Anterior coxal cavities open posteriorly. Aedeagus (Figs 7, 8) thin with narrow apex, in lateral view curved; length of aedeagus 2.0 mm. Body length 5.2 mm.

Female. Length of body 5.4 mm; coloration and punctation as in holotype but without microsculpture on pronotum. Segment 1 of all tarsi more elongate than in males, slightly narrower than segment 3. Abdomen with simple ventrites, without any depressions or groups of hairs. Spermatheca as in Fig. 16; its length 0.25 mm.

Etymology. The name of the new species refers to the province of Lorestan where it was collected.

Differential diagnosis. The new species belongs to the species group with entirely yellow head and with a large black spot in the apical half of each elytron. *Phyllobrotica lorestanica* sp. n. is similar to *P. binotata* by orange scutellum, antennae and legs, but differs in narrow apex of aedeagus (in *P. binotata* aedeagus with extended apex), and coarser and denser punctation of elytra.

In the key of *Phyllobrotica* species (Bezděk, 2010), *P. lorestanica* sp. n. should be placed between *P. binotata* and *P. adusta* (the additional couplets to this key are inserted below).

1. Head yellow. Elytra with two large black spots in the apical half 2
- Head at least partly black. 3
2. Scutellum, antennae and legs orange 2a
- Scutellum, apical antennomeres, femora and middle and hind tibiae black. Dorsal view as in Fig. 5. Aedeagus as in Figs 11, 12. Body length 5.20–6.90 mm. Central, Southern and Eastern Europe. ***P. adusta***
- 2a. Elytra punctation less coarse and less dense. Dorsal view as in Figs 3, 4. Aedeagus expanded before apex with tip bent upwards (Figs 9, 10). Spermatheca as in Fig 15. Body length 4.90–5.60 mm. NE Turkey and Armenia ***P. binotata***
- Elytra punctation coarser and denser. Dorsal view as in Figs 1, 2. Aedeagus narrowed apically with tip not bent upwards (Figs 7, 8). Spermatheca as in Fig 16. Body length 5.20–5.40 mm. Iran ***P. lorestanica* sp. n.**

***Radymna nigrifrons* (Laboissière, 1914)**
(Figs 6, 13, 14)

Material examined. Iran: 1 male, 2 females, “Isfahan Prov., Fereydunshahr / County, Central Distr., ca.

3.8 km SW / of Afus City, Zagros Mts., Sataple / Hunting Prohibited Area, / N 32°59'53.5", E 050°03'52.2", / h=2902 m, 16.VI.2018 Prosvirov A. leg.” (PR).

Distribution. Turkey, Armenia (Beenen, 2014) and Iran (new record).

Remark. The genus *Radymna* was recently revised by Beenen (2014). However, the image of aedeagus of *R. nigrifrons* was given neither in this paper nor in other publications. This species was omitted in the Catalogue of Iranian Galerucinae (Mirzaei & Nozari, 2016).

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