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Thorictus martinezi sp. n. from Burkina Faso (Coleoptera: Dermestidae: Thorictini)

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Abstract: The new species *Thorictus martinezi* sp. n. from Burkina Faso is described, illustrated and compared with related species. The new species belongs to the "*T. castaneus* species group" and is very similar to *T. foreli* Wasmann, 1894 and *T. bonnairei bonnairei* Wasmann, 1894, both known from Algeria, Morocco and Tunisia, but differs from them by the lateral depressions on the head, the depression on the humeral angles of the elytra and the setation on the pronotum and epipleuron. It is a myrmecophile of the ant *Cataglyphis* sp.

Key words: Coleoptera, Dermestidae, Thorictinae, *Thorictus*, taxonomy, new species, Burkina Faso

Introduction

The tribe Thorictini of subfamily Thorictinae Agassiz, 1846 contains three genera: *Afrothorictus* Andreae, 1967, *Macrothorictus* Andreae, 1967 and *Thorictus* Germar, 1834. The genus *Thorictus* contains 158 species and subspecies world-wide (Háva, 2003a, 2008). A revision of the tribe Thorictini from the Afrotropical region was published by John & Andreae (1967) and Andreae (1967), and later, a new species was described from Benin by Háva & Lackner (2005). The species described here belongs to Dermestidae from Burkina Faso (see Háva, 2003b).

Material and Methods

The following measurements were made:
BL: body length (measured from the anterior margin of the head to the apex of the elytra).
BW : body width (measured between the two anterolateral humeral calli).
PL: pronotum length (measured from the top of the anterior margin to scutellum).
PW : pronotum width (measured between the two posterior angles of pronotum).
Male genitalia were not studied. Differential diagnoses of aedeagi is often problematical and interspecific variation is currently very poorly defined (John, 1963).

Taxonomy

Thorictus martinezi sp. n.

(Figs. 1-5)

Type material. HOLOTYPE (male): Burkina Faso, near Bobo Dioulasso, 11°07.015´N 4°23.286´W, 460m asl., June, 2006. PARATYPE: 1 spec. (unsexed): the same data as holotype. Holotype deposited in coll. J. Háva (Private Entomological Laboratory and Collection, Prague-west), paratype in coll. Muséum national d' Histoire Naturelle, Paris, gift n° 1248. Specimens provided with red, printed label: "HOLOTYPE [or PARATYPE, respectively] *Thorictus martinezi* sp. n. J. Háva & A. Lenoir det. 2007".

Description of holotype. Body (Figs. 1, 2) large, brown, covered by short to very short yellow setae on dorsal and ventral surfaces. Measurements (mm): BL 2.75 BW 1.7 PL 0.93 PW 1.7. Head finely punctate with very short yellow setae; lateral depressions on head long, with large punctures and with one very small bump (Fig. 3). Labial palpi entirely brown. Antennae uniformly brown, with 11 antennomeres; antennal club compact, with 3 antennomeres. Pronotum as finely punctate as head, disc covered by short yellow setae. Lateral margin of pronotum with long setation as on disc. Ventral posterior pronotal angles with long setation. Scutellum small,

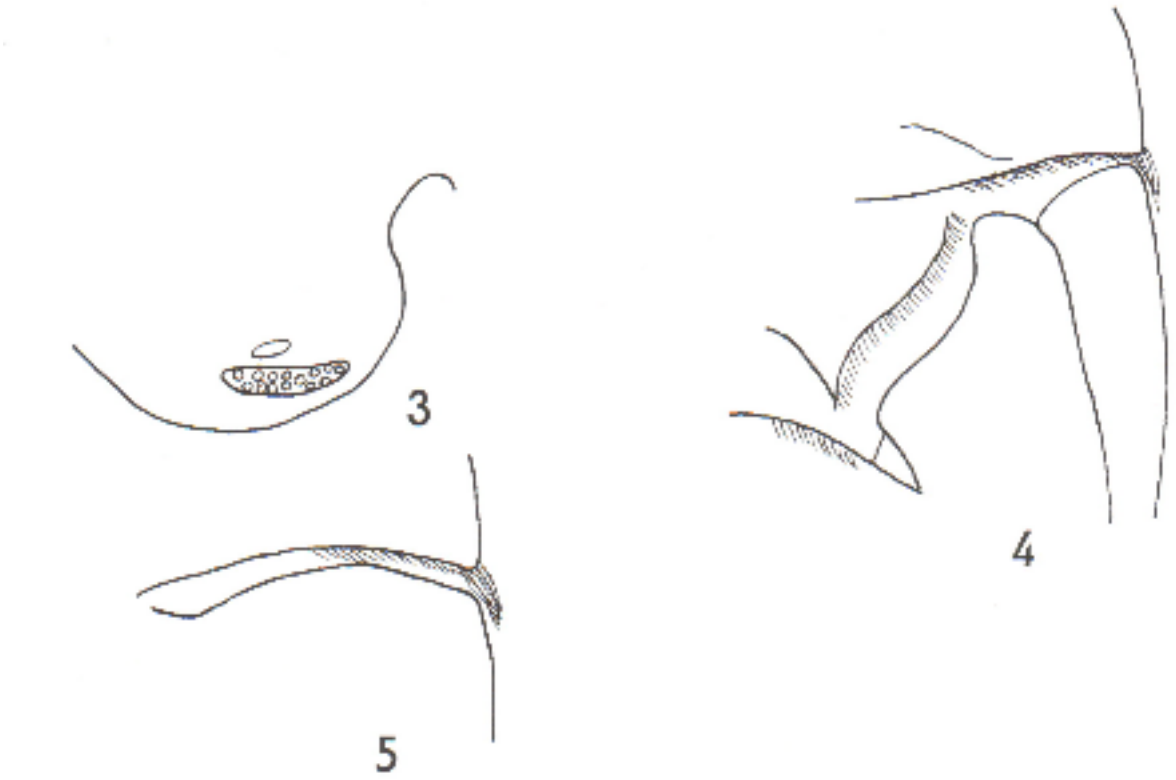
not visible from above. Elytra very finely punctate; each elytron in anterior part near scutellum with one very small bump; humeral angles of elytra without oval depression (Fig. 5). Epipleuron finely punctate, with long, yellow setation as on elytral disc. Prosternum finely punctate. Mesosternum with foveolate punctures. Metasternum finely punctate. Visible abdominal sternites very finely punctate, covered by short yellow setae. Lateral depressions on the first visible abdominal sternum long. Legs brown, covered by yellow setae.

Figs. 1, 2. *Thorictus martinezi* sp. n.: 1- habitus, dorsal view; 2- habitus, ventral view.

Diagnosis. This new species belongs to the "*T. castaneus* species group" and is very similar to *T. foreli* Wasmann, 1894 and *T. bonnairei bonnairei* Wasmann, 1894 both known from Algeria, Morocco and Tunisia, but differs from them by the lateral depressions on the head, the depression on the humeral angles of the elytra and the setation on the pronotum and epipleuron.

Thorictus martinezi sp. n.: lateral depressions on head elongate, head with large punctures and with one very small bump; humeral angles of elytra without oval depression.
Thorictus foreli Wasmann, 1894: lateral depressions on head short, head with small punctures, without bump; humeral angles of elytra with long oval depression (John, 1963: p. 229: Fig. 2).
Thorictus bonnairei bonnairei Wasmann, 1894: lateral depressions on head elongate, head with large punctures and without small bump; humeral angles of elytra with elongate oval very broad depression (John, 1963: p. 229: Fig. 3).

Host ant. *Cataglyphis* sp. (*bicolor* group):
HYPERLINK:
http://antbase.org/ants/africa/cataglyphis/cataglyphis_sp_lenoir/cataglyphis_sp_lenoir.htm"
http://antbase.org/ants/africa/cataglyphis/cataglyphis_sp_lenoir/cataglyphis_sp_lenoir.htm



Figs. 3-5. *Thorictus martinezi* sp. n.:3- lateral depressions on head, lateral view; 4- pronotum and epipleuron, ventral view; 5- elytral humerus, dorsal view.

Fig. 6. Host ant *Cataglyphis* sp. with *Thorictus martinezi* sp. n. on antenna.

Fig. 7. Host ant *Cataglyphis* sp. with *Thorictus martinezi* sp. n. on antennae.

Biology. The specimens of *Thorictus martinezi* were collected in the field on the heads of *Cataglyphis* sp. workers. In the laboratory, they were observed for several months on the head of a host worker. They clutch at one antenna of the host with their mandibles and remain on the same worker for long periods. The carrier ant stays in the nest generally, but it can go out in the foraging arena with its load. The beetle seems to annoy the worker which tries from time to time to expel it with its forelegs. When the beetles are free, they move in the foraging arena or into the nest. They can disappear for several days, probably living in the refuse pile of the nest. They exhibit thanatotic behaviour (feigning death to evade predation), stopping under a worker when in the "dead“ position. The ant then seizes it with its mandibles like prey item or an ant larva and the beetle attaches and clings to one antenna of the host. We tried to introduce a beetle into the foraging arena of other ant species. The adoption in another colony of *Cataglyphis* sp. (Burkina Faso) was very rapid; in two days the beetle entered the nest and was observed on a host head. Among the two beetles introduced in the foraging arena of a *Formica selysi* nest, one died and the other survived for one month outside the nest and never entered it. In a *Cataglyphis velox* nest, the adoption was almost impossible as the beetle was able to climb onto a worker, but the ant successfully ejected it. This suggests that there may be some level of specificity in the association between beetle / ant species. Additional research is underway to determine if there is chemical mimicry between the beetle and the host (Lenoir *et al*., 2001).

Etymology. The species is named in honor of Jean-Marie Martinez, the collector of the specimens.

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References

Andreae, H. (1967). Über südafrikanische Thorictidae. In: John H., & Andreae H.,: Revision der Gattung *Thorictus* Germar (Coleoptera, Thorictidae). III. Teil. *Entomologische Abhandlungen und Berichte aus dem Staatlichen Museum für Tierkunde in Dresden,* 34: 145-199.

Háva, J. (2003a). World Catalogue of the Dermestidae (Coleoptera). *Studie a Zpravy Oblastniho Muzea Praha-vychod v Brandyse nad Labem a Stare Boleslavi*, Supplementum 1: 1-196.

Háva, J. (2003b). New and interesting Dermestidae from Burkina Faso (Coleoptera). *Lambillionea,* 103: 500-504.

Háva, J. & Lackner, T. (2005). *Thorictus beninensis* sp. nov. from Benin (Coleoptera: Dermestidae: Thorictini). *Entomological Problems,* 35: 159-160.

Háva, J. (2008). Dermestidae World (Coleoptera). Permanent World Wide Web electronic publication: *http://www.dermestidae.wz.cz* (last update 15.5.2008)

John, H. (1963). Revision der Gattung *Thorictus* Germar (Thorictidae, Clavicornia Col.). Eine Bestandaufnahme, Kritik und Neubeschreibungen. *Entomologische Abhandlungen und Berichte aus dem Staatlichen Museum fürTierkunde in Dresden,* 28: 177-255.

John, H. & Andreae, H. (1967). Revision der Gattung *Thorictus* Germar (Coleoptera, Thorictidae). III. Teil. *Entomologische Abhandlungen und Berichte aus dem Staatlichen Museum für Tierkunde in Dresden,* 34: 145-199.

Lenoir, A., D´Ettorre, P., Errard, C. & Hefetz, A. (2001). Chemical ecology and social parasitism in ants. *Annual Review of Entomology,* 46: 573-599.

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