

Faunitaxys

*Revue de Faunistique, Taxonomie et Systématique
morphologique et moléculaire*



Volume 6
Numéro 11

Septembre 2018

ISSN: 2269 - 6016
Dépôt légal: Septembre 2018

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*Revue de Faunistique, Taxonomie et Systématique
morphologique et moléculaire*

ZooBank : <http://zoobank.org/79A36B2E-F645-4F9A-AE2B-ED32CE6771CC>

Directeur de la publication, rédacteur, conception graphique et PAO:

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Elle est disponible librement au téléchargement à partir du site:

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La parution de *Faunitaxys* est apériodique

Impression

SARL SPEED COPIE, 6, rue Tréfilerie, F- 42100 Saint-Etienne

speedcopie@wanadoo.fr

Imprimé le 10 septembre 2018

Aspidimorpha (Afroaspidimorpha) rainoni, a new species from Benin (Coleoptera, Chrysomelidae, Cassidinae)

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Keywords:

Coleoptera ; Africa ;
Chrysomelidae ; Benin ;
Cassidinae ; new species.
Aspidimorphini ;

Abstract. – A new species *Aspidimorpha rainoni* is described from Benin, western Africa. It belongs to the subgenus *Afroaspidimorpha* Borowiec, 1997 which comprised hitherto 12 species. At first glance the new species is similar to the *Aspidimorpha areata* (Klug, 1835) widely distributed in Africa but differs in details of dorsal pattern and rounded pronotal corners.

Borowiec L. & Coache A., 2018. – *Aspidimorpha (Afroaspidimorpha) rainoni*, a new species from Benin (Coleoptera, Chrysomelidae, Cassidinae). *Faunitaxys*, 6(11) : 1 – 5.

ZooBank : <http://zoobank.org/References/527321CE-C9A6-41A8-A084-722A674F6F11>

Introduction

The large and heterogenous genus *Aspidimorpha* Hope, 1840 comprises 199 species divided into 10 subgenera distributed in tropical and subtropical parts of the Old World (Borowiec 1999, Borowiec and Świętojańska 2017). African and Australopapuan species were revised recently by Borowiec (1992, 1997), Oriental species by Świętojańska (2001), and Madagascan species by Borowiec and Świętojańska (2011). After these revisions Świętojańska and Borowiec (2002) restored *Aspidimorpha* (s. str.) *kilimana* Weise, 1903 from synonyms of *A.* (s. str.) *mrogorensis* Weise (1899), Borowiec (2006) described *Aspidimorpha (Spaethia) zambiana* from Zambia, Świętojańska and Borowiec (2006) described *Aspidimorpha* (s. str.) *tibetana* from southern China, Borowiec & Sekerka (2010) described *Aspidimorpha* (s. str.) *karamojana* from Uganda, and Świętojańska and Borowiec (2013) described *Aspidimorpha* (s. str.) *sumbavaensis* from Indonesia (Sumbava Island). African fauna is the most speciose with 135 described species, 93 of them belong to the nominotypical subgenus, 42 are divided into 7 endemic subgenera. One of the endemic subgenus is *Afroaspidimorpha* Borowiec, 1997 with 12 described species, 10 of them endemic to Africa south of Sahara and two endemic to Madagascar. Afrotropical species of *Afroaspidimorpha* have usually limited range of distribution but two species *A. nigromaculata* (Herbst, 1899) and *A. areata* (Klug, 1835) belong to the most widespread species and were recorded from all regions south of Sahara (Borowiec 1997).

In materials studied recently we found a series of a new species of the subgenus *Afroaspidimorpha* collected in Benin. Its description is given below.

Material and methods

The following abbreviations for collections and descriptions were used in the text:

- **AC**: coll. Alain Coache, La Brillanne, France.
- **BR**: coll. Bernard Rainon, Chassagny, France.
- **DBET**: Department of Biodiversity and Evolutionary Taxonomy, University of Wrocław, Wrocław, Poland.
- **MHNL**: Musée d'Histoire Naturelle de Lyon, France.

The photos 1-8 were taken by Lech Borowiec using a Nikon SMZ 1500 stereomicroscope and Helicon Focus software.

The photos 12-19 were taken by Django Maurel using a Canon 600D [Schneider kreuznach Componon S 50mm, ISO-100, f2.8, 1/13 sec], 4 daylight LED diffused with a homemade plastic diffuser. Studio work, stacking based on around 80 images for each picture, assembled using ZereneStacker (Pmax & Dmap). Post production using Adobe Photoshop CS6 and LR 5.6.

All given label data are in original spelling; a vertical bar (|) separates data on different rows.

Aspidimorpha (Afroaspidimorpha) rainoni n. sp.

(Fig. 1-5, 7-9 & 11-20)

ZooBank : <http://zoobank.org/94FECB39-6E6F-4795-890E-F452C8C465C3>

Etymology. – Dedicated to Bernard Rainon who collected a long series of this species.

Type material

- Holotype: AFRIQUE DE L'OUEST | BENIN ZA KPOTA | ALLAHE | 02 XII 2017 | LEG. BERNARD RAINON (MHNL), 7°09'57.59"N - 2°16'21.60"E - 33 m.
- 19 paratypes: the same data as holotype, leg. BR (AC, BR, DBET)
- 3 paratypes: mowing, idem holotype, 23 V 2018, leg. BR and AC (AC, BR)
- 12 paratypes: mowing, idem holotype, 30 V 2018, leg. AC (AC)
- 1 paratype: U.V. lighth trap, idem holotype, 31 V 2018, leg. AC (AC)
- 22 paratypes: mowing, idem holotype, 09 VI 2018, leg. AC (AC, BR)

- 4 paratypes: mowing, idem holotype, 10 VI 2018, leg. AC (AC)
- 5 paratypes: mowing, idem holotype, 03 VII 2018, leg. AC (AC)
- 1 paratype: SE BENIN, Zangnanado | Ouémé riv. | 15 IV 2001 (DBET).

Diagnosis. – A member of the subgenus *Afroaspidimorpha* Borowiec, 1997. At first glance it is similar only to maculate form of *A. areata* (Klug, 1835). Both have characteristic elytral pattern with four large pale spots on black background (Fig. 1-6). *A. rainoni* n. sp. differs in pronotum immaculate or with two indistinct brown spots of diffused borders on on sides of pronotal disc close to base (Fig. 1, 3-5) while maculate form of *A. areata* usually has four, round black spots across pronotal disc, only occasionally two median spots are reduced (Fig. 6). General background colour of pale parts of dorsum in *A. areata* is orange-reddish (Fig. 6) while in *A. rainoni* n. sp. this background is yellow or only pronotal disc and basal part of marginal interval of elytra is yellowish-red to red (Fig. 1-5). Black pattern at base of elytra in *A. rainoni* n. sp. close to scutellum always reach anterior margin of elytra while in *A. areata* basal margin of elytral disc is always pale. Pronotal sides are in *A. rainoni* n. sp. narrowly rounded while in *A. areata* they are distinctly angulate.

Description

Measurements

- length 5.45-6.65 mm
- width 3.75-4.30 mm
- length of pronotum 2.10-2.25 mm
- width of pronotum 3.10-3.55 mm
- length/width ratio 1.39-1.55
- width of pronotum/length of pronotum ratio 1.48-1.62
- Body oval, male slightly stouter than female.

Dorsal pattern little variable. – In holotype *pronotal disc* reddish with two reddish brown, indistinct spots of diffused borders close to basal corners. *Explanate margin* of pronotum yellow. *Scutellum* yellow. *Elytral disc* with black background, except marginal interval which is anterior 2/3 length reddish and posterior 1/3 length yellow, yellow extreme apex of disc, and four large, yellow, round spots, two in anterior half of disc and two posteriorly (Fig. 1).

– In paratypes *general scheme* of pattern is as in holotype but colour of pronotal disc form uniformly yellow (Fig. 3) to reddish with more distinct brownish patches close to basal corners (Fig. 4); *Marginal interval* of elytra from uniformly yellow to reddish only in 1/3-1/2 length; yellow spots on disc as in holotype (Fig. 3-4) or anterior pair of spots small with irregular shape and posterior pair of spots small, round but with diameter smaller than black band across middle of disc (Fig. 5). In all specimens black colour at least close to anterior corners of scutellum reach anterior margin of elytron.

Ventrites. – In holotype head black, only clypeal triangle with median yellow spot, labrum yellow. *Thorax* mostly black, only lateral plates partly yellowish brown. *Abdomen* black centrally, broadly surrounded by yellow. *Coxa* black. *Trochanters* yellow. *Femora* brownish-black in basal half, yellow apically. *Tibiae* and *tarsi* yellow. *Antennal segments* 1-7 yellow, 8-11 brownish yellow.

– In some paratypes *clypeus* completely black, or *clypeal plate* mostly yellowish-brown, *lateral plates of thorax* completely yellow or only slightly infuscate and *antennae* completely yellow (Fig. 8) or *segments* 8-11 yellow dorsally and infuscate ventrally.

Pronotum. – Elliptical, widest in the middle, sides narrowly rounded (Fig. 1, 3-5). *Disc* only slightly convex, its surface smooth and shiny. *Explanate margin* horizontal, smooth and shiny.

Elytra. – *Base* slightly as wide as with small excavation between base of pronotum and base of elytra, humeri slightly protruding anterad, rounded. *Disc* of elytra evenly convex in profile, without impressions or gibbositities (Fig. 2). *Elytral punctation* fine, on sides slightly coarser than in *sutural rows*, punctures in rows sparse with

interspaces from as wide as to three thrice wider than puncture diameter. *Rows* on sides of disc not impressed. *Marginal row* well marked on whole length, its punctures twice coarser than in submarginal row. *Intervals* broad, four to five times wider than rows. *Surface* on whole disc regular and shiny, no lateral folds. *Explanate margin* in widest part 0.4 times as wide as disc of elytron, distinctly declivous, its surface regular, impunctate. *Epileura* unpubescent.

Head. – *Antennae* moderately long, as long as half-length of elytra, length ratio of antennal segments: 100 : 56 : 70 : 65 : 59 : 47 : 56 : 56 : 59 : 65 : 130, segment 3 approximately 1.25 times as long as segment 2 (Fig. 8). *Clypeus* broad, 1.5 times as wide as long, with deep clypeal grooves converging in triangle; clypeal plate slightly convex, microreticulate, with several setose punctures (Fig. 7). *Labrum* with very small and narrow median emargination extending to 1/7 length of labrum.

Prosternum. – Expanded part of prosternal process in the middle with large pit. Claws on inner margin with very short pecten of 3-4 teeth only slightly extending behind inner margin of claw, the first tooth the largest, the following teeth gradually smaller, on outer margin pecten obsolete.

Distribution. – Western Africa, Benin. Both localities where type series was collected are placed in the Zou Department, approximately 98 km north of the border of Guinea Gulf.

Acknowledgements

We would like to thank very much Bernard Rainon who sent us material from Benin to study and Django Maurel for the very high quality of his photos.

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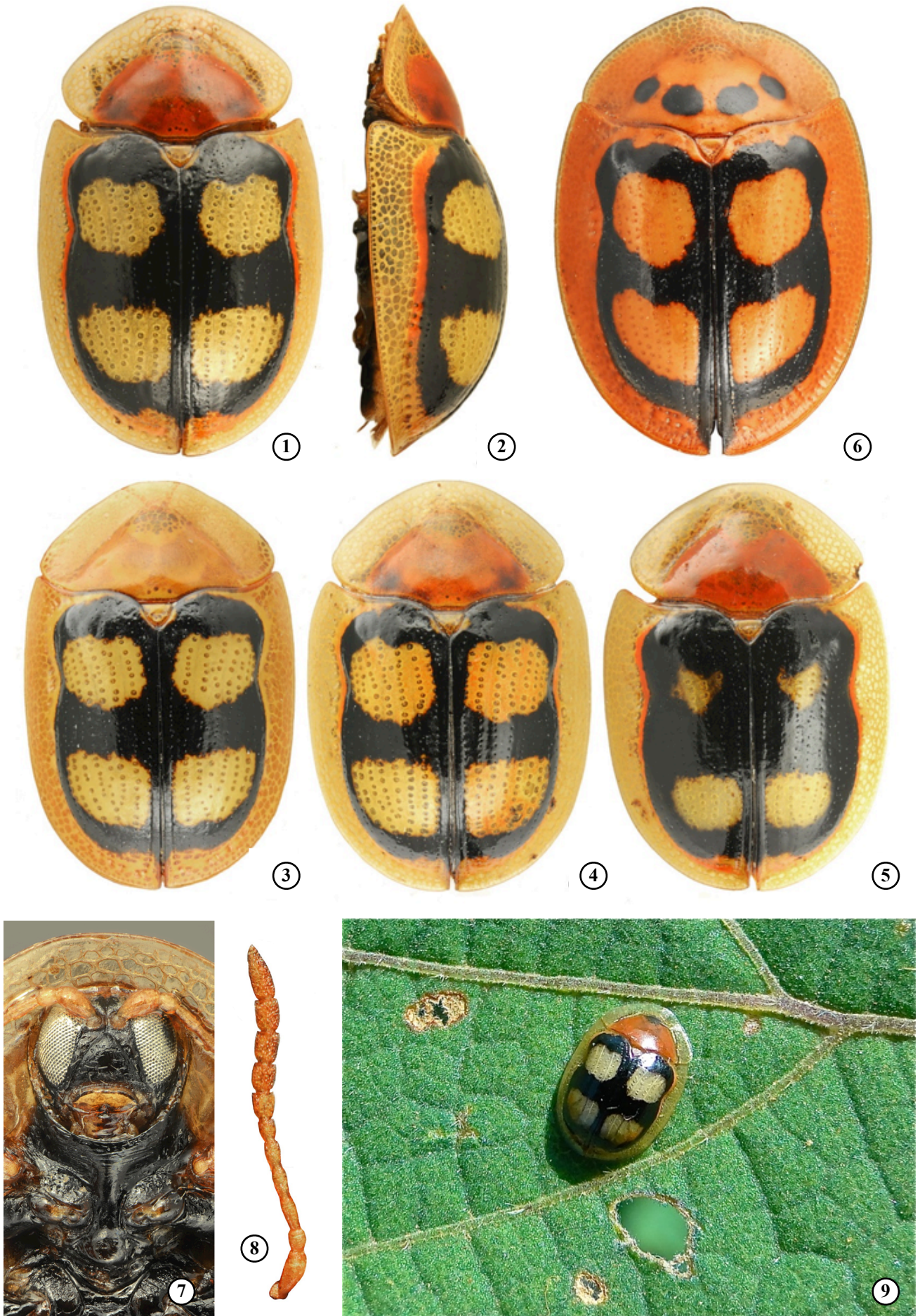


Fig. 1-5 & 7-9. - *Aspidimorpha rainoni* n. sp. - 1 : Holotype dorsal. - 2 : Holotype lateral. - 3-5 : Paratypes dorsal. - 7 : Head and prosternum. - 8 : Antenna. - 9 : *In situ*, Za-Kpota, forest of Allahé, Benin (24 05 2018).

Fig. 6. - *Aspidimorpha areata* (Klug) dorsal, specimen from South Africa, Zoutansberg.

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Résumé

Borowiec L. & Coache A., 2018. – *Aspidimorpha (Afroaspidimorpha) rainoni*, une nouvelle espèce du Bénin (Coleoptera, Chrysomelidae, Cassidinae). *Faunitaxys*, 6(11) : 1 – 5.

Une nouvelle espèce, *Aspidimorpha rainoni*, est décrite du Bénin (Afrique de l'Ouest). Elle appartient au sous-genre *Afroaspidimorpha* Borowiec, 1997 qui comptait jusqu'ici 12 espèces. A première vue, la nouvelle espèce est semblable à *Aspidimorpha areata* (Klug, 1835), largement répandue en Afrique, mais diffère par des détails de forme face dorsale, en particulier au niveau du pronotum.

Mots-clés. – Chrysomelidae, Cassidinae, Aspidimorphini, Afrique, Bénin, nouvelle espèce.



Fig. 10-11. - Za-Kpota, forest of Allahé, Benin, 24 05 2018, type locality of *Aspidimorpha rainoni* n. sp. (Fig. 11). Bernard Rainon in the center of the photo.



Fig. 12-20. - *Aspidimorpha rainoni* n. sp., paratypes.

- 12-19 : Dorsal and lateral views.

- 20 : *In situ*, UV light trap, Za-Kpota, forest of Allahé, Benin (30 05 2018).

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Illustration de la couverture: Za-Kpota, forêt d'Allahé, Bénin, localité type d'*Aspidimorpha rainoni* n. sp.

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