

**Taxonomic and faunistic notes on *Pleurathous* REITTER,
and description of the male characters of
Calais brandti PLATIA & GUDENZI
(Coleoptera: Elateridae)**

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Abstract

The genus *Pleurathous* REITTER (Coleoptera: Elateridae) is suggested as a valid genus. *Pleurathous hyrcanicus* sp.n. is described from Iran. New faunistic records are provided for *Pleurathous rosinae* REITTER. A key to the eastern species of *Pleurathous* is presented. The male characters of *Calais brandti* PLATIA & GUDENZI, 1999 are described for the first time.

Key words: Coleoptera, Elateridae, *Pleurathous*, new species, new records, key, *Calais brandti*, Iran.

Introduction

Pleurathous REITTER, 1905 (type species: *Athous godarti* MULSANT & GUILLEBEAU, 1856) was described as a subgenus of *Athous* ESCHSCHOLTZ, 1829 on the basis of very fine carinae on the posterior angles of the pronotum. The opinion of REITTER (1905) was followed by many subsequent authors.

The species of *Pleurathous* are rather uncommon and have distinct geographic distributions: *P. godarti* MULSANT & GUILLEBEAU, 1856 and *P. uncollis* PERRIS, 1864 occur in the Iberian Peninsula and southern France; *P. circassicus* REITTER, 1888 and *P. rosinae* REITTER, 1899 are known from the Caucasus region, eastern Anatolia and from Iran. In this paper a fifth species of *Pleurathous* is described.

Material and Methods

Collections containing study material are abbreviated as follows:

CMHK	coll. Mertlik, Hradec Králové, Czech Republic
CPG	coll. Platia, Gatteo, Italy
CRG	coll. Riese, Genova, Italy
HMIM	Hayik Mirzayans Insect Collection, Tehran, Iran
NMW	Natural History Museum Vienna

The new species was collected in pheromone traps in the forest of Dasht-e Naz, northern Iran (Mazandaran province). These traps were set to collect the oak leaf roller *Tortrix viridana* LINNAEUS, 1758 (Lepidoptera). Morphological characters including the dissected male genitalia were studied using a Zeiss stereomicroscope model Stemi SV11. The male genitalia were macerated and cleared in concentrated lactic acid and examined several hours later. Photos were taken through the microscope using a digital camera (Canon IXUS 3.2). Line drawings were prepared using Photoshop 7 software.

Total length was measured along the midline from the anterior margin of the frons to the apex of the elytra; the width was measured across the broadest part. The pronotal length was measured along the midline; the width at the broadest part (usually at the hind angles).

Tribe Dendrometrini GISTEL, 1856

Pleurathous REITTER, 1905

The morphology of *Pleurathous* is extremely similar to that of the subgenus *Haplathous* REITTER, 1905. However, the peculiar carinae of the posterior angles of the pronotum distinguish *Pleurathous* immediately from all subgenera of *Athous*. *Pleurathous* obviously forms a monophyletic lineage. It is here considered as a valid genus. However, a cladistic analysis, preferably backed by DNA sequence data, should be carried out to confirm its phylogenetic position.

Pleurathous hyrcanicus NASSERZADEH & PLATIA sp.n. (Figs. 3, 7, 10)

TYPE MATERIAL: **Holotype** ♂: "IRAN, Mazandaran Prov., 35 km of North East of Sari, Dasht-e Naz (36°42'N, 53°13'E), H. Barimani, pheromone trap" (HMIM). **Paratypes**: 17 ♂♂ from the type locality (CPG, HMIM, NMW).

DESCRIPTION: Length 8.5–10.6 mm, width 2.50–3.06 mm.

Head, pronotum, scutellum and antennal segments 4–11 black, moderately shiny, covered with dense, recumbent, yellowish pubescence; elytra brown, darker towards the apex, sometimes only the suture is lighter; first three antennal segments and legs ferruginous.

Head width, including eyes, narrower than anterior margin of pronotum; frons flat, gently impressed only at anterior margin, the latter complete, subarcuate, directed downwards, just protruding above clypeus; punctures coarse, deep, more or less clearly umbilicate, with narrow shining interspaces.

Antennae not reaching apices of hind angles of pronotum by a length about equal to the two terminal antennomeres. Antennomeres 4–10 slightly serrate (subtriangular, longer than wide); second and third subconical (third just longer than second), taken together about twice as long as the fourth; eleven ellipsoidal, as long as penultimate.

Pronotum nearly quadrate, slightly longer than wide, convex on the disc, abruptly sloping at sides and base, widest at posterior angles. Sides of pronotum moderately and nearly regularly arcuate, not or feebly sinuate before posterior angles, the latter short, truncate, not divergent, each with a very fine short carina. Punctuation rather evenly distributed, punctures on disc deep, simple to vaguely umbilicate, gradually becoming larger and denser at sides. Interspaces variable, very narrow to equal to their own diameters.

Scutellum shield-shaped, moderately convex, as wide as interelytral space, punctate. Elytra as wide as base of pronotum, 2.5 x as long; 2.3 x longer than wide; rather flattened on disc, nearly vertically sloping at sides; sides moderately and regularly arcuate, widest at middle; striae regularly marked and punctate; interstriae flat to subconvex towards sides, densely punctate.

Tarsal segments decreasing regularly in length.

Aedeagus typical of the genus, as in Fig. 10.

Female unknown.

ECOLOGICAL REMARKS: All specimens of *Pleurathous hyrcanicus* sp.n. were collected from Dasht-e Naz (north-eastern part of Sari, Mazandaran province, Iran). This natural area is protected since 1957. About 55 hectares are part of the Hyrcanian forest on plains close to the Caspian Sea. This is a low altitude forest with oak (*Quercus castaneifolia*) as the dominant tree, Persian ironwood (*Parrotia persica*), smooth-leaf elm (*Ulmus*) and hawthorn (*Crataegus*). Dasht-e Naz is known particularly for the protection of Persian fallow deer (*Dama dama mesopotamica* BROOKE, 1875).

The Hyrcanian vegetation zone is a green-belt stretching from the northern slopes of the Alborz mountain range to the southern coasts of the Caspian Sea, from Astara in the north-west to Gorgan vicinity in north-eastern Iran. It extends from sea level up to an altitude of 2800 m and encompasses different forest types with 80 woody species (trees and shrubs). The absence of *Abies*, *Picea*, *Pinus* and *Rhododendron* in the Iranian forests, and their presence in Turkey, gives some support for recognizing a Hyrcanian sub-province of the Euro-Siberian region. It is confined to the coastal area around the Caspian Sea and consists of three main habitats: alluvial flats of the coastal plain, northern slopes of the Alborz Mts., and the sub-alpine meadows of these mountains. The most outstanding feature of this area is the broad-leaved deciduous forest with a number of endemic species. Higher humidity and higher winter temperatures at the lower altitudes make the greater part of this area most favorable for mesic forest not unlike those of western or southern Europe. The composition of the Hyrcanian mountain forest is variable. At lower altitudes (approximately up to 800 m) the dominant tree in principle is *Quercus castaneifolia*. But at approximately 800–2000 m, which corresponds to the zone of maximum rainfall, beech (*Fagus orientalis*) grows in moist and cool areas while *Carpinus betulus* (hornbeam) is the main species in drier places. (Selected references for this part: FREY & PROBST (1986) and RIFR).

ETYMOLOGY: Named in reference to the type locality which belongs to the Hyrcanian zone.

***Pleurathous rosinae* REITTER, 1899**

(Figs. 2, 6, 9)

MATERIAL EXAMINED: IRAN: Mazandaran Prov., Chalus env., 8.–10.VI.2005, leg. F. Pavel, 3 ♂♂; Mazandaran prov., 20 km S of Amol, 16.VI.2005, leg. F. Pavel, 1 ♂ (CMHK, CPG).

This species was described from Talysh (Iran, Gilan province).

Key to the eastern species of the genus *Pleurathous*

- 1 Sides of pronotum not distinctly sinuate before posterior angles 2
- Sides of pronotum distinctly sinuate before posterior angles (Figs. 1, 5, 8)..... *circassicus*
- 2 Longer antennae, in the male not reaching apices of posterior angles of pronotum by a length equivalent to the apical antennomere; all antennomeres yellowish..... *rosinae*
- Shorter antennae, in the male not reaching apices of posterior angles of pronotum by a length equivalent to 2 x the apical antennomere; antennomeres 4–11 blackish *hyrcanicus*

Tribe Hemirhipini CANDÈZE, 1857

***Calais brandti* PLATIA & GUDENZI, 1999**

(Figs. 4, 11)

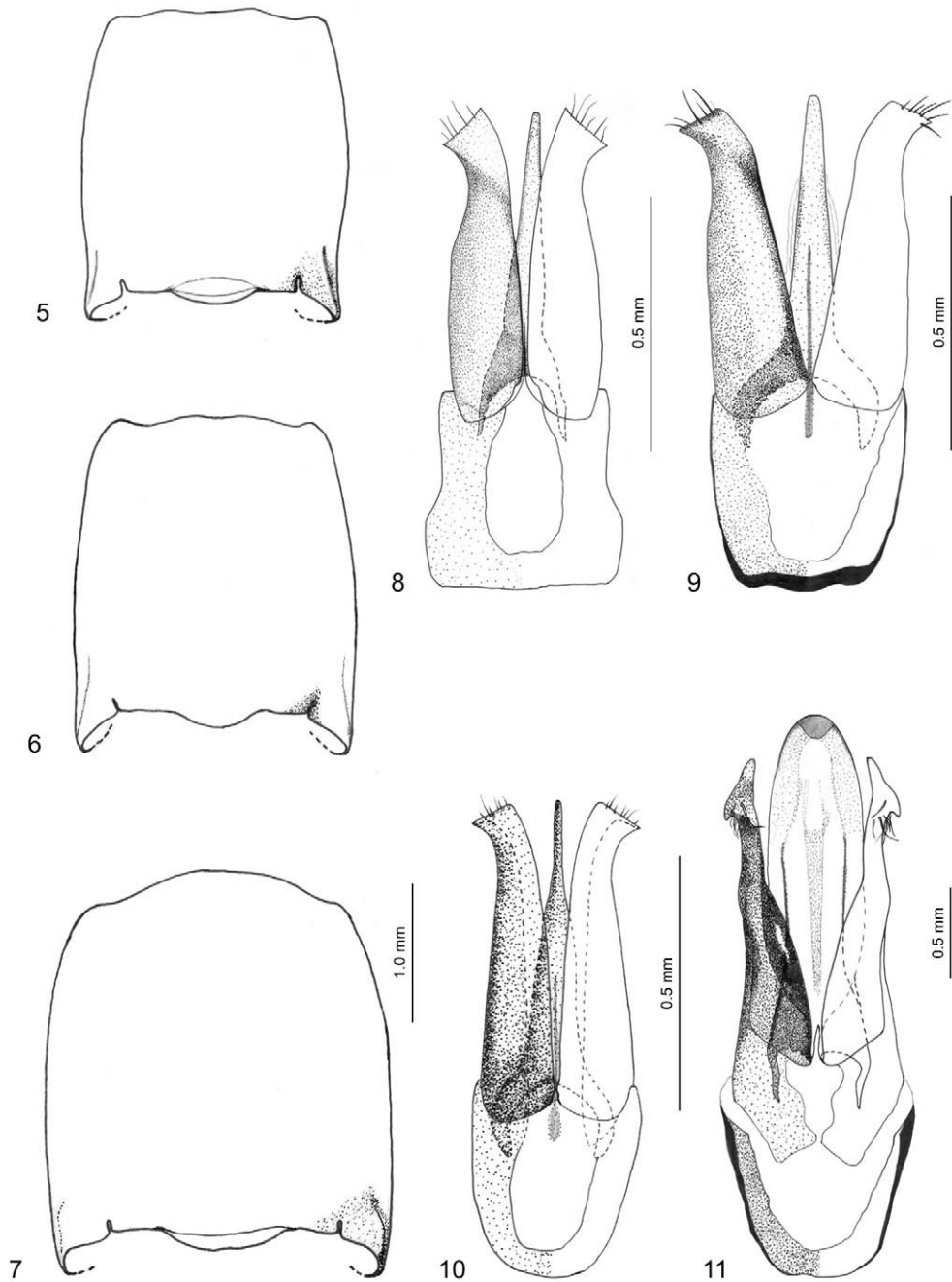
Calais brandti PLATIA & GUDENZI 1999: 118.

MATERIAL EXAMINED:

IRAN: Fars Prov., Shiraz (30 km SSE), Fakh Abad, 14.–15.V.2006, leg. S. Prepsl, 1 ♂ (CPG); Kerman prov., Kuh-e Gebal, Bârez, Deh Bakri (78°59'N, 57°55'E), 2700–2900 m, 5.–6.VI.2005, leg. J. Klír, 1 ♂ (CRG).



Figs. 1–4: Habitus, dorsal view, 1) *Pleurathous circassicus*, 2) *P. rosinae*, 3) *P. hyrcanicus* sp.n., 4) *Calais brandti*.



Figs. 5–7: Pronotum, lateral view, 5) *Pleurathous circassicus*, 6) *P. rosinae*, 7) *P. hyrcanicus* sp.n.

Figs. 8–11: Aedeagus, dorsal view, 8) *Pleurathous circassicus*, 9) *P. rosinae*, 10) *P. hyrcanicus* sp.n., 11) *Calais brandti*.

This species was known only from the holotype female, preserved at Zoological Museum of Helsinki. It was recorded from Iran without an exact locality.

Two males, which were recently collected in SE Iran, enable us to describe the male characters and to illustrate the aedeagus.

DIFFERENTIAL DIAGNOSIS: Extremely similar to female; however, the antennae are longer, and the setae of the last abdominal visible segment are shorter.

Body length: 19.3–20.5 mm; width: 6.3–7.5 mm.

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