



Two new species of *Phytoecia* Dejean, 1835 (Coleoptera, Cerambycidae) from Iran

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Abstract

Two new species are described from Iran: *Ph. (Helladia) euimperialis* Faizi & Danilevsky, **sp. n.** (Kurdistan prov., Marivan-county, Bardeh Sepi) and *Ph. (s. str.) ambrusi* Faizi & Danilevsky, **sp. n.** (Kurdistan prov., Marivan county, Chuin). Moreover, *Phytoecia (Helladia) imperialis dorud* (Sama, Rapuzzi & Rejzek, 2007) is elevated to species rank as *Ph. (Helladia) dorud* (Sama, Rapuzzi & Rejzek, 2007), **stat. nov.**

Key words: Coleoptera, Lamiinae, new species, Phytoeciini, Taxonomy

Introduction

The genus *Phytoecia* Dejean, 1835 (Coleoptera: Cerambycidae, Lamiinae) consists of 206 species within 16 subgenera in the palearctic region (Özdikmen & Turgut 2010; Kasatkin 2015). Many specimens of the genus were collected by Fardin Faizi (one of the authors) during the fieldwork in Kurdistan province, Iran, in 2017. Two very interesting species of 2 subgenera of *Phytoecia* are described below as new species.

Methods and materials

The specimens were collected from different habitats (rangeland and oak forest) of Marivan-county, Kurdistan province, Iran directly by hand or insect sweeping nets during hot hours of the day (Fig. 4). The photographs of the specimens of the new species were taken with a Canon PowerShot A640 digital camera equipped with Cannon Zoom lens 4X 7.3–29.2mm 1:2.8–4.1 and Micromed MC-2-ZOOM microscope. Figures were edited with Adobe Photoshop 7.0 and stacked in Helicon Focus 3.20.

The holotypes are deposited in collection of M.L. Danilevsky, A.N. Severtsov Institute of Ecology and Evolution, Russian Academy of Sciences, Moscow, Russia (MD) and some paratypes in the collection of the Department of Plant Protection, Faculty of Agriculture, College of Agriculture & Natural Resources, University of Tehran, Iran (PP)

Unfortunately, the parcel from Iran to Russia with the materials for investigation was heavily damaged during the way. Still all specimens can be adequately described.

Acronyms of collections:

MD—collection of M.L. Danilevsky, A.N. Severtsov Institute of Ecology and Evolution, Russian Academy of Sciences, Moscow, Russia

PP—collection of the Department of Plant Protection, Faculty of Agriculture, College of Agriculture & Natural Resources, University of Tehran, Iran

Results

CERAMBYCIDAE Latreille, 1802

LAMIINAE Latreille, 1825

SAPERDINI Mulsant, 1839

Phytoecia (Helladia) euimperialis Faizi & Danilevsky, sp. n.

(Figs. 1–2)

Type material. Holotype, male, Iran, Kurdistan province, Marivan-county, Bardeh Sepi, 35°31'8.8"N, 46°24'29.22"E, 01.05.2017, Fardin Faizi leg. (MD); paratype, female with same label (MD).

Description. Body black; integument of antennae, prothorax, elytra, legs and abdomen partly orange. Scape, pedicel and antennomeres III-V bicolored, black dorsally and orange ventrally; bases of femora and tarsi black; anterior femora black in basal third, middle femora black to about middle, posterior femora black on about basal $\frac{3}{4}$; setae brushes of middle tibiae orange; tarsomere I partly orange.

Head with long dark erect setae, densely covered with orange recumbent pubescent on frons, genae and occiput; vertex in male black, with two wide orange stripes divided by narrow shining glabrous line; vertex in female totally covered with orange recumbent pubescence; frons transverse; genae relatively short, about two times narrower than lower eye lobe; the distance between upper eye lobes in male about two times wider than apical width of scape, in female slightly wider; lower and upper eye lobes connected by very narrow bridge of about three ommatidia width; mandibles unicuspid; antennae thin, reaching elytral apices in male, and apical elytral fifth in female; antennomeres without apical swellings; scape nearly cylindrical, slightly widened distally; antennomere III slightly longer than antennomere IV and longer than scape; antennomere IV about 1.3 times longer than V; several antennomeres with a few hardly visible small erect setae.

Prothorax strongly transverse, strongly widened medially where is wider than head; about 1.8 times wider than long in male, and 1.6 times in female; pronotal central area with wide orange, smooth, shining spot, which is covered with sparse fine orange pubescence in male, and glabrous in female; orange spot in female much wider than in male; bordered with black shining areas, without recumbent pubescence, with several scattered long orange erect setae in male, and nearly glabrous in female; pronotal lateral areas densely covered with long erect and recumbent orange pubescence in male, and almost glabrous in female; scutellum transverse semicircular, with dense recumbent orange pubescence.

Elytra with sides strongly converging posteriorly in male, and nearly parallel sided in female; about 2.5 times longer than basal width in male, and about 2.4 times in female; no costae or longitudinal depressions present; yellow dense elytral cover rather regular, totally hiding punctation in male, and much sparser in female, consisting of very fine recumbent setae; so female elytra looking dark-grey; orange humeral spot of curved elytral margin is not visible from above, it is as wide anteriorly as width of curved margin, disappearing posteriorly at about middle level of metathorax in male, and at about posterior margin of metathorax in female; with numerous short oblique black setae on anterior third, diminishing to the apex; elytral apices rounded, with angles indistinct.

Metatarsomere I shorter than II-III combined; metatarsomere III wider than long, as long as II; denticles of the tarsal claws moderately wide, sharpened apically in anterior legs, but rounded in posterior.

Metepisternum black with narrow dorsal orange line; thoracic ventral side black with sparse yellow erect setae; first three abdominal segments with posterolateral angles densely covered with recumbent orange pubescence; in

male ventrite IV and V orange, ventrite IV with two small anterior black spots; in female ventrite IV black with orange posterolateral angles, ventrite V with wide orange lateral areas; pygidium in male rounded, postpygidium emarginated, with two lateral tufts of black setae; last ventrite of male flattened, truncated and with two lateral tufts of black setae; in female, last ventrite convex, truncated apically; last abdominal sternite with distal central impression and truncated apically.

Body length in male: 11.5 mm, humeral width: 3.2 mm, body length in female: 9.4 mm, humeral width: 2.7 mm.

Differential diagnosis. The new species is very close to Iranian *Ph. (H.) imperialis* Sama & Rejzek, 2001 described from Azarbaygan-e-Garbi, Serou (37°39'N, 44°45'E) and to *Ph. (H.) dorud* (Sama, *et al.*, 2007), **stat. n.** described from Lorestan, Dorud by the wide transverse prothorax with a big pale spot in the middle of pronotum and monochrome elytra regularly covered with dense pubescence. In males of *Ph. (H.) euimperialis* Faizi & Danilevsky, **sp. n.** the elytral pubescence is very dense, and the bright orange hide the elytral punctation, while in *Ph. imperialis* and *Ph. dorud* **stat. n.** the elytral pubescence is not hiding the elytral punctation; in the new species the metanepisternum is black with narrow dorsal orange line, in *Ph. imperialis* and *Ph. dorud* **stat. n.** the metanepisternum is totally covered by orange pubescence. *Phytoecia imperialis* is generally lighter than *Ph. dorud* **stat. n.**, but *Ph. (H.) euimperialis* Faizi & Danilevsky, **sp. n.** is the lightest.

Distribution. The new species is known from Iranian Kurdistan (Marivan-county, Bardeh Sepi) (Fig. 5). Its type locality is situated just between type localities of *Ph. (H.) imperialis* Sama & Rejzek, 2001, described from Azarbaygan-e-Garbi (Serou, 37°39'N, 44°45'E), and *Ph. (H.) dorud* (Sama *et al.*, 2007), **stat. n.** described from Lorestan (Dorud): in about 280 km south-eastwards Serou and in about 330 km north-westwards Dorud.

Etymology. The new species is named on the base of the name of the closest species *Ph. (H.) imperialis* and Greek “eu”—true.

Phytoecia (Helladia) dorud (Sama *et al.*, 2007), **stat. n.**

Phytoecia (H.) dorud (Sama *et al.*, 2007), **stat. n.** was originally described as subspecies, *Helladia imperials dorud* Sama, Rapuzzi & Rejzek, 2007; although it is strongly different from *Ph. (H.) imperialis* Sama & Rejzek, 2001 by the darker body, antennae and legs; the black elytra, which look glabrous because of very short pubescence; and the pronotum pale area densely covered with pale recumbent pubescence. So, we propose that *Ph. (H.) dorud* (Sama, *et al.*, 2007), **stat. n.** must be elevated to a species rank.

Phytoecia (s. str.) ambrusi Faizi & Danilevsky, **sp. n.**

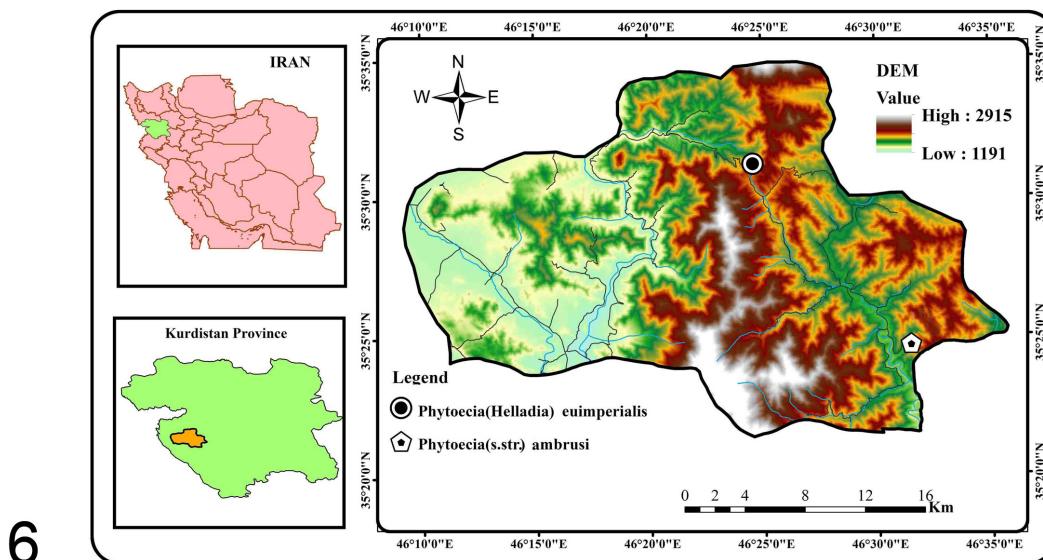
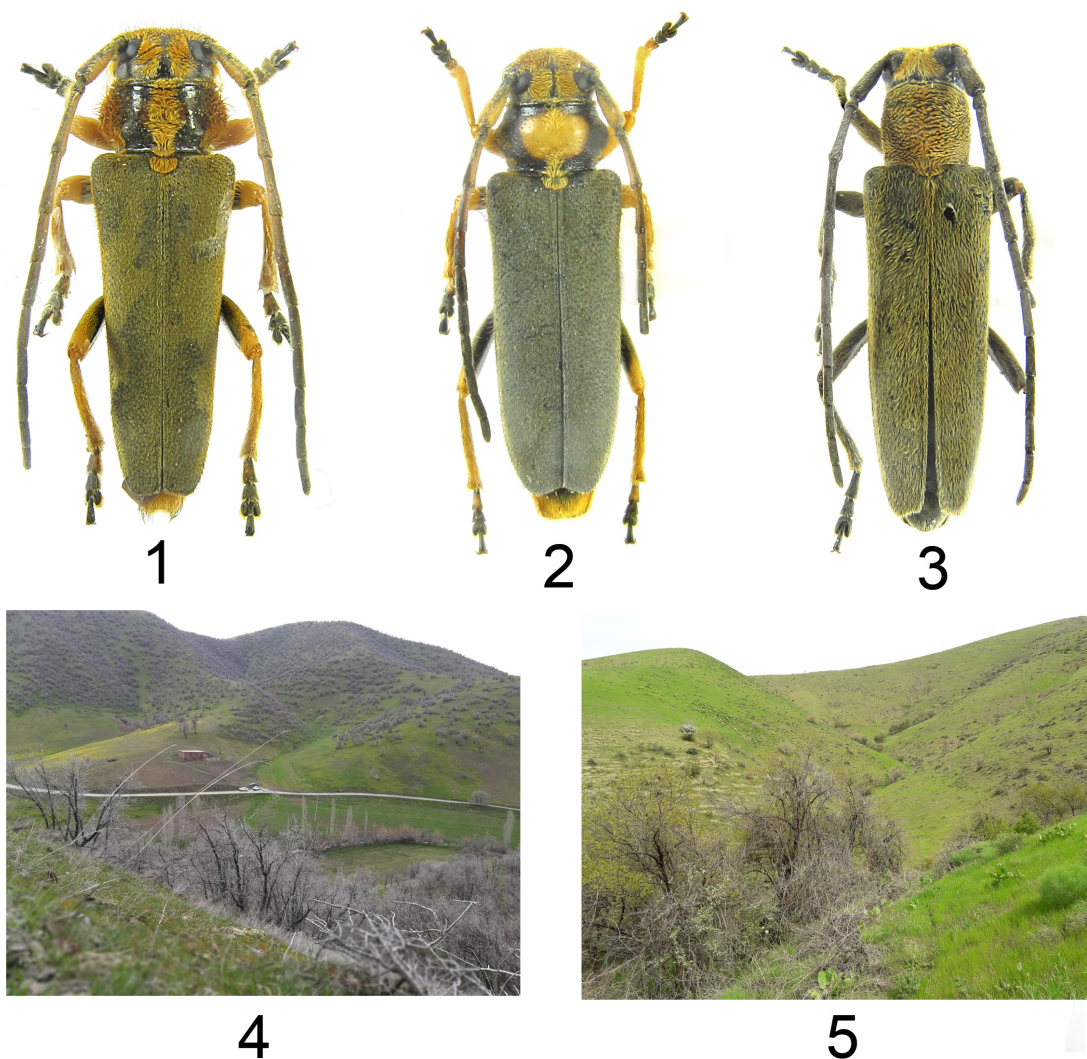
(Fig. 3)

Type material. Holotype, female, Iran, Kurdistan province, Marivan-county, Chuin, 35°25'17.63"N, 46°32'5.9"E, 12.05.2017, Fardin Faizi leg.—MD.

Description. Female. Body totally black, covered by very dense recumbent yellow pubescence, which is thinner on legs and very fine on antennae; head and thorax slightly brighter, pale-yellow legs and grey-yellow antennae; sparse erect setae very short and thin, hardly visible on frons, pronotum and elytral bases, nearly indistinct.

Head totally covered with very dense thick even yellow pubescence along frons, vertex, genae and occiput; frons transverse with central line prolonging to vertex, but hidden by yellow pubescence; space between antennal insertions nearly flat; genae about as long as lower eye lobe; the distance between upper eye lobes about two times more than width of pedicellum; lower and upper eye lobes connected by narrow bridge of several ommatidia width; mandibles unicuspid; antennae almost reaching elytral apices, thin, without erect setae; scape slightly widened distally without apical swelling, much shorter than antennomere III, which is about as long as IV; antennomere IV about 1.5 times longer than V.

Prothorax cylindrical, not widened laterally, with sides subparallel; pronotum evenly covered with dense yellow pubescence without central setae stripe, without callosities; several short erect setae present laterally. Scutellum strongly transverse, with dense yellow pubescence.



FIGURES 1–6. 1–2. *Phytoecia (Helladia) euimperialis* **sp. nov.**, 1. male, holotype, 2. female, paratype. 3. *Phytoecia* (s. str.) *ambrusi* **sp. nov.**, female, holotype. 4. Sampling location of *Phytoecia (Helladia) euimperialis*, **sp. nov.**: Iran, Kurdistan province, Marivan-county, Bardeh Sepi. 5. Sampling location of *Phytoecia* (s. str.) *ambrusi* **sp. nov.** and *Phytoecia* (s. str.) *marivanensis* **sp. nov.**: Iran, Kurdistan province, Marivan-county, Chuin. 6. Distribution map of the two new *Phytoecia* species in Marivan-county, Kurdistan province, Iran.

Elytra about 2.9 times longer than basal width, with sides slightly converging posteriorly; no costae or longitudinal depressions present; a few short erect setae hardly visible near elytral base; elytral cover rather regular, not forming distinct design; elytral apices obliquely truncated, internal and external angles slightly pronounced.

Legs thin with very short regular recumbent yellowish pubescence; setae brushes of middle tibiae also yellowish; metatarsomere I slightly longer than II and III combined; metatarsomere III as wide as long, longer than metatarsomere II; denticles of the tarsal claws wide, triangular.

Ventral and lateral body-sides with dense yellow pubescence without any setae concentrations or rarefactions; last abdominal sternite slightly depressed, last abdominal tergite distinctly convex, both truncated apically.

Body length: 10.5 mm, humeral width: 2.8 mm.

Differential diagnosis. The new species seems to be close to Iranian *Ph.* (s. str.) *aenigmatica* Sama, Rapuzzi & Rejzek, 2007 (described from Khorasan, 10 km NE Nesapur, 36°14'N, 58°58'E) by the similar even body cover. In *Ph. aenigmatica* the antennae are shorter than body (in both sexes), the pronotum and basal third of elytra have long erect setae; the pronotum has central setae stripe, with a pair of callosities; and the legs are partly red.

The new species is also similar to the species of subgenus *Ph.* (*Neomusaria*) Plavilstshikov, 1928, but differs by the pronotum without callosities; denticles of the tarsal claws wide, and triangular (in *Ph. (Neomusaria)* sharp and narrow).

Distribution. The new species is known from West Iran (Kurdistan, Marivan county, Chuin, about 35°24'55"N 46°31'18"E, Fig. 6), while the similar species *Ph.* (s. str.) *aenigmatica* (Sama et al., 2007) was described from another side of the country (East Iran, Khorasan, 10 km NE Nesapur, 36°14'N, 58°58'E).

Etymology. The new species is dedicated to Richard Ambrus (Prague, Czech Republic) a well-known Cerambycidae collector, who arranged several collecting trips to South Asia.

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References

- Kasatkin, D.G. (2015) A new subgenus of the genus *Phytoecia* Dejean, 1835 (Coleoptera: Cerambycidae: Lamiinae). *Russian Entomological Journal*, 24 (2), 127–131.
<https://doi.org/10.15298/rusentj.24.2.04>
- Özdikmen, H. & Turgut, S. (2010) An overview on the Palaearctic subgenus *Phytoecia* (*Pilemia*) Fairmaire, 1864 with a new species *Phytoecia* (*Pilemia*) *samii* sp. n. from Turkey (Coleoptera: Cerambycidae: Lamiinae). *Munis Entomology and Zoology*, 5, 90–108.
- Sama, G., Rapuzzi, P. & Rejzek, M. (2007) New or interesting *Phytoeciini* from the Middle East, especially from Iran (Coleoptera: Cerambycidae). *Folia Heyrovskyana (A)*, 14, 163–179.
- Sama, G. & Rejzek, M. (2001) *Helladia imperialis*, espèce nouvelle de l'Iran (Col., Cerambycidae, *Phytoeciini*). *Bioscosme Mésogéen*, 17 (3), 239–246.