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## A preliminary study of the blister beetles fauna from Niger based on the collections of the Geneva and Paris museums (Coleoptera, Meloidae)

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**Abstract:** The blister beetles fauna from Niger is studied and 22 species are recorded in this paper, 13 for the first time, for a total of 31 species recorded from this country. One species, *Hycleus adrarensis* (Pic, 1942), is resurrected from its synonymy, and *Hycleus kaszabi* (Pardo Alcaide, 1968) is regarded as conspecific with *Hycleus adrarensis*.

**Keywords:** Meloidae - Niger - Sahel - distribution.

### INTRODUCTION

The blister beetles of Niger were so far not well known and the present report provides new occurrence data on these animals based on specimens in museum collections and also the private collection of the author.

During a visit to the Muséum d'Histoire Naturelle de Genève, twelve different species of Meloidae originating from Niger were identified. Formerly the blister beetle fauna of this country was very poorly known. These specimens were mostly obtained by two collectors H. Guèvremont and H.E. Martin in the early 1980s. Hélène Guèvremont is a canadian entomologist who worked numerous years in Niger at the Centre National de Recherches Agronomiques de Tama (CNRAT) at Maradi, where she principally studied the insect pests of the millet, so we can suppose that she mainly collected the specimens on this cultivated plant.

Additionally Pierre Juhel, a French specialist of the African Callichromatini (Cerambycidae) sent to me his samples from Niger for study.

Material from the "Mission Tilho" was also examined for this study. It was a geographic expedition led by army captain J. Tilho to demarcate the border between the French and English colonies in the region of Niger River and Lake Chad (Zimmermann, 1909). The physician of the expedition, Dr R. Gaillard, was in charge of collecting specimens for scientific study and all these specimens are now stored in the Muséum National d'Histoire Naturelle of Paris.

### MATERIAL AND METHODS

**Gazetteer:** The map in Figure 1 shows: (a) the different localities where the collectors from MHNG and MNHN sampled the specimens; (b) those where Pierre Juhel got his specimens (only Kouré); (c) and the Aïr Mountains, the only previously well-studied area in Niger. The white area in the middle represents the Sahelian Acacia Savanna; the southern ecozone represents the West Sudanian Savanna; the further Northern ecozone is the Sahara, which has scarcely been sampled. There is an additional ecozone in the south-east of Niger, represented by the Lake Chad flooded savanna.

**Abbreviations:** The acronyms used in the texts are the followings:

MFC: Mickaël François, private Collection

MHNG: Muséum d'Histoire Naturelle de Genève (Genève, Suisse)

MNHN: Muséum National d'Histoire Naturelle (Paris, France)

### RESULTS

#### *Lydomorphus (L.) angusticollis angusticollis* (Haag-Rutenberg, 1880)

**Specimens studied:** MNHN; 9 specimens; Agadez Region, Aïr Mountains, 20 km E of Agadez; collected 1908; les Posth. – MFC; 5 specimens; Tillabéri Region, Kouré; collected Sept. 2002; leg P. Juhel.



Fig. 1. Locations of the samplings sites mentioned in the text.

**Bibliographic data for Niger:** Agadez, Kori Atkakit (Pic, 1950).

**Geographic distribution:** Chad, Eritrea, Ethiopia, W India, S Iran, Mauritania, Niger, Nigeria, Pakistan, Saudi Arabia, Somalia, Sudan, Yemen (Bologna, 1990).

**Remark:** This species has a wide and characteristic distribution, since it occupies three biogeographic regions Afrotropical, Palaearctic and Oriental, making this species of Meloidae unique in term of distribution.

***Lydomorphus (L.) pilatarsis (Kaszab, 1955)***

**Specimens studied:** MNHN; 17 specimens; Zinder Region, Dungass; collected Sept.-Oct. 2010; leg R. Gaillard, Mission Tilho.

**Geographic distribution:** Benin, Gambia, Mauritania, Niger, Senegal (Selander, 1988a).

**Remark:** This species was described by Kaszab (1955) in his revision of the genus and the specimens

in the collection are often misidentified with *L. melanocephalus* (Fabricius, 1801). It seems to be restricted to the western part of the Sahelian area.

***Lydomorphus (Pardolydus) dusaulti (Dufour, 1821)***

**Specimens studied:** MFC; 8 specimens; Tillabéri Region, Kouré; collected Sept. 2002; leg P. Juhel.

**Geographic distribution:** Burkina Faso, Chad, D.R. Congo, Eritrea, Ethiopia, Ghana, Guinea-Bissau, Mauritania, Niger, Nigeria, Senegal, Somalia, Sudan (Bologna, 1990).

**Remark:** A very common species, but unexpectedly, it is the first citation for Niger.

***Cyaneolytta maculifrons (Mäklin, 1875)***

**Specimens studied:** MNHN; 1 specimen; Zinder Region, Zinder; collected 21.07.1947; leg L. Chopard & A. Villiers.

**Bibliographic data for Niger:** South of Air Mountains, 525 m, Sept. 1947, Chopard L. & Villiers A. leg (Kaszab, 1953).

**Geographic distribution:** Angola, D.R. Congo, Ethiopia, Kenya, Mali, Mauritania, Mozambique, Namibia, Niger, Senegal, Somalia, Sudan, Tanzania, Yemen, Zimbabwe (Garcia-Rollan, 2012).

**Remark:** A very widespread species in Africa, maybe the most widely distributed species of the genus in Africa. The citation by Kaszab (1953) from Niger concerns the description of the subspecies *planicollis* based on a single female. The specimen I have studied was collected in a nearby locality by the same collectors, but this specimen corresponds to a typical *maculifrons*. Therefore I suspect that subspecies *planicollis* represents only an individual variation.

***Cyaneolytta resplendens* (Laporte de Castelnau, 1840)**

**Specimens studied:** MHNG; 1 specimen; Niamey region, Niamey; collected Jul. 1956; leg Loups; det Z. Kaszab; – MNHN; 1 specimen; Zinder Region, Dungass; collected Sept.-Oct. 2010; leg R. Gaillard, Mission Tilho; det L. Casset.

**Bibliographic data for Niger:** Niamey (Pic, 1950).

**Geographic distribution:** Angola, Botswana, Ethiopia, Kenya, Malawi, Mozambique, Namibia, Niger, Senegal, Somalia, Sudan, Tanzania, Uganda, Zimbabwe (Garcia-Rollan, 2012).

**Remark:** A very widespread species in Africa, less common in western Africa than in the Eastern part.

***Epicauta grandiceps* (Haag-Rutenberg, 1880)**

**Specimens studied:** MHNG; 4 specimens; Maradi Region, Maradi; 01.04.1980; leg H.E. Martin. – MHNG; 1 specimen; Tahoua Region, Tahoua; 29.08.1980; leg H. Guèvremont.

**Geographic distribution:** Chad, D.R. Congo, Eritrea, Ethiopia, Niger, Somalia, Sudan (Bologna, 1990).

**Remark:** The new data make Niger the westernmost area of the distribution of *Epicauta grandiceps*.

***Psalydolytta jaloffa* (Laporte de Castelnau, 1840)**

**Specimens studied:** MHNG; 1 specimen; Tahoua Region, Tahoua; 29.08.1980; leg H. Guèvremont. – MHNG; 1 specimen; Zinder Region, Zinder; collected Aug. 1981; leg H.E. Martin. – MNHN; 1 specimen; Maradi Region, Tibiri; collected Jul. 1910; leg R. Gaillard, Mission Tilho.

**Geographic distribution:** D.R. Congo, Ethiopia, Ghana, Niger, Senegal, Sudan, Uganda (Selander, 1988b).

**Remark:** The new data confirm the presence of *Psalydolytta jaloffa* in the Sahel zone.

***Psalydolytta leucophaea* (Mäklin, 1875)**

**Specimens studied:** MHNG; 1 specimen; Tahoua Region, Tahoua; 18.08.1980; leg H. Guèvremont.

**Geographic distribution:** Cameroon, Ghana, Niger, Senegal, Sudan (Selander, 1988b).

**Remark:** New country data for this species, the range of which seems discontinuous.

***Psalydolytta vestita* (Dufour, 1821)**

**Specimens studied:** MHNG; 1 specimen; Tahoua Region, Tahoua; 30.08.1980; leg H. Guèvremont. – MHNG; 1 specimen; Zinder Region, Gomba; 29.08.1981; leg H.E. Martin.

**Geographic distribution:** Gambia, Mali, Mauritania, Niger, Senegal (Selander, 1988b).

**Remark:** New country data for this species, Niger becoming the easternmost location.

***Croscherichia fulgurita* (Reiche, 1865)**

**Specimens studied:** MNHN; 1 specimen; Diffa Region, entre Komadougu et Manga; collected 1910; leg D. Noël; det M. Bologna.

**Geographic distribution:** Algeria, Egypt, Lybia, Mali, Marocco, Mauritania, Niger, Western Sahara (Bologna, 1990).

**Remark:** This species is adapted to desert ecosystems and is distributed throughout the Sahara Desert. On the label of the studied specimen is written Chad, but the locality is now in Niger. Bologna & Coco (1991) in their revision of the genus used this specimen to document the presence in Chad. Chad was therefore removed from the distribution list and replaced by Niger.

***Hycleus abiadensis* (Marseul, 1870)**

**Specimens studied:** MNHN; 1 specimen; Dosso Region, de Gaya à Say, river bank Niger; collected Febr. 1910; leg R. Gaillard, Mission Tilho. – MNHN; 2 specimens; Maradi Region, Tibiri; collected Jul. 1910; leg R. Gaillard, Mission Tilho.

**Bibliographic data for Niger:** Tanout (Pardo Alcaide, 1963a).

**Geographic distribution:** Chad, Niger, Sudan (Pardo Alcaide, 1963a).

**Remark:** The known distribution of this big and attractive species was quite limited, but the two new localities are very close to Benin (Gaya à Say) and Nigeria (Tibiri) and the species will likely also be found in these two countries in the future.

*Hycleus adrarensis* (Pic, 1942) *bona*  
species comb. nov.

Fig. 2

*Zonabris adrarensis* Pic, 1942: 78.

*Zonabris adrarensis*. – Pardo Alcaide, 1962: 218, synonym of  
*Mylabris brunnipes* (Klug, 1845).

*Gorizia kaszabi* Pardo Alcaide, 1968: 624, figs 1-5 **syn. nov.**

**Specimens studied:** MNHN; 2 specimens; Agadez Region, Arlit, Air Mountains; collected Sept. 1968; leg R. Villemain. – MNHN; 11 specimens; Diffa Region, N'Guigmi; collected Jul.-Aug. 1919; leg D. Noël.

**Specimens studied for Mali:** MNHN; 2 specimens; Gao Region, Bamba; collected Jul. 1909; Leg R. Chudeau. – MNHN; 3 specimens; Tombouctou Region, Azawad, Amaiort; collected Aug. 1909; leg R. Chudeau. – MNHN; 1 specimen; Tombouctou Region, Goundam; collected Sept. 1909; leg R. Chudeau.

**Specimens studied for Chad:** MNHN; 1 specimen; Borkou Region, Faya, Elléla; 19.08.1935; Mission d'étude de la biologie des Acridiens. – MNHN; 3 specimens; Ennedi Region, Fada, Archei; 07.09.1935; Mission d'étude de la biologie des Acridiens. – MNHN; 1 specimen; Ennedi Region, Mortcha, Ouadi Souala, 12/13.09.1935, Mission d'étude de la biologie des Acridiens. – MNHN; 1 specimen; Kanem Region, Mao à N'Guigmi; collected Sept. 1910; leg R. Gaillard, Mission Tilho.

**Bibliographic data for Niger:** Agadez, Air Sud, 525 m, 25/28-VIII-1947 (Pic, 1950); Air, between Talak and Iferovane (Bologna & Turco, 2007 as *Hycleus kaszabi*).

**Geographic distribution:** Chad, Mali, Mauritania, Niger, Sudan (Bologna & Turco, 2007).

**Remark:** Maurice Pic (1942) described this species from Adrar des Iforas (South-Eastern Mauritania), and noticed its close relationships with *H. brunnipes* (Klug, 1845). Twenty years later, Anselmo Pardo-Alcaide (1962) synonymized *H. adrarensis* with *H. brunnipes*, based on the study of a specimen identified by Pic from Agadez (IFAN collection). Only six years later, he described a new species belonging to the *brunnipes*-group from Sudan and Mauritania, *H. kaszabi* (Pardo Alcaide, 1968). All the studied specimens fit perfectly with the complete description by Pardo-Alcaide,



Fig. 2. Dorsal view of the habitus of *Hycleus adrarensis* (Pic, 1942). Specimen MNHN, Agadez Region, Arlit, Air Mountains, collected Sept. 1968. (photo A. Mantilleri)

including the single specimen identified by Pic as *H. adrarensis* (Agadez, MNHN).

This species was so far only known from a few localities in different countries. In the MNHN's collection, I identified other specimens from 7 additional localities and two new countries. Based on this material, *H. adrarensis* is also present in Mali and Chad and its Sahelian distribution appears wider than previously known. A map with all known localities is presented in Figure 3.



Fig. 3. Distribution of *Hycleus adrarensis* (Pic, 1942)

#### *Hycleus affinis* (Olivier, 1811)

**Specimens studied:** MHNG; 2 specimens; Maradi Region, Maradi; collected Aug. 1981; leg H.E. Martin. – MHNG; 1 specimen; Niamey region, Niamey; collected Jul. 1956; leg Loups; det Z. Kaszab. – MHNG; 2 specimens; Tahoua Region, Tahoua; collected Febr. 1981; leg H.E. Martin. – MHNG; 8 specimens; Zinder Region, Gomba; 29.08.1981; leg H.E. Martin. – MHNG; 1 specimen; Zinder Region, Kagwa; 30.09.1980; leg H.E. Martin. – MHNG; 1 specimen; Zinder Region, Mirya; 20.09.1980; leg H.E. Martin. – MHNG; 33 specimens; Zinder Region, Zinder; collected Aug. 1981; leg H.E. Martin. – MNHN; 18 specimens; Zinder Region, Dungass; collected Sept.-Oct. 2010; leg R. Gaillard, Mission Tilho. – MFC; 8 specimens; Tillabéri Region, Kouré; collected Sept. 2002; leg P. Juhel.

**Geographic distribution:** Benin, Burkina Faso, Cameroon, Chad, D.R. Congo, Gambia, Ghana, Guinea, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo (Bologna, 1994).

**Remark:** This is the first record of this species for Niger, although it seems to be the most common species of Meloidae of this country.

#### *Hycleus argentatus* (Fabricius, 1792)

**Specimens studied:** MHNG; 4 specimens; Zinder Region, Gomba; 29.08.1981; leg H.E. Martin. – MHNG; 1 specimen; Zinder Region, Mirya; 29.09.1980; leg H.E. Martin. – MHNG; 2 specimens; Zinder Region, Zinder; collected Aug. 1981; leg H.E. Martin. – MNHN; 6 specimens; Diffa Region, N'Guigmi; collected Jul.-Aug. 1919; leg D. Noël. –

MNHN; 1 specimen; Maradi Region, Tibiri; collected Jul. 1910; leg R. Gaillard, Mission Tilho. – MFC; 1 specimen; Tillabéri Region, Kouré; collected Sept. 2002; leg P. Juhel.

**Bibliographic data for Niger:** Agadez, Monts Tarraouaji (Pic, 1950).

**Geographic distribution:** Burkina Faso, Chad, Eritrea, Ethiopia, Ghana, Guinea, Mauritania, Niger, Senegal, Somalia, Sudan (Bologna, 1990).

**Remark:** Egypt is excluded from the distribution of this species, since all examined specimens seen from this country belong to *Hycleus ocellatus* (Olivier, 1790), like a specimen from Cairo in the MHNG identified as *H. argentatus* by M. Magistretti.

#### *Hycleus chevrolati* (Beauregard, 1889)

**Specimens studied:** MHNG; 3 specimens; Dosso Region, Gaya; 02/09.09.1980; leg H.E. Martin.

**Geographic distribution:** Gambia, Ghana, Niger, Senegal (Kaszab, 1981b).

**Remark:** First citation for Niger. All records from eastern Africa actually belong to the closely similar species *Hycleus zavattarii* (Gridelli, 1939).

#### *Hycleus dubiosus* (Marseul, 1870)

**Specimens studied:** MHNG; 1 specimen; Zinder Region, Zinder; collected Aug. 1981; leg H.E. Martin.

**Geographic distribution:** D.R. Congo, Egypt, Eritrea, Ethiopia, Kenya, Mozambique, Niger, Rwanda, Somalia, Sudan, Tanzania, Uganda (Bologna, 1990).

**Remark:** This first record for Niger is unexpected for this species from East Africa.

*Hycleus fimbriatus* (Marseul, 1872)

**Specimens studied:** MHNG; 1 specimen; Tillabéri Region, Tillabéri; 25.09.1980; leg H.E. Martin. – MHNG; 5 specimens; Zinder Region, Zinder; collected Aug. 1981; leg H.E. Martin. – MNHN; 31 specimens; Diffa Region, N'Guigmi; collected Jul.-Aug. 1919; leg D. Noël. – MNHN; 13 specimens; Zinder Region, Dungass; collected Sept.-Oct. 2010; leg R. Gaillard, Mission Tilho.

**Bibliographic data for Niger:** Agadez, Dabaga (Pic, 1950).

**Geographic distribution:** Chad, Mauritania, Niger, Senegal, Sudan (Bologna, 1985).

**Remark:** A typical species from the Sahel region.

*Hycleus nigriplantis* (Klug, 1845)

**Specimens studied:** MHNG; 2 specimens; Zinder Region, Zinder; collected Aug. 1981; leg H.E. Martin. – MNHN; 2 specimens; Agadez Region, Arlit, Air Mountains; collected Sept. 1968; leg R. Villemain.

**Bibliographic data for Niger:** Agadez, Monts Tarraouaji (Pic, 1950).

**Geographic distribution:** Chad, Ethiopia, Israel, Mauritania, Niger, Saudi Arabia, Senegal, Somalia, Sudan, Yemen (Bologna & Turco, 2007).

**Remark:** Another species confined to the Sahelian ecoregion.

*Hycleus nubicus* (Marseul, 1872) **comb. nov.**

**Specimens studied:** MNHN; 1 specimen; Maradi Region, Tibiri; collected Jul. 1910; leg R. Gaillard, Mission Tilho.

**Bibliographic data for Niger:** Agadez, Dabaga, Tanout (Pardo-Alcaide, 1963b).

**Geographic distribution:** Mali, Mauritania, Niger, Senegal, Sudan (Bologna, 1985).

**Remark:** Another typical Sahelian species of this beetle family.

*Hycleus pallipes* (Olivier, 1811) **comb. nov.**

**Specimens studied:** MNHN; 17 specimens; Zinder Region, Dungass; collected Sept.-Oct. 2010; leg R. Gaillard, Mission Tilho.

**Geographic distribution:** Cameroon, Gambia, Mauritania, Niger, Senegal (Bologna, 1985).

**Remark:** This common Western African species was never recorded before from Niger.

*Hycleus senegalensis* (Voigts, 1902)

**Specimens studied:** MHNG; 1 specimen; Niamey Region, Niamey; collected Nov. 1956; leg Loups; det Z. Kaszab. – MHNG; 3 specimens; Niamey Region, Niamey; leg H.E. Martin. – MHNG; 1 specimen; Tillabéri Region, Tillabéri; 05.09.1980; leg P. Bouchard. MFC; – 2 specimens; Tillabéri Region, Kouré; collected Sept. 2002; leg P. Juhel.

**Specimens studied from Nigeria:** MHNG; 1 specimen; Yobe Region, Nguru; collected Nov. 1951, det Z. Kaszab.

**Bibliographic data for Niger:** Ile Boubou (Bologna, 1994).

**Geographic distribution:** Angola, Burkina Faso, Cameroon, D.R. Congo, Eritrea, Ethiopia, Gabon, Ghana, Ivory Coast, Mauritania, Niger, Nigeria, P.R. Congo, Senegal, Sierra Leone, Tanzania, Togo (Bologna, 1994).

**Remark:** The data from Eastern Africa need to be confirmed for this very common West-African species. Niger is here added to the distribution based on a specimen from the Yobe Region.

*Hycleus vicinalis* (Marseul, 1872) **comb. nov.**

**Specimens studied:** MNHN; 17 specimens; Zinder Region, Dungass; collected Sept.-Oct. 2010; leg R. Gaillard, Mission Tilho.

**Geographic distribution:** Chad, Niger, Sudan (Pardo-Alcaide, 1963a).

**Remark:** A little known species, probably often confused in collection with *H. affinis*. This new country record is the westernmost for the species.

*Nemognatha risbeci* Pic, 1951

**Specimens studied:** MNHN; 1 specimen; Zinder Region, Zinder; collected Jan. 1906; leg R. Chudeau.

**Specimens studied from Mali:** MNHN; 1 specimen; Kayes Region, Kayes; collected 1899; leg G. Massiou.

**Geographic distribution:** Gambia, Mali, Niger, Senegal (Kaszab, 1981a).

**Remark:** An uncommon species, new for both Niger and for Mali. This species seems to be restricted to the western part of the Sahelian ecoregion.

## CONCLUSION

Until now only 19 species of Meloidae were known from Niger (see citations in species treatments above). *Hycleus brunripes* must be withdrawn from Niger and Mauritania (Pardo-Alcaide, 1962) as its distribution is strictly Palearctic. Thirteen species are here added to this list, resulting in 31 species known to occur in Niger:

*Lydomorphus (L.) angusticollis* (Haag-Rutenberg, 1880)  
*Lydomorphus (L.) melanocephalus* (Fabricius, 1801)  
*Lydomorphus (L.) pilitarsis* (Kaszab, 1955)  
*Lydomorphus (Pardolydus) dusaulti* (Dufour, 1821)  
*Cyaneolytta airensis* Pic, 1950  
*Cyaneolytta chopardi* Pic, 1950  
*Cyaneolytta maculifrons* (Mäklin, 1875)  
*Cyaneolytta resplendens* (Laporte de Castelnau, 1840)  
*Epicauta fasciceps* (Walker, 1871)  
*Epicauta grandiceps* (Haag-Rutenberg, 1880)  
*Epicauta oculata* (Fabricius, 1792)  
*Psalydolytta jaloffa* (Laporte de Castelnau, 1840)  
*Psalydolytta leucophaea* (Mäklin, 1875)  
*Psalydolytta vestita* (Dufour, 1821)  
*Croscherichia fulgurita* (Reiche, 1865)  
*Hycleus abiadensis* (Marseul, 1870)  
*Hycleus adrarensis* (Pic, 1942)  
*Hycleus affinis* (Olivier, 1811)  
*Hycleus argentatus* (Fabricius, 1792)  
*Hycleus chevrolati* (Beauregard, 1889)  
*Hycleus dubiosus* (Marseul, 1870)  
*Hycleus fimbriatus* (Marseul, 1872)  
*Hycleus nigriplantis* (Klug, 1845)  
*Hycleus nubicus* (Marseul, 1872)  
*Hycleus pallipes* (Olivier, 1811)  
*Hycleus senegalensis* (Voigts, 1902)  
*Hycleus terminatus* (Illiger, 1800)  
*Hycleus vicinalis* (Marseul, 1872)  
*Horia fabriciana* Betrem, 1929  
*Synhoria nitida* Gahan, 1909  
*Nemognatha risbeci* Pic, 1951

This list is not definitive and some common species of the Sahelo-Sudanian zone have still not been collected in Niger: *Epicauta villosa*, *Lydomorphus (L.) kulzeri*, *Cyaneolytta deyrollei* or *C. fryi*. Two new species were also added for Mali (*Hycleus adrarensis* and *Nemognatha risbeci*), one for Chad (*Hycleus adrarensis*) and one for Nigeria (*Hycleus senegalensis*)

Most of the species have a Sahelo-Sudanian distribution, some from the West coast to the East coast of Africa [*Lydomorphus (Pardolydus) dusaulti*, *Epicauta fasciceps*, *Psalydolytta jaloffa*]; some are known from Western Africa only [*Lydomorphus (L.) melanocephalus*, *L. (L.) pilitarsis*, *Epicauta oculata*, *Psalydolytta leucophaea*, *P. vestita*, *Hycleus affinis*, *H. argentatus*, *H. chevrolati*, *H. pallipes*, *H. senegalensis*, *H. terminatus*, *Nemognatha risbeci*]. Another numerous group is that of species

restricted to the Sahelian region (*Hycleus adrarensis*, *H. fimbriatus*, *H. nubicus*); some of which occur in the central Sahel zone only (*Cyaneolytta airensis*, *C. chopardi*) and some in the eastern Sahelian zone (*Epicauta grandiceps*, *Hycleus abiadensis*, *H. vicinalis*). At last one is a Saharan species (*Croscherichia fulgurita*). Few species have a widespread distribution in most of Africa (*Cyaneolytta maculifrons*, *C. resplendens*, *Horia fabriciana*) or just in Eastern Africa (*Hycleus dubiosus*) or central Africa (*Synhoria nitida*), one species is a Sahelian species with an extension into the Arabian Peninsula (*H. nigriplantis*); one species has a peculiar distribution towards western India [*Lydomorphus (L.) angusticollis*]. Only one of these species is endemic, *Cyaneolytta chopardi* which is known only from the Air mountains, but the status of this species is doubtful.

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## REFERENCES

- Beauregard H. 1899. Notes synonymiques concernant la tribu des Vésicants. *Bulletin de la Société Entomologique de France*: 212-213.
- Betrem J. G. 1929. Over de systematiek der Horiini. *Tijdschrift voor Entomologie* 72, xxvi-xxix.
- Bologna M.A. 1985. Contributions à la connaissance des Meloidae (Coleoptera) de la Mauritanie. *Bulletin & Annales de la Société Royale Belge d'Entomologie* 121: 293-306.
- Bologna M.A. 1990. Faunistica e zoogeographa dei Meloidae (Coleoptera) della Somalia. *Biogeographia* 14: 293-401.
- Bologna M.A. 1994. The Coleoptera Meloidae of Sierra Leone. *Quaderni dell'Accademia nazionale dei Lincei* 247: 357-379.
- Bologna M.A. & Coco E.A. 1991. Revisione del genere *Croscherichia* Pardo Alcaide, 1950 (Coleoptera, Meloidae). *Memorie della Società Entomologica Italiana* 69: 97-180.
- Bologna M.A. & Turco F. 2007. The Meloidae (Coleoptera) of the United Arab Emirates with an updated Arabian checklist. *Zootaxa* 1625: 1-33.
- Dufour L. 1821. Description de six espèces d'insectes nouveaux. *Annales Générales des Sciences Physiques* 8: 358-361.
- Fabricius J. C. 1792. Entomologia systematica emendata et aucta secundum classes, ordines, genera, species adjectis synonymis, locis, observationibus, descriptionibus. Vol. 1. Part 2. C. G. Proft, Hafniae, pp. 1-538.
- Fabricius J. C. 1801. Systema Eleutheratorum. Vol. 2. *Bibliopolii Academici Novi, Kiliae*, pp. 1-687.
- Gahan M. A. 1909. Coleoptera, Part III. In: "Zoological Results of the Ruwenzori Expedition, 1905-1906". *Transactions of the Zoological Society of London* 19: 202-226.



- Garcia-Rollan M. 2012. Catálogo comentado de las especies de *Cyaneolytta* Péringuey, 1909 (Coleoptera, Meloidae) del Museo Nacional de Ciencias Naturales (Madrid, España) y clave de las especies del género. *Graellsia* 68: 237-248.
- Gridelli E. 1939. Coleoptera: Meloidae. In: Missione biológica nel Paese dei Borana. Vol. II. Raccolte zoologiche Parte I: 364-392. *Reale Accademia d'Italia. Centro di Studi per l'Africa Orientale Italiana, Roma*.
- Haag-Rutenberg J.G. 1880. Beiträge zur Kenntniss der Canthariden. *Deutsche Entomologische Zeitschrift* 24: 17-90.
- Kaszab Z. 1953. Revision der Meloiden-Gattung *Cyaneolytta* Pér. (Col.). *Annales historico-naturales Musei nationalis hungarici* 45: 81-93.
- Kaszab Z. 1955. Die Arten der Meloiden-Gattung *Cylindrothorax* Escher. (Coleoptera). *Annales historico-naturales Musei nationalis hungarici* 47: 225-258.
- Kaszab Z. 1981a. Meloidae (Coleoptera) aus Gambia und Senegal. *Entomologica Scandinavica* 12: 118-122.
- Kaszab Z. 1981b. Faunistische und taxonomische Studien über Meloiden (Coleoptera). *Annales historico-naturales Musei Nationalis Hungarici* 73: 159-185.
- Illiger J.K.W. 1800. Vierzig neue Insekten aus der Hellwigschen Sammlung in Braunschweig. *Archiv für Zoologie und Zootomie (Wiedemann)* 2: 103-150.
- Klug J.C.F. 1845. Insecta, pp. 1-24. In: Ehrenberg C.G 1829-1845. *Symbolae Physicae seu icones et descriptiones Insectorum que ex itinere per Africam borealem et Asiam occidentalem Fridericii Guilelmi Hemprich et Christiani Godofredi Ehrenberg medicinae et chirurgiae doctorum studio nova autillustate redierunt. Ex Officina Academica, Berolini*.
- Laporte de Castelnau F. de 1840. Histoire Naturelle des Insectes Coléoptères. Tome Deuxième. *F. Duménil, Paris*, pp. 1-564.
- Mäklin F.W. 1875. Neue Canthariden beschreiben. *Acta Societas Scientiarum Fennica* 10: 559-632.
- Marseul S.A. de 1870. Monographie des Mylabrides d'Europe et des contrées limitrophes en Afrique et en Asie. *L'Abeille* 7: 1-204.
- Marseul S.A. de 1872. Monographie des Mylabrides. *Mémoires de la Société royale des Sciences de Liège*: 363-662.
- Olivier G.A. 1790. Encyclopédie Méthodique - Histoire Naturelle. Insectes, volume 5: 394-397. *Panckoucke, Imprimeur-Libraire, Paris*.
- Olivier G.A. 1811. Encyclopédie Méthodique - Histoire Naturelle. Insectes, volume 8: 656-670. *H. Agasse, Imprimeur-Libraire, Paris*.
- Pardo Alcaide A. 1962. Etudes sur les Meloidae XV. Sur deux *Mylabris* du Maroc méridional saharien. *Bulletin de la Société de Sciences naturelles et physiques du Maroc* 42: 215-220.
- Pardo Alcaide A. 1963a. Coléoptères Méloïdes récoltés par M.J. Mateu dans l'Ennedi et au Tchad (Etudes sur les Meloidae. XII.). *Bulletin de l'I.F.A.N.* 25: 572-588.
- Pardo Alcaide A. 1963b. Etudes sur les Meloidae (Col.) XVI. Sur quelques *Mylabris* Fabricius des collections de l'IFAN. *Bulletin de l'I.F.A.N.* 25: 697-709.
- Pardo Alcaide A. 1968. Etudes sur les Méloïdae XX. Sur le genre *Gorizia* Pardo et une nouvelle espèce soudanaise du groupe de *brunnipes* (Klug). *EOS, Revista Española de Entomologia* 43: 623-629.
- Pic M. 1942. Coléoptères nouveaux de l'Adrar des Iforas. *Bulletin de la Société Entomologique de France* 47: 77-79.
- Pic M. 1950. Contribution à l'étude de l'Aïr (Mission L. Chopard et A. Villiers). Coléoptères Malacodermoidea et Heteromeroidea. *Mémoires de l'I.F.A.N.* 10: 145-153.
- Reiche L.J. 1865. Etude des espèces de Mylabrides de la collection Reiche, suivie d'une note sur le genre *Trigonurus* Mulsant et description d'une espèce nouvelle. *Annales de la Société Entomologique de France* 4: 627-642.
- Selander R.B. 1988a. An annotated catalog and summary of bionomics of blister beetles of the genus *Cylindrothorax* (Coleoptera, Meloidae). *Transactions of the American Entomological Society* 114: 15-70.
- Selander R.B. 1988b. An annotated catalog and summary of bionomics of blister beetles of the genus *Psalydolytta* (Coleoptera, Meloidae). *Insecta Mundi* 2: 1-15.
- Voigts H. 1902. Zur Synonymie der Meloiden-Gattung *Zonabris*. *Wiener Entomologische Zeitung* 21: 177-178.
- Walker F. 1871. List of the Coleoptera collected by J.K. Lord Esq. in Egypt, Arabia and near the African shore of the Red Sea. With characters of the undescribed species. *E.W. Janson, London*, pp. 1-19.
- Zimmermann M. 1909. Retour de la mission Tilho. Délimitation du Niger au Tchad. *Annales de Géographie* 18: 190-191.