Three new species of the genus *Dorynota* sgen. *Akantaka*MAULIK, 1916 from Bolivia and Brazil (Coleoptera: Chrysomelidae: Cassidinae: Dorynotini)

LECH BOROWIEC

Department of Biodiversity and Evolutionary Taxonomy, Zoological Institute, University of Wrocław, Przybyszewskiego 63/77, 51-148 Wrocław, Poland, e-mail: cassidae@biol.uni.wroc.pl

ABSTRACT. Three new species of the subgenus Akantaka are described: Dorynota boliviana (Bolivia: Carnavai), Dorynota matogrossoensis (Brazil: Mato Grosso), and Dorynota viridimetallica (Bolivia: Pando and Brazil: Rondonia). A key to the subgenus Akantaka is given.

Key words: entomology, taxonomy, new species, Coleoptera, Chrysomelidae, Cassidinae, Dorynotini, *Akantaka*, Brazil, Bolivia.

The genus *Dorynota* Chevrolat, 1837 comprises 35 species divided into two subgenera: *Dorynota* s. str. with 16 described species and *Akantaka* Maulik, 1916 with 19 species (Borowiec 1999, Borowiec & Świętojańska 2004). *Akantaka* had been proposed as genus (Maulik 1916) but this point of view was presented later only by Monros and Viana (1949). Spaeth (1923) reduced *Akantaka* Maul. to the subgenus of *Dorynota* Chevr. and in recent classifications and catalogues (Hincks 1952, Seeno and Wilcox 1982, Borowiec 1999, Borowiec & Świętojańska 2004) his concept of *Akantaka* Maulik. has been accepted.

Spaeth (1923) in a key form divided *Dorynota* into two subgenera and four groups outside the subgenera. Borowiec (1999) and Borowiec & Świętojańska (2004) placed all species classified by Spaeth (1923) in four independent groups within the nominotypical subgenus.

Spaeth (1923) in a key form divided *Akantaka* into 6 groups and placed four species as incertae sedis. Thus, the subgenus *Akantaka* now comprises 19 nominal

species, the status of three of them is still ambiguous. No species of the subgenus *Akantaka* has been described after the Spaeth's (1923) paper.

In materials studied recently I have found specimens representing three new species of the subgenus *Akantaka*. Their description is given below. A key to the subgenus *Akantaka* is given.

Dorynota (Akantaka) matogrossoensis n. sp.

ETYMOLOGY

Named after its terra typica, Mato Grosso Province in Brazil.

DIAGNOSIS

It belongs to the group of species with ground colour of pronotum and elytra red, yellow-red or yellow. Apart from D. matogrossoensis the group comprises also Dorynota (Akantaka) aeneocincta (Spaeth, 1913), D. (A.) insidiosa (Boheman, 1854), D. (A.) peregrina (Boheman, 1862), D. (A.) viridisignata (Boheman, 1854), and D. (A.) truncata (FABRICIUS, 1781). D. (A.) insidiosa and D. (A.) truncata differ in black ventrites, while D. (A.) aeneocincta, D. (A.) peregrina, D. (A.) viridisignata and D. (A.) matogrossoensis have ventrites mostly or completely yellow or yellowish-brown. D. (A.) peregrina differs in blood red ground colour of elytra (as in D. truncata) and large size with length c. 13 mm, while D. (A.) aeneocincta, D. (A.) viridisignata and D. (A.) matogrossoensis have ground colour of elytra yellow, yellowish-red or yellowish-brown and body length below 12.2 mm. D. (A.) aeneocincta is the smallest species, with body length below 9.8 mm, while D. (A.) viridisignata and D. (A.) matogrossoensis are larger, with body length 10.5-12.1 mm. D. (A.) aeneocincta differs also in the darkest, yellowish-brown, ground colour of elytra while in D. (A.) viridisignata the ground colour is usually yellowish-red and in D. (A.) matogrossoensis yellow. D. (A.) viridisignata and D. (A.) matogrossoensis are very similar and partly sympatric, differ mostly in body shape and sculpture of elytral disc behind elytral tubercle. In D. (A.) viridisignata elytra are strongly converging posterad, margins behind humeral angle more or less emarginate thus humeri appear narrower and more protruding laterally than in D. (A.) matogrossoensis, and elytral sculpture behind tubercle is distinct, with at least first and second interval more or less costate, sometimes whole area behind tubercle appears reticulate while in D. (A.) matogrossoensis elytra are moderately converging posterad, margins behind humeral angle only slightly emarginate thus humeri appear broader and less protruding laterally than in D. (A.) viridisignata. Elytral sculpture behind tubercle in D. (A.) viridisignata is indistinct, intervals not costate, only slightly convex, area behind tubercle appears almost regular.

DESCRIPTION

Length: 12.1 mm, width: 12.0 mm, length of pronotum: 3.5 mm, width of pronotum: 6.1 mm, length/width ratio: 0.99, pronotum width/length ratio: 1.74.

Ground colour of pronotum yellow, disc slightly darker, yellowish-brown, explanate margin paler, yellow. Sides of disc with brown spot of vanished border. Base of pronotum narrowly black. Scutellum yellow. Ground colour of elytra yellow, lateral margin black, in anterior half and posterior fourth only margin black, behind the middle black colour slightly encroached on surface of explanate margin of elytra. Suture on whole length black, costa of elytral tubercle on the top of the tubercle and on sides black, in the middle brown. Each disc of elytron with small black spots, the largest occupies humeral callus, submarginal interval slightly behind humeral callus, posterolateral part of disc close to submarginal interval, and area in 3/4 length of disc close to suture. Each puncture with transparent or brown to black areola. Some punctures in central part of disc with black areola larger than in other part of disc, areolae partly connected, form small irregular patches. Yellow part of explanate margin of elytra with few coarse punctures surrounded by black areola, some punctures group in 3-4 together and form small dark patches, in the holotype each explanate margin with 10 dark spots, 8 small of single puncture with areola, and 2 larger of joined 3-4 punctures. Ventrites almost uniformly vellow, only external carina along fore tibia with dark brown line and base of clypeus yellowish brown. Basal five antennal segments vellow, remainder black.

Pronotum broad, width/length ratio 1.74. Anterior margin in the middle almost straight, above head slightly bisinuate, on sides moderately convex, maximum width of pronotum distinctly before the middle. Disc indistinctly bordered from explanate margin, moderately convex, on each side in anterolateral part with a small pit. Surface dull, microreticulate, with very small and sparse puncturation and very sparse, extremely short adherent hair. Basal lobe with two shallow impressions. Explanate margins narrow, dull, impuncate, only close to anterior corners form a very shallow gutter. Scutellum pentagonal, shallowly impressed. Elytra broad, humeral lobes broad, its anterior margin slightly convex thus humeral angles protruding distinctly laterally (Fig. 1). Lateral margin of elytra behind the humeral angle only shallowly emarginate then elytra moderately converging posterad. Elytral tubercle high, with sharp costa (Fig. 2). Puncturation of disc irregular, only marginal and submarginal, and partly sutural row regular. Punctures moderately coarse, placed in shallow hollow and appear coarser than in reality, this impression is enhanced by dark areola around puncture. Only first interval in anterior half and second interval in short distance in anterior third slightly convex, thus surface of elytra behind elytral tubercle appears almost completely regular. Disc in posterolateral part very shallowly impressed. Interspaces slightly dull, microreticulate, mostly bare, only in posthumeral area with very sparse and extremely short adherent hair. Punctures in marginal row distinctly coarser than in central part of disc. Explanate margin of elytra with punctures as coarse as but distinctly denser than in central part of disc, but punctures appear smaller than on disc due to distinctly smaller transparent areolae.

Ventrites with no diagnostic characters. Antennae long, laterally extending to humeral angle, five basal segments smooth and glabrous, six distal ones pubescent and dull. Length ratio of antennal segments: 100:40:33:40:47:130:110:93:100:110:160. Segment 5 slightly longer than 4, but both segments 4 and 5 shorter than half length of segment 6. Segment 10 approximately 2.4 times as long as wide, segment 11 approximately 3.3 times as long as wide.

Type material

Holotype female: "Brazil: Mato Grosso, Diamantino, Facienda Sao Joao, 450 m, 7 II 1981" (preserved at the Department of Biodiversity and Evolutionary Taxonomy, Wrocław University, Wrocław, Poland).

Dorynota (Akantaka) boliviana n. sp.

ETYMOLOGY

Named after its terra typica, Bolivia.

DIAGNOSIS

Dorsal colouration of Dorynota (A.) boliviana is unique and it has no close relatives. The pattern with a pale spot along humeral costa and a spot in the middle of explanate margin has only D. (A.) sexplagiata (WAGENER, 1881) but it differs in the posterior half of explanate margin without red bands (in D. boliviana there is an elongate band along the posterior fourth of marginal row) and discal pattern forming a large oval spot in anterior 1/2-2/3 length of each disc (in D. boliviana whole elytral disc has red reticulation). The fine red reticulation of elytral disc differentiates D. boliviana from all species of the subgenus Akantaka, only pale specimens of D. (A.) funesta (BOHEMAN, 1854) and D. (A.) incapablis (SPAETH, 1923) have elytral disc mostly reticulate red but D. (A.) funesta differs in explanate margin of elytra with 5-6 transverse, radial red bands, black spots on disc are large thus red discal reticulation forms a net of large eyes, and pronotum mostly black (reddish-brown in D. boliviana), and D. (A.) incapablis differs in explanate margin of elytra mostly reticulate red, while in D. boliviana explanate margin of elytra possesses a red, transverse band along humeral costa, oval spot in the middle, and narrow band along posterior fourth of marginal row of punctures. In D. (A.) incapablis pronotum is mostly black while in D. (A.) boliviana it is uniformly reddish-brown. Both D. (A.) funesta and D. (A.) incapablis differ in body shape since they belong to the species with broad body, elytra not emarginate behind humeral angle with sides moderately converging posterad, while D. (A.) boliviana belongs to the species with moderately broad body, elytral sides distinctly emarginate behind humeral angle then elytral sides strongly converging posterad.

DESCRIPTION

Length: 14.9 mm, width: 14.8 mm, length of pronotum: 4.1 mm, width of pronotum: 6.9 mm, length/width ratio: 1.01, pronotum width/length ratio: 1.68.

Ground colour of pronotum reddish, disc on sides slightly darker, yellowishbrown. Base of pronotum narrowly blackened. Scutellum reddish with dark margins. Ground colour of elytra black. Suture black except anterior sutural part of elytral tubercle. Each disc with dark red, convex reticulation. On most part of disc dark eye of net is composed of puncture and its black areola, only behind elytral tubercle eyes of net are larger, composed of joined 2-10 punctures and their areolae. Red are also: convex line surrounding postscutellar impression, fold running along anterior slope of elytral tubercle beginning near elevated spot close to anterior corner of scutellum and ending close to the top of the elytral tubercle, whole marginal interval, and extreme apex of disc. Explanate margin black, with indistinct green metallic tint and three red spots. First spot runs along humeral costa and extends almost to humeral angle; 2/3 width of the spot occupies area before the costa, 1/3 behind the costa. Costa mostly red, in basal part on short distance with black stripe. Second spot occupies almost whole width of explanate margin slightly before the middle of elytra. It is oval in shape, with well defined borders, close to anterior margin marked with 2-3 black punctures, bordered from lateral margin of elytra only by black marginal edge. Third spot forms narrow band along posterior third of marginal row. The band occupies slightly more than internal half width of explanate margin. Ventrites mostly black, only clypeus and anterior surface of fore legs, and fore tarsi yellow-brown. Antennae black, only spherical base of first segment yellow.

Pronotum broad, width/length ratio 1.68. Anterior margin ialmost regularly, moderately convex, only part above head slightly expanded, shallowly emarginate apically, maximum width of pronotum distinctly before the middle. Disc indistinctly bordered from explanate margin, moderately convex, on sides with shallow impression. Surface dull, microreticulate, with extremely small and sparse puncturation and very sparse, very short semierect hair. Basal lobe with deep transverse sulcus. Explanate margins narrow, dull, with extremely small and shallow puncturation, and very short semierect hair, do not form a gutter. Scutellum pentagonal, deeply impressed. Elytra moderately broad, humeral lobes moderately broad, its anterior margin slightly convex thus humeral angles protruding distinctly laterally (Fig. 3). Lateral margin of elytra behind the humeral angle shallowly but broadly emarginate then elytra distinctly converging posterad. Elytral tubercle high, with sharp costa (Fig. 4). Puncturation of disc irregular, only marginal and submarginal, and sutural row mostly regular. Punctures coarse, placed in deep hollow, dense, distance bewteen punctures mostly narrower than puncture diameter. Only first interval distinct, convex, slightly zigzag, second interval completely vanished within red reticulation. Disc without impressions, except postscutellar one. Interspaces slightly dull, microreticulate, whole surface covered with short, sparse, erect and semierect hair. Punctures in marginal row distinctly coarser than in central part of disc. Explanate margin of elytra with heterogenous puncturation. Primary puncturation distinctly finer and sparser than puncturation on disc, on dark part of the explanate margin sparser than on red spots, with distance between punctures partly distinctly wider than puncture



1-2. Dorynota matogrossoensis: 1 – dorsal, 2 – lateral; 3-4. Dorynota boliviana: 3 – dorsal, 4 – lateral



5-7. $Dorynota\ viridimetallica$: 5 – male dorsal, 6 – female dorsal, 7 – female lateral

diameter. Between primary puncturation there are sparse coarse punctures, on red central spot these coarse punctures are more numerous than in dark parts of the explanate margin.

Ventrites with no diagnostic characters. Antennae long, laterally extending to humeral angle, five basal segments smooth and glabrous, six distal ones pubescent and dull. Length ratio of antennal segments: 100:46:39:54:82:168:143:118:136:143:214. Segment 5 distinctly longer than 4, only slightly shorter than half length of segment 6. Segment 10 approximately 2.7 times as long as wide, segment 11 approximately 4.0 times as long as wide.

Type material

Holotype female: "BOLIVIA, Carnavai prov., La Paz dp., X 2000, C. Tello" (preserved at the P.I.M.E. Entomological Museum, Monza, Italy).

Dorynota (Akantaka) viridimetallica n. sp.

ETYMOLOGY

Named after its metallic green elytra.

Diagnosis

Dorsal colouration of *Dorynota* (A.) *viridimetallica* with distinct metallic green ground colour and reticulate red spot on explanate margin of elytra is quite unique in the subgenus *Akantaka*, only nominotypical form of *D*. (A.) *kiesenwetteri* (Boheman, 1854) has similar combination of characters but it differs distinctly in body shape. *D*. (A.) *viridimetallica* belongs to the species with broad body, elytra not emarginate behind humeral angle with sides moderately converging posterad, while *D*. (A.) *kiesenwetteri* belongs to the species with moderately broad body, elytral sides distinctly emarginate behind humeral angle then elytral sides strongly converging posterad.

DESCRIPTION

Length: male 12.6-14.4, female 14.5 mm, width: male 12.1-14.0, female 13.4 mm, length of pronotum: male 3.5-4.1 mm, female 4.1 mm, width of pronotum: male 6.5-7.5 mm, female 7.3 mm, length/width ratio: male 1.03-1.07, female 1.08, pronotum width/length ratio: male 1.81-1.89, female 1.78.

Ground colour of pronotum brownish-black to black, only anterior margin narrowly yellow. In female paratype along middle of pronotum runs narrow reddish line interrupted in the middle by black, also border between disc and explanate margin marked with reddish line. Scutellum yellow. Ground colour of elytra metallic green. Disc without pale markings, explanate margin in mid part of ventral surface with red, slightly convex reticulation. In males the red reticulate spot is simple, in female divided into five separate spots, first very small, second the largest, three remaining in form of a simple red patch. Ventrites mostly black,

only clypeus partly yellowish-brown, sides of abdominal sternites with small reddish spot or transverse stripe, and ventral side of antennal segments 1-5 yellowish to brown.

Pronotum broad, width/length ratio 1.78-1.89, in male pronotum slightly wider than in female. Anterior margin regularly moderately convex, in the middle very shallowly emarginate, in area above head without lobe, maximum width of pronotum distinctly before the middle. Disc not bordered from explanate margin, moderately convex, without impressions or pits, only sides shallowly impressed. Surface dull, microreticulate, with extremely small and sparse puncturation and very sparse, short semierect hair. Basal lobe with transverse sulcus. Explanate margins narrow, dull, impuncate, do not form a gutter, with pubescence as on disc. Scutellum pentagonal, shallowly to deeply impressed. Elytra broad, humeral lobes broad, its anterior margin in female slightly convex thus humeral angles protruding distinctly laterally (Fig. 5), in male straight thus humeral angles protruding distinctly anterad (Fig. 6). Lateral margin of elytra behind the humeral angle not emarginate, elytra moderately converging posterad. Elytral tubercle high, with sharp costa (Fig. 7). Puncturation of disc irregular, only marginal and submarginal, and partly sutural row regular. Punctures coarse, placed in deep hollows, distance between punctures narrower than puncture diameter. Disc without impressions, except postscutellar one. Intervals behind elytral tubercle slightly costate, irregular thus surface on top of disc appears distinctly reticulate. Interspaces slightly dull, microreticulate, with short, very sparse erect hair. Punctures in marginal row distinctly coarser than in central part of disc. Puncturation of explanate margin of elytra homogenous, fine and dense, sevaral times finer than punctures on disc, distance between punctures from as wide as to thrice wider than puncture diameter. Punctures on red spot without areola.

Ventrites with no diagnostic characters. Antennae long, laterally extending to humeral angle, five basal segments smooth and glabrous, six distal ones pubescent and dull. Length ratio of antennal segments: male 100:36:32:36:54:146:139:114: 132:139:225, female 100:39:36:39:61:160:142:121:142:142:232. Segment 5 distinctly longer than 4 and distinctly shorter than half length of segment 6. Segment 10 approximately 2.8-2.9 times as long as wide, segment 11 approximately 4.5-4.6 times as long as wide.

TYPE MATERIAL

Holotype male: "BOLIVIA, Dep. Pando, Cobija, Reserve San Sebastian, Tahuamanu, Disturbed Amazonian Forest, 11°24'27" S 69°01'04'' W, 20.XII.2003, @ night, along forest path, coll. D.J. Mann & A.C. Hamel" "OUMNH-2004-005, D.J. Mann & C. Hamel coll., Pres. Mann & Hamel 2004"; paratype female: the same data; two paratypes male: "BRAZIL: Rondonia" (holotype and paratype from Bolivia preserved at the Hope Entomological Collections, Oxford University, Oxford, England, paratypes from Brazil preserved at the Department of Biodiversity and Evolutionary Taxonomy, Wrocław University, Wrocław, Poland).

KEY TO THE SUBGENUS AKANTAKA MAULIK

(doubtful species *Dorynota* (A.) exaltata (Fabricius, 1801) and *D.* (A.) tenebrosa (Вонеман, 1854) are not included. Colour photos of most species are available in Borowiec and Świętojańska 2004)

1.	Anterior margin of pronotum feeble or moderately convex, the maximum width of pronotum in, or slightly before, or slightly behind the middle pronotum never appears regularly semicircular. Elytral disc either uniformly black, or metallic, or mostly red with or without spots, only occasionally with two well separated yellow to reddish spots of irregular shape but the spots usually do not occupy more than half length of disc. Discal spots usually not
	Anterior margin of pronotum regularly, strongly convex, the maximum width of pronotum distinctly behind the middle, pronotum appears regularly semicircular. Elytral disc metallic, with two large, well separated yellow to reddish spots of regular shape, the spots occupy 2/3 length of disc. Discal spots broadly connected with large spots on explanate margin. On top of disc spots separated by dark metallic elytral tubercle and dark suture thus elytra possess on each side large, pale spot. Costa Rica and Panama
	D. biplagiata (CHAMPION, 1893)
2.	Ground colour of elytra and pronotum red, yellow-red or yellow, with or without dark spots
	Ground colour of elytra black, often with metallic tint, with or without pale spots or reticulation, sometimes pale pattern occupies great part of elytra then pronotum mostly black
3.	Ventrites mostly black or dark brown
	Ventrites yellow or reddish, sometimes only central part of abdomen brownish
4.	Elytral tubercle high, forms a short thorn. Ground colour of elytra pale red or yellowish-red, black spots small, not numerous, mostly not connected and elytra never appears pale or dark reticulate. Guatemala, Costa Rica, Panama, Colombia
	Elytral tubercle low and broad, does not form a thorn. Ground colour of elytra blood red, black spots large and numerous, partly connected and elytra usually appears red reticulate. French Guyana, Surinam, E Colombia
5.	Small and moderate, length to 12.5 mm. Ground colour of elytra pale red on
	yellowish without or with few black spots
	Large, length 13 mm. Ground colour of elytra blood red with numerous black spots. Doubtful species, known only from original description. Peru
6.	Moderate species, length 10.5-12.1 mm. Antennal segments 4 and 5 shorter
	than half length of segment 6

	Small species, length 9.1-9.6 mm. Antennal segments 4 and 5 almost as long as half length of segment 6. Brazil: Amazonas, Para
7.	Elytra strongly converging posterad, margins behind humeral angle more or less emarginate thus humeri appear narrower and more protruding laterally. Elytral sculpture behind tubercle distinct, at least first and second interval more or less costate, sometimes whole area behind tubercle appears reticulate. Argentina, Bolivia, Paraguay, S and C Brazil
	Elytra moderately converging posterad, margins behind humeral angle only slightly emarginate thus humeri appear broader and less protruding laterally. Elytral sculpture behind tubercle indistinct, intervals not costate, only slightly convex, area behind tubercle appears almost regular. Brazil: Mato Grosso
O	
8.	Elytral disc in central part with yellow or red spots or reticulation, explanate margin with pale pattern
	Elytral disc without pale pattern, explanate margin with or without pale
9.	pattern
	Pale pattern on each elytral disc forms irregular yellow or red spot, or red reticulation occupying only central part of disc
10.	Explanate margin of elytra with 5-6 transverse, radial red bands. Black spots on disc large thus red discal reticulation forms net of large eyes. Pronotum mostly black. French Guyana, N Brazil
	D. funesta (Вонеман, 1854), pale specimens
	Explanate margin of elytra with red, transverse band along humeral costa, oval spot in the middle, and narrow band along posterior third of marginal row of punctures. Black spots on disc small and numerous thus red discal reticulation forms net of small eyes, in posterolateral part of disc only punctures black. Pronotum reddish-brown. Bolivia: Carnavai
11.	Pattern of elytral disc red
	Pattern of elytral disc pale yellow. It forms irregular large spot on each disc occupying almost 2/3 length of disc. Explanate margin with large elongate-oval yellow spot separated from spot on disc by black discal area along marginal row of punctures. French Guyana
12	
14.	one or two spots on explanate margin
	Dorsal pattern forms reticulate spot on each disc and reticulate band along
	explanate margin. Brazil: Amazonas, Para

13.	Explanate margin with single pale spot in mid length. Spot on disc occupies base of tubercle, sometimes reduced to a thin, red line surrounding posterior
	part of base of the tubercle
	Explanate margin with two pale spots, first along humeral costa, second
	before middle of explanate margin close to marginal row, the spot narrowly
	connected with humeral spot. Spot on disc large, elongate-oval. Guatemala,
	Nicaragua
14.	Elytral sides moderately rounded, elytra distinctly converging posterad. Spot
	on explanate margin large, separated from lateral margin of elytra by narrow
	black band. Nicaragua
	Elytral sides distinctly rounded, elytra moderately converging posterad. Spot
•	on explanate margin small, separated from lateral margin of elytra by broad
	black band, wider than half width of pale spot. Brazil: Amazonas
15	Elytra uniformly black or metallic
	Explanate margin with pale pattern
	Elytral pubescence dense, well visible. Body broad, sides of elytra convex,
10.	moderately converging posterad. Dorsum usually black or with indistinct
	metallic tint, occasionally with distinct green metallic tint
_	Elytral pubescence extremely short, in old specimens usually invisible, in
•	fresh specimens usually visible on sides of disc. Body moderately broad, sides
	of elytra almost straight, strongly converging posterad. Dorsum usually with
	distinct green or bronze metallic tint. Brazil: Amazonas, Colombia, Peru,
	Bolivia
17	Pronotum with dense pubescence, vestiture partly covering pronotal surface.
1 / .	In male lateral margin of elytra behind humeral angle deeply emarginate thus
	humeri form an acute spine. Ecuador, Bolivia D. distincta (BALY, 1872)
	Pronotum with extremely short and sparse pubescence, not covering pronotal
	surface. Humeral angles in both sexes similar, lateral margin of elytra behind
	humeral angle not emarginate. Peru, Bolivia
	D. collucens (Spaeth, 1923)
1 2	Pattern of explanate margin forms broad band occupying almost whole sur-
10.	face of the margin
	Pattern of explanate margin forms spot or transverse stripe(s) in mid or
	anterior part of explanate margin
10	Body broad, sides of elytra convex, moderately converging posterad. Species
19.	from outside Panama. Here two species distinguishable only by the male 20.
	Body moderately broad, sides of elytra almost straight, strongly converging
	posterad. Panama
20	In male lateral margin of elytra behind humeral angle deeply emarginate thus
20.	humeri form an acute spine, humeri in female behind humeral angle not
	emarginate, do not form a spine. Colombia, Peru D. electa (Spaeth, 1923)
	chiarginate, do not form a spine. Coloniola, Feru D. electa (SPAETH, 1923)

^{*}Probably distinct species

-. Humeral angles in both sexes similar, lateral margin of elytra behind humeral angle not emarginate, humeri do not form a spine. Brazil: Amazonas, Peru 21. Body broad, sides of elytra convex, not or feebly emarginate behind humeral -. Body moderately broad, sides of elytra behind humeral angle more or less angulate emarginate, then strongly converging posterad. Dorsum usually with distinct green metallic tint, explanate margin in the middle with pale, not or reticulate spot. Brazil: Amazonas, Colombia, Peru, Bolivia D. kiesenwetteri (Вонеман, 1854), maculate form -. Explanate margin with radial, transverse red bands, or before the middle with single transverse band or spot. French Guyana, N Brazil 23. Ground colour of elytra black. Puncturation of explanate margin of elytra heterogenous, moderately coarse and coarse, and very sparse with distance between punctures several times wider than puncture diameter. Coarse punctures on red spot with black areola. Brazil: Amazonas, Para -. Ground colour of elytra metallic green. Puncturation of explanate margin of elytra homogenous, fine and dense, distance between punctures from as wide as to thrice wider than puncture diameter. Punctures on red spot without

ACKNOWLEDGEMENT

I would like to express my sincere thanks to Rev. Carlo Brivio (P.I.M.E. Entomological Museum, Monza, Italy) and to James Hogan (Hope Entomological Collections, Oxford University, Oxford, England) for the loan of the material.

REFERENCES

- Borowiec, L. 1999. A world catalogue of the *Cassidinae* (Coleoptera: Chrysomelidae). Biologica Silesiae, Wrocław, 476 pp.
- Borowiec, L., Świętojańska, J. 2004. Cassidinae of the world an interactive manual (Coleoptera: Chrysomelidae). Permanent publication (open in 2002): www.biol.uni.wroc.pl/cassidae/katalog%20internetowy/index.htm
- HINCKS, W. D., 1952. The genera of the Cassidinae (Coleoptera: Chrysomelidae). Trans. R. Entomol. Soc. Lond., 103: 327-358.
- Маилік, S., 1916. On Cryptostome beetles in the Cambridge University Museum of Zoology. Proc. Zool. Soc. Lond., **1916**: 567-589.
- MONROS, F., VIANA, M. J., 1949. Revision de las especies Argentinas de Dorynotini (Col., Cassidinae).

 1 Contribucion al conocimiento de Cassidinae. Acta Zool. Lilloana, 8: 391-426.
- Seeno, T. N., Wilcox, J. A. 1982. Leaf beetle genera (Coleoptera: Chrysomelidae). Entomography, 1: 1-221.
- SPAETH, F., 1923. Ueber BATONOTA Hope (Col. Cassid). Wiener Entomol. Ztg., 40: 65-76.