

## New species of *Platyderus* Stephens, 1827 (Coleoptera, Carabidae) from North Spain

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A new species of *Platyderus* Stephens, 1828 from North Spain *Platyderus schrammi* sp.n. (Vizcaya), belonging to the “*lusitanicus*” group, is described and diagnostic characters for the separation from related taxa are provided., is described and Iberian species of the genus *Platyderus* Stephens, 1828 are grouped according to the new data. Key to the species groups are given and discussed.

Key words: Coleoptera, Carabidae, *Platyderus*, new species, taxonomy, Spain.

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### INTRODUCTION

During the study of the material from the National Museum of Natural Sciences in Madrid were found strange specimens of the genus *Platyderus* Stephens, 1828 that were new species to science. As presently circumscribed *Platyderus* Stephens, 1828 includes 104 recognized species ([www.carabidae.org](http://www.carabidae.org)), the vast majority of which is found in the South Mediterranean region.

### MATERIAL AND METHODS

Method for dissection procedures of endophallus follows Berlov (1992). Abbreviations used for endophallus protuberances are used according to Anichtchenko (2005): basal (B), dorso-apical (DA), ventro-apical (VA), ventro-lateral right (VLR), baso-lateral left (BLL), baso-lateral right (BLR), ventral (V) and sclerite (S).

Measurements were taken using an ocular micrometer as follows: body length, from anterior margin of clypeus to apex of elytra along suture; length of pronotum, from anterior margin to posterior margin along midline; width of pronotum, at the widest point; length of elytra, from the apex of scutellum to the apex of elytra along suture; width of elytra, at the widest point.

High-resolution images of habitus, endophallus and distribution maps of Iberian *Platyderus* species are available at <http://www.carabidae.org> “Carabidae of the World” (formerly [www.carabidae.pro](http://www.carabidae.pro)). Material from the following institutional and private collections has been examined:

MNCN	Museo Nacional de Ciencias Naturales de Madrid (Spain).
cAA	Private Collection of Alexandre Anichtchenko, Tres Cantos (Spain).

Genus *Platyderus* Stephens, 1827

A first attempt to combine all knowledge about *Platyderus* was made by Chaudoir (1866). After this (more than 100 years later), Claude Jeanne showed serious interest in the genus. The genus *Platyderus* was divided into two subgenera and ten species groups (Jeanne, 1996). Most of these groups show great variability and overlap each other. The “*ruficollis*” and “*subcrenatus*” groups differ only by more or less punctured elytral striae. Most species with signs of “*ruficollis*” inhabit the southern half of the Iberian peninsula, and those with signs of “*subcrenatus*” the northern half. However, many species could be attributed to “one of the two groups”, which was the reason for their merging into one “*ruficollis-subcrenatus*” group (Anichtchenko, 2011). Another related group is the “*lusitanicus*” group, occupying the north-west of the Iberian peninsula. The most north-eastern species of this group is *P. pyrenaeus*, which by its elytral shape can be attributed to the “*ruficollis-subcrenatus*” group. The new species described below, *P. schrammi* sp.n., also combines transient characteristics of the groups “*ruficollis-subcrenatus*” and “*lusitanicus*”. Some male specimens of *P. salmantinus* of the “*ruficollis-subcrenatus*” group, can be attributed to the group “*lusitanicus*” by its elytral shape. Here it is proposed to unite all species of “*ruficollis*”, “*subcrenatus*”, and “*lusitanicus*” groups under the group name “*lusitanicus*”. It is a rather complicated group with many undescribed species, only few of which can be determined by external characteristics. In the remaining cases it is necessary to study the endophallus. The new species belongs to this group, characterised by the middle dorsal pore on the elytra situated on the third stria, with smooth or punctured striae.

Previously, a strong polymorphism of some species of *Platyderus* was observed (Anichtchenko, 2009). At the moment, polymorphism is known for the species *P. speleus* Cobos, 1961, *P. varians* L. Schaufuss, 1862, *P. salmantinus* Jeanne, 1996, *P. testaceus* (Rambur, 1838), *P. montanellus* Graells, 1851, *P. lusitanicus* (Dejean, 1828), and *P. incertans* Mateu, 1952. Among the populations

of these species very small specimens may be found, the shape of the pronotum may vary, and discal pores on elytra may disappear. Small specimens of *P. testaceus* formally belong to the group “*asturiensis*”, but the structure of their endophallus is identical to typical specimens. It is interesting to note that such polymorphism is not rare in Iberian species of the subgenus *Brachinoaptinus* Lutshnik, 1926 (genus *Brachinus* Weber, 1801).

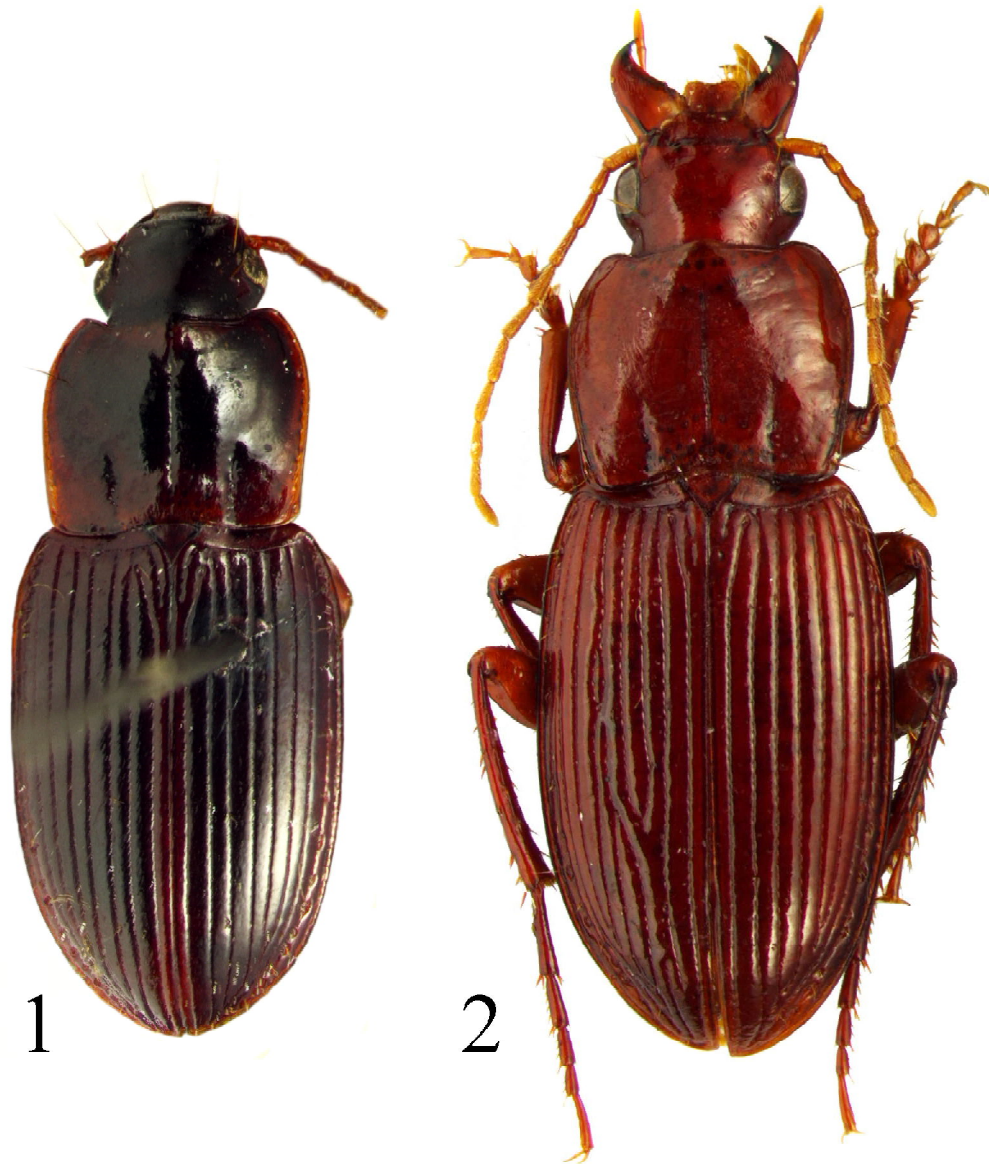
Genetic analysis is needed to clarify the status of some species. Unfortunately, this would be very difficult because of the rarity of the species.

**Key to the Iberian species groups of *Platyderus*.**

- 1     Striae of elytra very tiny, superficial, not punctate; intervals absolutely flat. Discal pore of elytra in second stria ..... group “*gregarius*”
- Striae of elytra never very tiny and superficial ..... **2**
- 2     Discal pore of elytra in third stria ..... group “*lusitanicus*” **comb. nov.**
- Discal pore of elytra in second stria, on third interval or absent ..... **3**
- 3     Discal pore of elytra in second stria ..... **4**
- Elytra without discal pore ..... group “*asturiensis*”
- 4     Elytra long and subparallel ..... group “*variens*”
- Elytra oval ..... group “*quadricollis*”

**Species group “*lusitanicus*”**

Discal pore of elytra situated in third stria. Elytra of elongated, almost parallel to the elongated-oval. Elytral striae of roughly punctate to smooth.



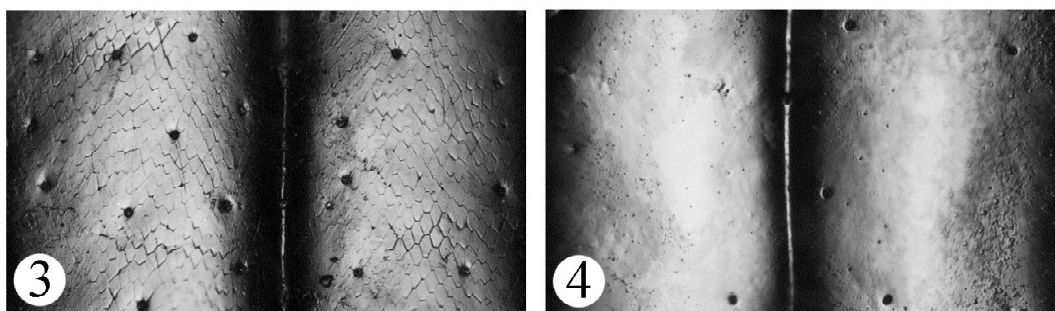
Figs. 1-2. Habitus: 1 – *P. schrammi* sp.n., Holotype.; 2 – *P. pyrenaeus* Tempere, 1947

***Platyderus schrammi* sp. n.**

**Holotype:** Male, Castrejana (Vizcaya), 21-2-1904 G. Schramm (MNCN\_Ent N° Cat. 59583).

**Paratype:** 1 Male - same label data (MNCN\_Ent N° Cat. 59582).

**Diagnosis.** This species is very similar to *P. pyrenaeus* (Fig. 2), but it is smaller, body colour is darker and can be diagnosed easily by the shape and microsculpture of elytra (Figs. 3-4), i.e., *P. schrammi* has subparallel and short elytra (suboval and long in *P. pyrenaeus*) and scale-like microsculpture (smooth and very shiny in *P. pyrenaeus*). The male aedeagal median lobe apex



Figs. 3-4. Microsculpture of elytra: 3 – *P. schrammi* sp.n., Holotype.; 4 – *P. pyrenaeus* Tempere, 1947 (loc.typ.).

is more broad and short than in *P. pyrenaeus*. The endophallus also differs drastically (Figs. 5-12). In *P. schrammi* protuberance BLL is very large, BLR indistinct (protuberances BLL and BLR are of normal size and symmetric in *P. pyrenaeus*); basal protuberance (B) absent (large in *P. pyrenaeus*).

**Description.** Body length 6,7 – 7,3 mm. Colour very dark brown, almost black; antennomeres, palpomeres and legs paler. Habitus (Fig. 1).

Head round, dorsal surface impunctate. Frontal impressions small, round and moderately deep. Eyes slightly prominent.

Pronotum 1,26-1,27 times as wide as long. Lateral, anterior and posterior margins beaded. Anterior bead narrowly interrupted at the middle. Basal impressions long, narrow, well delimited, longitudinal, sublinear. Anterior angles come forward more than on the closely related species *P. pyrenaeus*. Hind angles right, obtuse at the tip. Interval between basal impression and lateral margin flat and smooth. Disc flat, smooth, without microsculpture, midline deep, not reaching anterior and posterior margin.

Elytra subparallel, relatively short, 1,42-1,45 times as long as wide. Maximal width in basal third. Elytral microsculpture consist of scale-like meshes. Shoulders rounded, not denticulate. Basal bead complete; scutellar striae and scutellar pore present; elytral striae deep and almost smooth, equally deep anteriorly and posteriorly; intervals weakly convex, with small punctuation.

Basal and medial elytral pore situated in third striae, apical in third or second striae.

Propleuron, mesepisternum and abdominal sterna smooth, metepisternum with few weak, superficial punctures. Metasternum punctate at the sides.

Structure of the endophallus is shown in Figs. 5-8. The protuberance (BLL) is very large.

**Etymology.** Species named after George Schramm (1870-1956), who collected this species.

#### *Platyderus pyrenaeus* Tempere, 1947

*Platyderus pyrenaeus* Tempere, 1947: 22

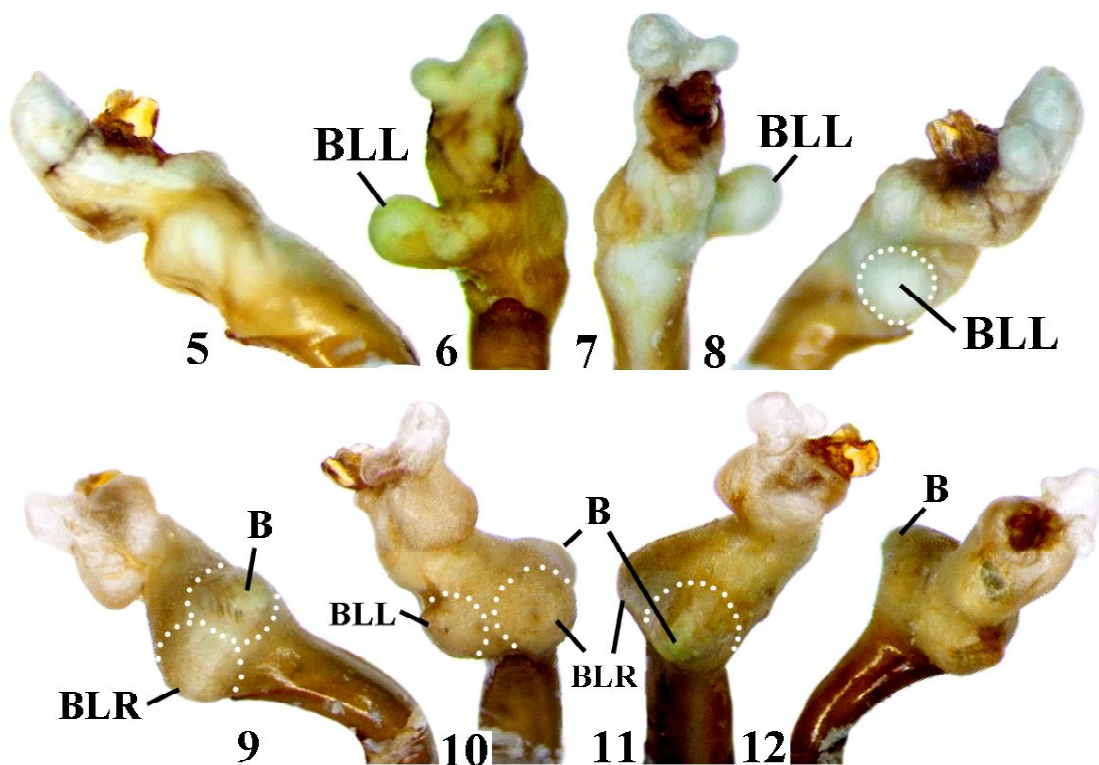
*Platyderus lusitanicus pyrenaeus* (Mateu, 1952: 36)

*Platyderus lusitanicus pyrenaeus* (Jeanne, 1970: 85)

**Material examined.** 2 Male, 1 Female - Navarra, 3 km N de Bera de Bidasoa, 14.IX.2002, Anichtchenko A. leg.; 1 Male - Navarra, 2 km N de Bera de Bidasoa, 31.XII.2003, Anichtchenko A. leg. (CAA)

**Comments.** The place where specimens used for this study were collected is approximately one kilometer away from the type locality: “Basses-Pyrenees, Lizarieta, 1947”.

**Distribution.** FRANCE: Eznazu; col de Lizarieta; foret de Sare (Jeanne, 1970: 86). SPAIN: Puerto de Velate; Sierra de Andia: Lezaun; Sierra de



Figs. 5-12. Endofallus structure: 5-8 – *P. schrammi* sp.n.; 9-12 – *P. pyrenaicus* Tempere, 1947.

Urbasa: Larraona; (Jeanne, 1970: 86). The specimens reported from Alsasua (Mateu, 1952) and from Sierra de Andia (Jeanne, 1970) require re-examination.

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