

ARNALDO BORDONI <sup>a</sup>

NEW DATA ON THE PALAEARCTIC XANTHOLININI.  
 18. INNER SAC OF SOME SPECIES OF *GYROHYPNUS* AND  
 DESCRIPTION OF TWO NEW SPECIES FROM MOROCCO AND ISRAEL  
 (COLEOPTERA STAPHYLINIDAE)  
 327° Contribution to the knowledge of Staphylinidae.

<sup>a</sup>Museo di Storia Naturale dell'Università degli Studi di Firenze, sezione di Zoologia "La Specola", via Romana 17, I-50125 Firenze, Italy; E mail: [arnaldo.bordoni38@gmail.com](mailto:arnaldo.bordoni38@gmail.com); ORCID 0000- 0002- 8614-7673.

Bordoni A. - New data on the palaearctic Xantholinini 18. Inner sac of some species of *Gyrophypnus* and description of two new species from Morocco and Israel (Coleoptera Staphylinidae). 327° Contribution to the knowledge of the Staphylinidae.

The inner sac of the aedeagus of some species of *Gyrophypnus* Leach (*G. silvanus* (Peyerimoff, 1917); *G. punctulatus* (Paykull, 1789); *G. fracticornis* (Müller, 1776); *G. angustatus* Stephens, 1833, and *G. atratus* (Heer, 1830)) was examined in squeezed preparation to highlight the structure and facilitate the identification of the taxa. *Gyrophypnus maroccanus* sp. n. from Morocco and *Gyrophypnus palaestinus* sp. n. from Israel are described and illustrated.

KEY WORDS: Coleoptera, Staphylinidae, Xantholinini, *Gyrophypnus*, inner sac, new species, Morocco, Israel.

## INTRODUCTION

The identification of the species of this genus and in particular the separation of *Gyrophypnus fracticornis* (Müller) and *G. punctulatus* (Paykull) has always been difficult, also due to scarce exoskeletal characters. The greatest uncertainties in the study of *Gyrophypnus* reside in the correct reading of the inner sac of the aedeagus. Squeezed preparation, already used by other authors (e.g. ANLAS, 2014), allows to identifying species with greater certainty. For this purpose I make known the inner sac of some species and add the description of two new species from Morocco and Israel, regions of which no species of the genus was yet known. For each species, several specimens lacking evident intraspecific variation were examined. All localities indicated in the text are new records.

The genus *Gyrophypnus* occurs in the Palaearctic, Oriental and Afrotropical Regions. In the Palaearctic Region are present 21 species, of these 5 occurs in Italy. The species of this genus live in rotting vegetation and dung.

## MATERIALS AND METHODS

The examination of some species of *Gyrophypnus* Leach, 1819 from my private collection (cB) carried out through squeezed preparations of aedeagus, allows an easier identification of the various taxa and the identification of two new species from Morocco and Israel, regions in which the species were not known of the genus in question.

The examination of the specimens was done through a Wild M5A binocular and an Optika B-293 tri-ocular microscope.

## TAXONOMY

***Gyrophypnus silvanus* (Peyerimoff, 1917)**

MATERIAL EXAMINED - Algeria, Piccola Kabylia, T. te de Guerrouch, Beffa-Casale 21.V.1981; Algerie, Jijel, F. te de Guerrouch, 1100 m, Beffa-Casale. 4-10.XI.1984; Algerie, El Kseur, F. te d'Akfadou, 1320 m, Beffa-Casale 29.X.1984.

Inner sac as in Fig. Ia, 1.; paramere as in Fig. II, 4.

***Gyrophypnus punctulatus* (Paykull, 1789)**

MATERIAL EXAMINED - Bohemia, N Sedlica, O. Marek 8.VII.1971; Russia, Krasnodar, Guzeripl, Solodovnikov 10.VI.1992; Poland, Konopiska, T. Koscielný 30.III.1998.

Inner sac as in Fig. Ia, 2; paramere as in Fig. II, 5.

***Gyrophypnus fracticornis* (Müller, 1776)**

MATERIAL EXAMINED - Italy, Altare (Savona), 450 m, Bordoni VIII.1966 and Abruzzo, Maiella, M.te Maielletta, 2100 m, A. Vigna 20.VII.1969; Caucasus, Krasnaja Polyana, R. Rous VI.1967; Afghanistan, Orusgan, Qonag Pass, 3200 m, Kabakov 30.VII.1970; Tajikistan, Kalon, 10 km S, Barsevskis 17.IX.2011.

Habitus Fig. I: inner sac as in Fig. Ia, 3.; paramere as in Fig. II, 6.

***Gyrophypnus angustatus* Stephens, 1833**

MATERIAL EXAMINED - Spain, Navaxarros (Salamanca), Outerelo & Gamarra 17.VII.1984; Bohemia, Pisek, J. Tyl 21.I.1911; Russia, Siberia, Irkutskaya prov., Srednii Bulas, A. Shavrin 1.VII.2006; Italy, Liguria, La Spezia, Sanfilippo 3.IV.1974.

Inner sac as in Fig. III, 8; paramere as in Fig. III, 7.



Fig. 1a - Inner sac of *Gyrohypnus silvanus* (1), *G. punctulatus* (2) and *G. fracticornis* (3).

Fig. I - *Gyrohypnus fracticornis*: habitus (total length: 5.5 mm).

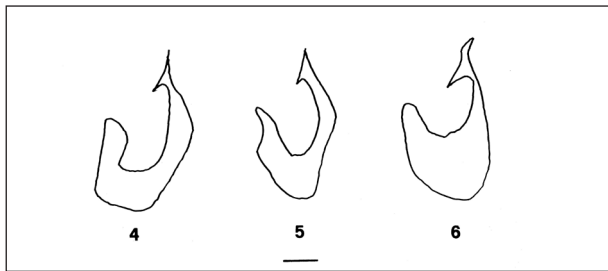


Fig. II - Paramere in lateral view of *G. silvanus* (4), *G. punctulatus* (5) and *G. fracticornis* (6) (scale bar: 0.5 mm)

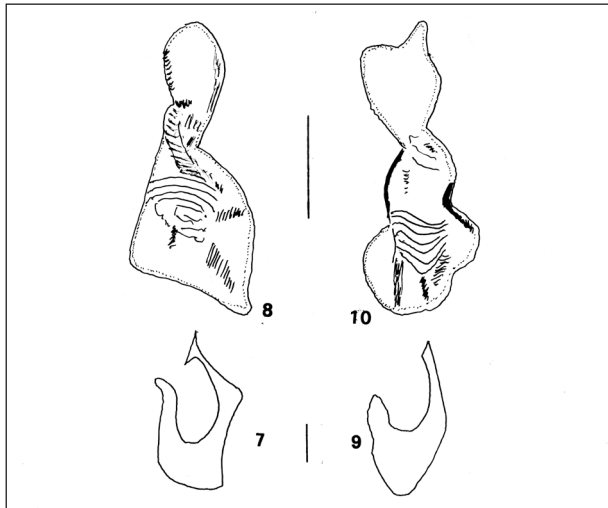


Fig. III - Paramere in lateral view (scale bar: 0.5 mm) and inner sac (scale bar: 0.5 mm) of *G. angustatus* (7-8) and *G. atratus* (9-10).

***Gyrophypnus atratus* (Heer, 1839)**

MATERIAL EXAMINED - Holand, Limburg, Vijlen, P. J. Brachman 3.II.1968; Slovenia, Istria, Mune, Krakloh IV.1911; Italy, Falcade (Belluno), 1150 m, E. Ratti 4.IV.1961.

Inner sac as in Fig. III, 10; paramere as in Fig. III, 9.

***Gyrophypnus maroccanus* sp. n.**

MATERIAL EXAMINED - Holotype ♂: Morocco, Hoher, Atlas O-Seite, Cirque de Jaffar (cB).

DESCRIPTION - Length of body 5.6 mm; from anterior margin of head to posterior margin of elytra: 2.8 mm. Black head, reddish pronotum, reddish brown elytra and abdomen, antennae and legs brown. Head 1.00 mm long and 0.74 mm wide, sub-rectangular, narrow anteriorly, with slightly rounded sides and narrowly rounded posterior angles. Eyes small and moderately protruding. Surface of head with fine, scattered punctation on the posterior half, except for a median stripe. Pronotum convex, 1.14 mm long and 0.74 mm wide, longer and anteriorly as wide as head, with scarcely oblique anterior margins, widely rounded anterior angles and slightly emarginate sides. Surface with dorsal series of 5 punctures and lateral series of 4 punctures. Elytra 1.4 mm long and 1.11 mm wide, moderately dilated posteriorly, as wide and long as pronotum, with narrowly rounded humeral angles. Surface with fine, deep, dense punctation, arranged in nume-

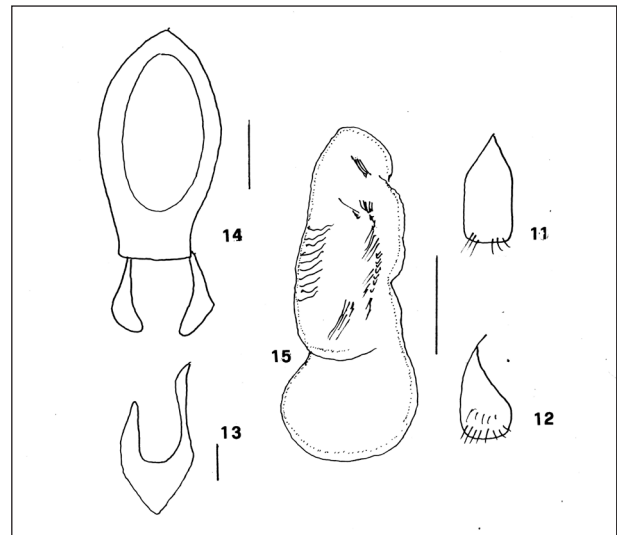


Fig. IV - Tergite, sternite of male genital segment, paramere in lateral view (scale bar: 0.5 mm), aedeagus and inner sac of *G. maroccanus* sp. n. (11-15) (scale bar: 0.5).

rous series. Scutellum without punctures. Abdomen with traces of transverse micro-striation and fine punctures on the sides of each segment.

Tergite and sternite of male genital segment as in Fig. IV, 11-12. Aedeagus (Fig. IV, 14) 0.62 mm long, ovoid elongate; parameres as in Fig. IV, 13; inner sac very diaphanous, in squeezed preparation as in Fig. IV, 15.

ETYMOLOGY - The specific epithet refers to Morocco.

DISTRIBUTION - The new species is known only from the type locality.

REMARKS - The species differs from its congeners, and in particular from *G. silvanus* from Tunisie and Algerie, in color, shape of aedeagus and parameres, and inner sac.

***Gyrophypnus palaestinus* sp. n.**

MATERIAL EXAMINED - Holotype ♂: Israel, Caiffa (Haifa), F. Agolin-Marie 1920 (cB).

DESCRIPTION - Length of body 7.2 mm; from anterior margin of head to posterior margin of elytra: 4.1 mm. Entirely brown amaranth, with brown light antennae and legs. Body shiny, except for the abdomen with fine, transverse micro-striation. Head sub-rectangular, moderately narrow forward, with sub-rectilinear sides, narrowly rounded posterior angles. Eyes medium-sized and barely protruding. Head 0.96 mm long and 1.14 mm wider. Surface covered with dense, deep rounded punctures, except for a narrow, median stripe; the punctures close, forming striae; lateral portion with more broad and spaced apart punctures. Pronotum massive, 1.48 mm long and 1.16 mm wide, with oblique anterior margins, widely rounded anterior angles and not emarginate sides. Surface with dorsal series of 9 punctures and lateral series of 5-6 punctures. Elytra 1.55 mm long and 1.4 mm wide, barely dilated posteriorly, longer and wider than pronotum, with moderately rounded humeral angles. Surface with dense, superficial punctation arranged in numerous series. Scutellum without punctures. Abdomen

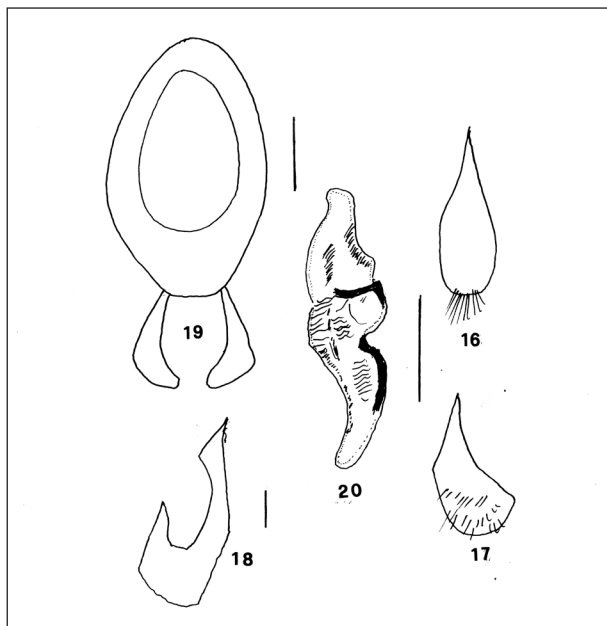


Fig. V - Tergite, sternite of male genital segment, paramere in lateral view (scale bar: 0.5 mm), aedeagus and inner sac of *G. palaestinus* sp. n. (16-20) (scale bar: 0.5 mm)

with fine, transverse micro-striation and very fine, scattered punctation.

Tergite and sternite of male genital segment as in Fig. V, 16-17. Aedeagus (Fig. V, 19) 0.77 mm long, ovoid, with parameres as in Fig. V, 18; inner sac in squeezed preparation as in Fig. V, 20.

ETYMOLOGY - The specific epithet refers to Palestine.

DISTRIBUTION - The new species is known only from the type locality.

REMARKS - The species differs from its congeners in color, punctation and inner sac of the aedeagus. None of the authors who have dealt with the Staphylinidae of Israel has mentioned a species of the genus *Gyrohypnus* (SCHEERPELTZ, 1929; BODENHEIMER, 1937; DRUGMAND, 1989; ASSING, 2014; ASSING & FELDMANN, 2012) nor in the specific contribution on the genus (SCHEERPELTZ, 1926; ASSING, 2003). The two new species differ from their congeners above all in the structure of the internal sac of the aedeagus.

#### SOME SYNONYMIES

I renew the following synonymies already highlighted and discussed in BORDONI, 2005 : *Gyrohypnus wutaihanensis* Bordonì 2000 = *Gyrohypnus schuelkei* Assing, 2003 and *Gyrohypnus sichuanensis* Zheng, 1995 = *Gyrohypnus vomer* Assing, 2003.

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