

Papéis Avulsos de Zoologia

REVISIONARY NOTES ON THE AMERICAN PENTAGONICINI (COLEOPTERA, CARABIDAE)

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ABSTRACT

Notes on the American species of Pentagonicini are presented preliminary to a monograph of the tribe in the New World. The key includes the two New World genera, *Thoasia* (monotypic) and *Pentagonica* (with all New World species considered valid at this stage). In a few cases new synonymies are established; other synonymies are indicated as probable; relationships of the species are discussed; *Pentagonica ochracea*, sp. n. (type-locality, Port of Spain, Trinidad), related to *trivittata* Dejean, is described. Some comments are made on the male genitalia of *P. ochracea* and *Thoasia rugifrons*, which differ from the genitalia described for Malgasy species by Jeannel.

While working over the collection of Neotropical Carabidae of the Museum of Comparative Zoology (Cambridge, United States), the determination of New World Pentagonicini posed a great number of problems, which led to a more careful study. Later, extending the study to the material kept in the Departamento de Zoologia (São Paulo), species not represented in the first collection, as well as interesting data on species until now known only from type-material, stimulated the publication of the notes.

I have not seen most types (in fact, the only ones I have studied are the ones preserved in the Museum of Comparative Zoology), and a few of the described species are still unknown *in natura* to me. The key presented below includes all species considered valid at this stage, even the few known to me only from description (these are marked by an asterisk). In very few cases I take formal action about new synonyms; other cases are indicated, but should not be considered formal. Genera and species are not redescribed, since a complete monograph is planned for the future. In the present notes only important morphological features and geographic data on the species are given, and some relationships are established.

Species of Pentagonicini seem to be somewhat rare in collections, and usually represented by single specimens. It is difficult to receive material on loan, because specimens are usually mixed up with Lebiini, and can be picked out only by the specialist.

Thus far nothing is known about the habits of Pentagonicini in the New World. Some specimens have been taken at light.

Most probably they have habits similar to those of *Lebiini*, which live on the foliage of bushes and low trees.

The geographic distribution of all species is very incomplete; however, one conclusion can be drawn from this study: the group is typically Neotropical in the New World, its species ranging from northern Argentina to Mexico, and only a very few (undoubtedly of Neotropical origin) entering the United States. How the tribe entered the New World is still an open question.

The materials on which this revision is based belong to the Museum of Comparative Zoology (MCZ), Departamento de Zoologia (CDZ) and Museu Paraense Emílio Goeldi, Belém (MG). I am thankful to Professor P. J. Darlington, Jr. for the loan of the interesting material belonging to the Museum of Comparative Zoology, as well as for the donation of paratypes of the new species.

Tribe PENTAGONICINI

Actenonycinae Bates, 1871: 30.

Pentagonicinae Bates, 1873: 320; 1883: 216; Dupuis, 1913: 1; Basilewsky, 1953: 183.

Pentagonicini; Sloane, 1920: 120, 176; Andrewes, 1929: 46.

Scopodini Csiki, 1932: 1500; Blackwelder, 1944: 63.

Pentagonicidae; Jeannel, 1949: 767.

The Pentagonicini are very small, *Lebiini*-like Carabidae. Their systematic position has not yet been satisfactorily established; however, they are most probably related to *Lebiini*. From the latter the Pentagonicini differ by the peculiar facies (especially of the pronotum of *Pentagonica*), the presence of a single pair of pronotal setae (two pairs are present in *Lebiini*), and by the male genitalia. Jeannel (1949: 767) discussed the relations of the group, and pointed to the fact that they have "... un style droit de l'édéage très développé, aussi long que le gauche...", a character which is said to separate them from the *Lebiini* (which have "... un style gauche bien développé, le droit réduit..." — Jeannel, 1949: 877).

The study of the aedeagus of two species of Neotropical Pentagonicini (*Thoasia rugifrons*, fig. 4 and *Pentagonica ochracea*, sp. n., fig. 3) seems to show a different picture: the parameres ("styles" of Jeannel) of the *Pentagonica* are both well developed, however, the one is much smaller than the right one. The aedeagus of *Thoasia* shows very minute, almost completely reduced parameres. The presently available material, as well as the scope of this paper, do not allow any further studies on the genitalia, even though it would be of great importance to know if the genitalia of Neotropical *Pentagonica* (which seem not to differ in any other character from Old World species) is consistently different from the type described by Jeannel for the Ethiopian Region.

Thoasia, although having a very strange type of genitalia, as seen above, is undoubtedly a member of the Pentagonicini (especially because of the presence of a single pair of pronotal setae). The only known species of the genus shows a superficial similarity with the species of *Onota* (*Lebiini*), sharing with this tribe

the pectinate tarsal claws, a character, as shall be seen below, very uncharacteristic of Pentagoncini.

The tribe is very widely distributed, most species occurring in southeastern Asia, Wallacea, Australia, Tasmania and New Zealand. Most species belong to the genera *Pentagonica* Schmidt-Goebel (the Cosmopolitan type-genus of the group) and *Scopodes* Erichson (Australia, Tasmania and New Zealand). The monotypic genus *Actenonyx* White is restricted to New Zealand; *Thoasia* Liebke, also monotypic, is Neotropical.

NOMENCLATORIAL NOTES

The nomenclature of the tribe has been somewhat confused (disregarding the problem of its status, which has been given as tribe, subfamily and even family): the most used name is based on *Pentagonica*. Actenonycinae has been proposed earlier by Bates (1871), however, has not been used since (having been dropped by Bates himself). Scopodini was proposed by Csiki (1932). Csiki selected the oldest genus in the group for the purpose of forming the group's name, even in cases where other names were in current use. There is no ruling for the naming of supra-generic taxa, and it seems, therefore, wiser to preserve for this tribe the name Pentagoncini, the best known and most used name, dropping Csiki's Scopodini.

KEY TO NEW WORLD PENTAGONCINI

1. Pronotum elongate, narrower than head; elytra with row of long setae on second stria, fifth, seventh and ninth interstices; shorter setae on first (sutural) interstice; fourth tarsal segment bilobate, claws pectinate.
 *Thoasia* Liebke
 Single species, *rugifrons* Liebke, from Venezuela, Colombia and Brazil.
 Pronotum transverse, slightly wider than head; elytra not with rows of long setae; fourth tarsal segment not bilobate, claws not pectinate.
 *Pentagonica* Schmidt-Goebel. 2
2. (1) Elytra with bands or spots of other color than the basic one. 3
 Unicolor elytra, sometimes with suture or lateral margins of lighter color. 10
3. (2) Species with one longitudinal, yellow band on each elytron; basic color of elytra black 4
 Species with other type of elytral markings. 5
4. (3) Legs and antennae testaceous; Bolívia, Colombia and Central America. *trivittata* Dejean
 Legs and antennae dark brown, almost black; Dominican Republic. *vittula* Darlington
5. (3) Head black; elytra, except for markings, also black. 6
 Head, pronotum and elytra, except for the darker markings, testaceous. 7

6. (5) Black regions of elytra well developed, leaving only two small yellow, transverse bands, which do not reach the suture, and are joined along the margin; Mexico
 *bifasciata* Chaudoir (*)
 Black regions of elytra very reduced, restricted to base of elytra, suture (not reaching apex; slightly dilated behind the middle), and apex of elytra; with large yellow markings; Panama. *gonostigma* Bates (*)
7. (5) Species with brown humeral spot, connected or not with the other spots of elytra. 8
 Humeri yellow; brown spot situated behind the scutellum. 9
8. (7) Humeral spot connected with large apical spot along the fourth interstice; apical spot leaving a yellow region near suture, at apex; Brazil. .. *trimaculata* Chaudoir (*)
 Humeral spot independent of posterior, transverse band, which is widened near margins; apex yellow; Panama and Costa Rica. *omostigma* Bates
9. (7) Apical spot circular, extending from fourth to ninth interstices; Brazil. *scutellaris* Chaudoir
 Apical spot elongate, reaching suture; Peru
 *roedingeri* Liebke
10. (2) Head colored as pronotum. 11
 Head not colored as pronotum. 14
11. (10) Head and pronotum yellow; elytra blackish-brown. 12
 Head, pronotum and elytra of same color. 16
12. (11) Elytral striae very shallow, almost erased; antennae darkened (all segments); Texas, Mexico and Guatemala. *bicolor* Leconte
 Elytral striae very deep, with more convex interstices; antennae usually yellow, however, sometimes darkened. 13
13. (12) Species occurring in Central America, northern South America and Antilles. *maculicornis* Bates
 Species occurring in Brazil (southern South America).
 *media* Liebke
14. (10) Head, at least frons, very light reddish-brown; larger species (6 mm); southern Brazil. ... *plaumanni* Liebke
 Head black (or very dark brown), pronotum yellow; smaller species (5 mm); United States, Central America and Antilles. 15
15. (14) Head and elytra dark brown, not quite black; humeri sometimes yellow; scape and antennal segments 5-11 brown; segments 2-4 yellow; United States and Mexico.
 *picticornis* Bates
 Head, elytra and antennae dark black; Florida, Cayman Is. and Cuba. *nigricornis* Darlington
16. (11) Completely testaceous species; striae very deep; Trinidad.
 *ochracea*, sp. n.
 Completely brown species 17

- 17.(16) Smaller species (around 5 mm). 18
 Larger species (around 6 mm). 19
- 18.(17) Pronotum much wider than head; scutellum, suture and
 elytral margins sometimes much lighter, almost yellow;
 southern Brazil. *picea* Chaudoir
 Pronotum barely wider than head; legs sometimes dark
 (subspecies *picipes* Darlington); Central America, Co-
 lombia, northern Brazil, Antilles and United States.
 *flavipes* Leconte
- 19.(17) Pronotum with slight green metallic sheen; four basal
 antennal segments yellow; southern Brazil.
 *strandii* Liebke
 Completely brown species, including antennae; Peru and
 Brazil. *obscura* Chaudoir

Genus *Thoasia* Liebke, 1939

Thoasia Liebke, 1939: 129 (type-species, by original designation,
Thoasia rugifrons Liebke).

The genus *Thoasia*, even though showing some aberrant characters, as seen above, must be placed among the Pentagonicini, as suggested by Liebke originally. It is a rather interesting genus, especially because of the pectinate claws, a unique character in the tribe, which might indicate relations to Lebiini. Jeannel (1949: 767) defined what he called Pentagonicidae as having "les ongles lisses". *Thoasia*, obviously unknown to Jeannel, is thus far the only exception.

The genus, restricted to the Neotropical Region, does not seem to be very closely related to *Pentagonica* or any of the other genera. If derived from (or ancestor of) *Pentagonica*, the two genera must have been separated for a very long time. The only described species is still poorly known, especially as to its distribution. The two specimens listed below, are the only ones mentioned after Liebke's description.

Thoasia rugifrons Liebke, 1939

(Figs. 1, 4)

Thoasia rugifrons Liebke, 1939: 129 (holotype, "Venezuela", in Liebke's collection, presently in the Polish Academy of Sciences, Warsaw; not seen).

SPECIMENS EXAMINED

COLOMBIA. *Magdalena*: Aracataca (1 ♂, MCZ; genitalia, fig. 4).
 BRAZIL. *Guanabara*: Rio de Janeiro (1 ex., CDZ).

NOTES

In the original description of *rugifrons*, the elytra are said to be dark, metallic blue, with yellow margins. The Colombian

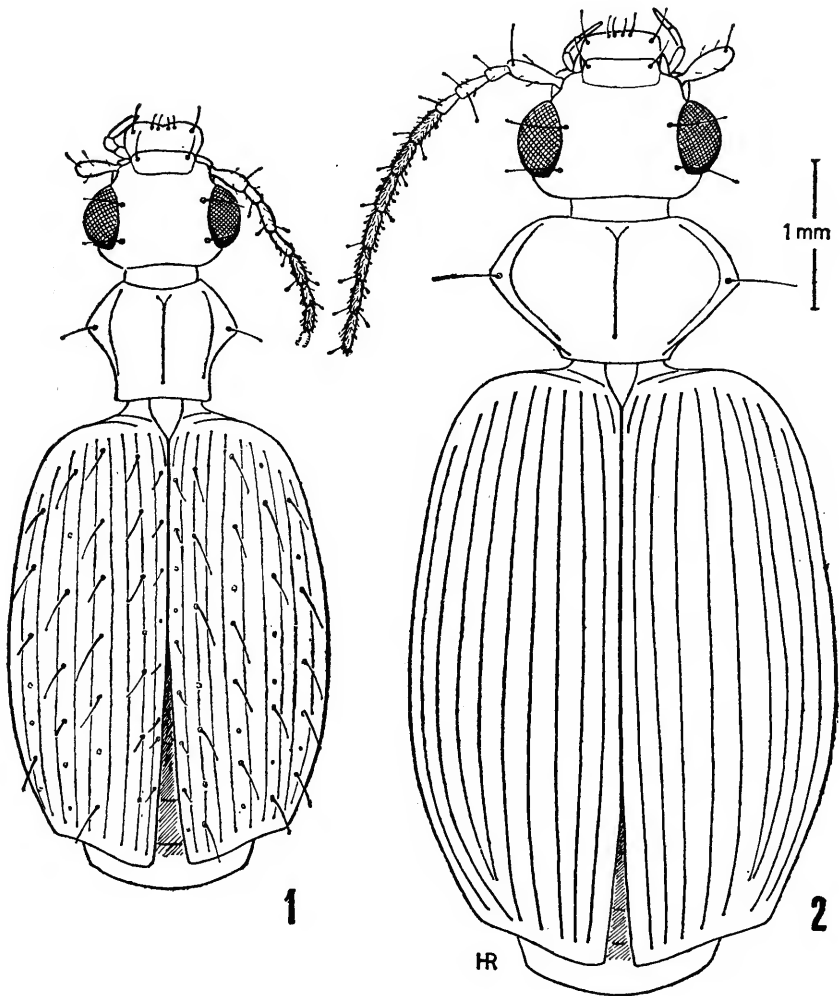


Fig. 1: *Thoasia rugifrons* Liebke, dorsal view of specimen from Rio de Janeiro; fig. 2: *Pentagonica ochracea*, sp. n., dorsal view of ♀ paratype from Port of Spain.

specimen agrees with the description. The specimen from Rio de Janeiro, however, has dark, metallic green elytra, almost without trace of yellow margins. It does not differ from the Colombian specimen (and Liebke's description) in any other character. For the time being, in spite of the color difference and the far apart localities, it seems best to consider the two specimens as conspecific.

Genus *Pentagonica* Schmidt-Goebel, 1846

Rhombodera Reiche, 1842: 313 (*nec Rhombodera* Burmeister, 1838, Orthoptera) (no type-species originally designated); Bates, 1883: 216 (proposed synonymy with *Pentagonica*).

Pentagonica Schmidt-Goebel, 1846: 47 (type-species, *Pentagonica ruficollis* Schmidt-Goebel, 1846, from the Oriental and Australian Regions, by designation of Andrewes, 1937: 137).

Didetus Leconte, 1853: 377 (no type-species originally designated); Gemminger & Harold, 1868: 48 (proposed synonymy with *Rhombodera* Reiche).

The species of the pan-tropical genus *Pentagonica* (only generic synonyms referring to the New World are listed above) are very similar to each other morphologically, having been described isolately by various authors, with no attempt to revise the group as a whole in the New World.

Csiki (1932: 1500) listed 45 species of which 16 were American. New species have been added since by Darlington (West Indian fauna) and by Liebke (South and Central American fauna), increasing the number to 25 nominal species in this hemisphere (and about 70 in the World). It seems, however, that this number will be substantially reduced, as is indicated below.

Dupuis (1913: 2) included Reiche's *angulicollis* (which had been described with question mark in *Lebia*) in *Pentagonica*. Bates (1883: 198) recognized it as a member of *Onota* (Lebiini); Csiki (1932: 1450 and 1501) and Blackwelder (1944: 61 and 63) listed the species twice, under *Onota* and under *Pentagonica*. Reiche's description and specimens I have been able to study, leave no doubt about its generic placement: *angulicollis* Reiche is an *Onota*, and should be eliminated from *Pentagonica*.

Jeannel (1949: 768) indicated the possibility of the New World species not being congeneric with *P. ruficollis*. I have compared some Neotropical species with the type-species of the genus, having not found important differences, excluding the already mentioned difference in the aedeagus. Therefore, at least for the time being, the New World species are best considered as congeneric with *Pentagonica ruficollis*.

In the New World, *Pentagonica* proves to be typically Neotropical. The few species which occur in the Nearctic Region, are Central American (or West Indian, in one case) species which reach into the United States, partly involving extensive synonymy of Central American species. The last published summary of the North American species (Ball, 1960: 102-103) lists only two species for the United States. My own study, however, shows that there are actually four species involved, one of which not recorded from that country before. Much more material is necessary to define the geographic limits of these species in the United States (and

also in Central America). Parenthetically it should be added that the distribution of North American species given in catalogues (Leng, 1920 and Csiki, 1932), is mostly based on unreliable identification of the species.

Pentagonica bicolor (Leconte, 1863), n. stat.

Rhombodera bicolor Leconte, 1863: 7 (holotype, "Western States", MCZ 5836; examined).

Pentagonica flavipes var. *bicolor*; Horn, 1882: 159; Leng, 1920: 67; Csiki, 1932: 1502.

Pentagonica semifulva Bates, 1883: 217 (types, from Cordoba and Jalapa, Mexico; Cerro Zunil and Pantaleon, Guatemala; British Museum (Natural History); not seen), n. *syn.*

SPECIMEN EXAMINED

UNITED STATES. *Texas*: Columbus (1 ex., MCZ).

NOTES

This species has been considered a color variant of *flavipes* since it was reduced to that status by Horn (1882: 159), however, it seems that *bicolor* is as distinct as other species of the genus, and should be given specific level. The differences between the species of *Pentagonica*, as already noted, are usually only very slight, and mainly color differences. The color differences between *flavipes* and *bicolor* seem to be constant.

In describing *semifulva*, Bates stated that it was very close to (if not a synonym of) *bicolor*, having, however, black mesothorax and abdomen, a character not mentioned in Leconte's description of *bicolor*. Examination of the latter's type shows that there is no difference in regard to this character, and therefore the species must be considered a synonym of *bicolor*.

P. bicolor is closely related to *maculicornis* Bates (described from Panama) and *divisa* Darlington (described from Puerto Rico), two species distinguished from the former by having much deeper elytral striae.

GEOGRAPHIC DISTRIBUTION

The species seems to range from Texas through Mexico to Guatemala. In the United States the species is most probably restricted to the Gulf coast.

Pentagonica maculicornis Bates, 1883

Pentagonica maculicornis Bates, 1883: 217-218 (type, Bugaba, Panama; British Museum (Natural History); not seen).

SPECIMENS EXAMINED

- COSTA RICA. Tres Rios (1 ex., MCZ).
 PANAMA. *Canal Zone*: Barro Colorado Is. (3 exx., MCZ, CDZ).
 COLOMBIA. *Magdalena*: Sevilla (1 ex., MCZ); Rio Frio (2 exx., MCZ).
 TRINIDAD. Por of Spain, Maraval Valley (1 ex., MCZ).
 ST. VINCENT. (1 ex., MCZ).

GEOGRAPHIC DISTRIBUTION AND NOTES

P. maculicornis occurs in northern South America, Central America (reaching as far north as Costa Rica) and the Lesser Antilles.

P. cyanipennis Liebke (1939: 128-129), described from Gativo, Panama, cannot be distinguished from *maculicornis* by description. A final decision, however, should be based on type examination.

P. divisa Darlington (1934: 121), known from Puerto Rico and Jamaica, is possibly also a synonym of Bates' species.

P. maculicornis and *media* have been separated in the preceding key by geographical data. The material I have identified as *media* (including topotypes), fits exactly the description of *atorrufa* Reiche (1842: 313), described from "Bahia". The whole complex possibly represents a single, widespread species.

Pentagonica media Liebke, 1939

Pentagonica media Liebke, 1939: 127 (types, Nova Teutônia, Santa Catarina; in Liebke's and Plaumann's collections; not seen).

SPECIMENS EXAMINED

- BRAZIL. *São Paulo*: Itu (2 exx., CDZ); Caraguatatuba (1 ex., CDZ); Barueri (1 ex., CDZ). *Mato Grosso*: Rio Caraguatá (2 exx., MCZ). *Santa Catarina*: Nova Teutônia (6 exx., MCZ, CDZ).
 ARGENTINA. La Pampa, Pico (2 exx., MCZ).

NOTES

As noted above, under *maculicornis*, *media* is hardly distinct from the latter, and most probably is a synonym of Reiche's *atorrufa* (which has the priority). A final decision must be based on the study of the types, and on much more material from critical localities.

Pentagonica picticornis Bates, 1883

Pentagonica picticornis Bates, 1883: 217 (holotype, El Jicaro, Guatemala; British Museum (Natural History); not seen); Horn, 1894: 311 (Arizona; Baja California, El Taste); Leng, 1920: 67; Csiki, 1932: 1503; Ball, 1960: 103.

SPECIMENS EXAMINED

MEXICO. *Mexico*: Rincon, Temescaltepec (1 ex., MCZ); *Nuevo Leon*: Monterrey (2 exx., MCZ, CDZ).

UNITED STATES. *Texas*: Alpine, 1500 m (1 ex., MCZ); *Missouri*: St. Charles (1 ex., MCZ); St. Louis (2 exx., MCZ); *Illinois*: Galesburg (3 exx., MCZ); no locality (3 exx., MCZ); *Kansas*: Topeka (1 ex., MCZ); *New Jersey*: Sea Is. (1 ex., MCZ);

NOTES

P. picticornis, described from Guatemala, seems to be more widespread in the United States than was previously known. Described as having humeri and lateral margins of elytra yellow, the species seems to be very variable in this regard: most specimens have dark brown elytra, and only the elytral margin is narrowly yellow. There are, however, no other differences and it seems reasonable to consider them as simple variants.

This species is closely allied to *nigricornis*, a species previously known only from the Antilles. It is, however, very characteristic and easily distinguished, as seen in the key.

Catalogues (Leng, 1920 and Csiki, 1932) cite the species as also occurring in Panama. I have not been able to trace the source of this information. For the time being, it seems reasonable to consider the species as ranging from Guatemala to the United States.

***Pentagonica nigricornis* Darlington, 1934**

Pentagonica nigricornis Darlington, 1934: 121 (holotype, Soledad, Cuba, MCZ 19537; examined); 1947: 211 (Cayman Is.).

SPECIMENS EXAMINED

UNITED STATES. *Florida*: Royal Palm Park (1 ex., MCZ); Sebring (5 exx., MCZ).

NOTES

This very characteristic species, which was only known from Cuba and the Cayman Is., is here for the first time recorded from the United States. The specimens in question, from Florida, have been compared to the Cuban type-series, and no differences were found, except for a slight difference in size: Cuban specimens are slightly smaller. The type of *nigricornis* is 4.9 mm long, whereas the Floridan specimens range from 5.5 to 5.9 mm.

As mentioned above, *nigricornis* is very closely related to *picticornis*.

***Pentagonica flavipes flavipes* (Leconte, 1853)**

Didetus flavipes Leconte, 1853: 377 (holotype, "southern States, Louisiana"; MCZ 5835; examined).

- Pentagonica flavipes*; Leng, 1920: 67; Csiki, 1932: 1502; Darlington, 1957: 211 (Cayman Is.); 1953: 15 (Bimini); Ball, 1960: 103.
Rhombodera pallipes Leconte, 1863: 6 (error).
Pentagonica americana Motschulsky, 1864: 224 (type, Mobile, Alabama; location unknown to author).
Pentagonica albipes Bates, 1883: 218 (types, Mirandilla, Guatemala and Bugaba, Panama; British Museum (Natural History); not seen), *n. syn.*
Rhombodera picea (*nec* Chaudoir, 1877); Fleutiaux & Sallé, 1889: 362 (Guadeloupe, several localities), *n. syn.*

SPECIMENS EXAMINED

UNITED STATES. *Florida*: Georgetown (1 ex., MCZ); *Louisiana*: Winnfield (1 ex., MCZ); *Arkansas*: Little Rock (1 ex., MCZ).

BRITISH HONDURAS. M-tee Distr. (1 ex., MCZ).

COSTA RICA. Santa Ana (2 exx., MCZ); Tres Rios (1 ex., MCZ); San José (1 ex., MCZ).

PANAMA. Canal Zone: Barro Colorado Is. (1 ex., MCZ).

COLOMBIA. *Magdalena*: Rio Frio (4 exx., MCZ); Aracataca (1 ex., MCZ); Santa Marta (2 exx., MCZ).

TRINIDAD. Port of Spain (1 ex., MCZ); Maraval Valley (4 exx., MCZ); Simla (8 exx., MCZ).

GUADELOUPE. Goubeyre (3 exx., MCZ).

BRAZIL. *Pará*: Icorací (1 ex., MG).

NOTES

P. flavipes flavipes, as can be seen from the list of examined material, seems to be very widespread, having been described under different names from different localities. As seen above, it is a distinct species from *bicolor*. *P. albipes*, described by Bates from Central America, is based on coloration of the basal antennal segments, a character which is very variable; material from Guadeloupe, described as a new species by Fleutiaux & Sallé (who strangely enough referred it to "Chd." in parenthesis, and to the name *luteipes* Chv., which is probably a manuscript name), was compared to the type of *flavipes*, and found to belong to the same species.

GEOGRAPHIC DISTRIBUTION

P. flavipes flavipes seems to occur in the southern United States (records from northern States need confirmation), Central America, northwestern South America, Lesser and Greater Antilles. As will be seen below, a form with dark legs, described as subspecies *picipes*, replaces the typical, pale-legged *flavipes* on Jamaica, Hispaniola and Puerto Rico.

P. flavipes flavipes is very closely related to *picea* Chaudoir from southern Brazil. The latter, however, has the pronotum much wider than the head (only barely wider in *flavipes flavipes*), and has scutellum, elytral suture and margins of lighter color, almost yellow. Judging from the known distribution, the two species are allopatric.

Pentagonica flavipes picipes Darlington, 1935

Pentagonica flavipes subsp. *picipes* Darlington, 1935: 211 (holotype, ♀, Kingston, Jamaica, MCZ 22036; examined).

This subspecies is distinguished from typical *flavipes* by the dark legs. It seems to be restricted to Jamaica, Hispaniola and Puerto Rico (the original material studied by Darlington was collected on the three islands). Its real status, as well as relations to *flavipes flavipes*, depend on a better knowledge of the two forms.

Pentagonica picea Chaudoir, 1877

? *Lebia angulata* Boheman, 1859: 7 (*nec* Dejean, 1831) (described with uncertainty in the genus *Lebia*, based on a specimen from unknown locality).

Lebia goniodes Gemminger & Harold, 1868: 138 (new name for *Lebia angulata* Boheman, *nec* Dejean).

Pentagonica picea Chaudoir, 1877: (type, "Cantagallo, près de Rio Janeiro", Brazil; Muséum National d'Histoire Naturelle, Paris; not seen).

Pentagonica angulata; Chaudoir, 1877: 216 (indication of synonymy with *picea* Chaudoir).

SPECIMENS EXAMINED

BRAZIL. *Minas Gerais*: Serra do Caraça, 1380 m (1 ex., CDZ); *Mato Grosso*: Rio Caraguatá (6 exx., MCZ, CDZ); *São Paulo*: Caraguatutuba (1 ex., CDZ); *Santa Catarina*: Nova Teutônia (9 exx., MCZ, CDZ).

PARAGUAY. Amambay (2 exx., MCZ).

NOTES

P. picea Chaudoir is very closely related to *flavipes* Leconte. Presently the two species seem to be largely allopatric; more material may, however, show that they are not distinct species.

The synonymy between Boheman's *Lebia angulata* and Chaudoir's *picea* was suggested by Chaudoir himself. If Boheman's type (which seems to have been unknown to Chaudoir) can be traced, and the synonymy be confirmed, Boheman's name should have priority over *picea*: *Lebia angulata* Boheman, a junior primary homonym of *Lebia angulata* Dejean, however, would have to give way to Gemminger and Harold's *goniodes*, even though the homonymy ceased to exist when *angulata* Boheman was transferred to *Pentagonica* (see article 59a of the Code of Nomenclature).

Liebke's *Pentagonica striata* (1939: 127), described from Nova Teutônia, is most probably synonymous with *picea*.

***Pentagonica plaumanni* Liebke, 1939**

Pentagonica plaumanni Liebke, 1939: 128 (types, Nova Teutônia, Santa Catarina; "in the collections Ross, Liebke and Plaumann"; not seen).

SPECIMENS EXAMINED

BRAZIL. *Santa Catarina*: Nova Teutônia (3 exx., MCZ, CDZ).

***Pentagonica strandi* Liebke, 1939**

Pentagonica strandi Liebke, 1939: 128 (type, "Hansa Humboldt" (presently Corupá), Santa Catarina; in Liebke's collection, probably destroyed).

SPECIMENS EXAMINED

BRAZIL. *Santa Catarina*: Nova Teutônia (2 exx., MCZ).

***Pentagonica obscura* Chaudoir, 1877**

Pentagonica obscura Chaudoir, 1877: 215-216 (type, "environs de Rio Janeiro"; Muséum National d'Histoire Naturelle, Paris; not seen).

SPECIMENS EXAMINED

PERU. Satipo (2 exx., MCZ).

These Peruvian specimens agree completely with Chaudoir's description, however, their identification should be considered as provisory.

***Pentagonica ochracea*, sp. n.**

(Figs. 2-3)

TYPE DATA

Holotype ♂ and one paratype ♀, from Trinidad, Port of Spain, I.1913, R. Thaxter col. (MCZ); one paratype ♀, same data as holotype (CDZ); one paratype ♂, Maraval Valley, Port of Spain, IV.1913, R. Thaxter col. (CDZ; genitalia, fig. 3).

DESCRIPTION

Completely ochraceous-testaceous species. Head and pronotum of typical form of *Pentagonica*, both very finely and densely microrugose; pronotum convex, with very clear median sulcus; elytra with relatively deep punctate striae (nine on each elytron); interstices, especially the lateral ones, very convex. Head and

prothorax colored ventrally as dorsally; meso-, metathorax and two first abdominal segments darkened. Appendages of same color as body. Measurements: length (from apex of mandibles to apex of elytra), 5.3-5.9 mm; maximal elytral width, 2.2-2.6 mm; maximal pronotal width, 1.3-1.5 mm.

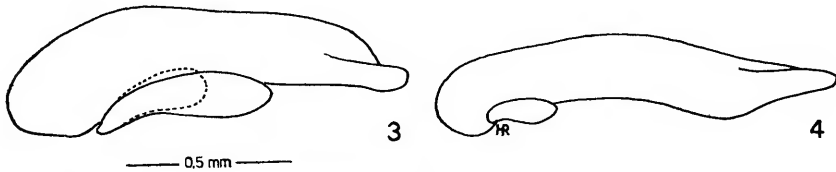


Fig. 3: *Pentagonica ochracea*, sp. n., aedeagus of paratype from Maraval Valley; fig. 4: *Thoasia rugifrons* Liebke, aedeagus of Colombian specimen.

NOTES

P. ochracea is a very typical member of the genus, easily distinguished from all other American species by its uniform, ochraceous color, and also by being one of the largest species of the genus in the New World.

P. ochracea belongs into the vicinity of the species related to *trivittata* Dejean (see below).

One specimen of *Pentagonica* collected in Cedros, Trinidad (MCZ), is very close to *ochracea*, however, it is much smaller (length, 4.8 mm; width, 1.8 mm), and has a black spot on the elytra, reaching from the limit of the 4th interstice of one elytron across the suture to the other elytron, situated shortly behind the middle of the elytra and not reaching the apex. I am not considering this specimen as belonging to this species; however, more material may show that *ochracea* is variable, and that it could include specimens like the one from Cedros.

Pentagonica trivittata (Dejean, 1831)

Lebia trivittata Dejean, 1831: 378-379 (type, "environs de Carthagène", Colombia; Muséum National d'Histoire Naturelle, Paris; not seen).

SPECIMENS EXAMINED

MEXICO. *Veracruz*: El Palmar, near Tetzonapa (6 exx., MCZ, CDZ).
 GUATEMALA. Pochuta, Santa Emília, 1000 m (1 ex., MCZ).
 PANAMA. *Canal Zone*: Barro Colorado Is. (1 ex., MCZ);
 Gamboa (1 ex., MCZ).
 BRAZIL. *Minas Gerais*: Serra do Caraça, 1380 m (2 exx., CDZ);
 Morro da Garça (1 ex., CDZ); *São Paulo*: Piracicaba (3 exx., CDZ).

GEOGRAPHIC DISTRIBUTION AND NOTES

P. trivittata seems to occur from Mexico to southern Brazil. The records are very scattered, and much more material is necessary to define the limits of its distribution. Specimens from Mexico show no difference from those from Brazil, except that the latter have scape and segments 5-11 of antennae darkened, while they are yellow in Mexican specimens. *Pentagonica vittula* Darlington (1939: 100), described from the Dominican Republic, and also known from Jamaica, is very closely related to *trivittata*, differing only in having dark brown, almost black antennae and legs. It could simply represent a differently colored form of *trivittata* from the Antilles (see also the discussion on *flavipes* *flavipes* and *flavipes picipes*).

***Pentagonica omostigma* Bates, 1883**

Pentagonica omostigma Bates, 1883: 217, pl. 9, fig. 23 (type, Volcan de Chiriqui and Bugaba, Panama; British Museum (Natural History); not seen).

SPECIMENS EXAMINED

COSTA RICA. Furricares (1 ex., MCZ).

***Pentagonica scutellaris* Chaudoir, 1877**

Pentagonica scutellaris Chaudoir, 1877: 215 (type, "Brésil", Muséum National d'Histoire Naturelle, Paris; not seen).

SPECIMENS EXAMINED

BRAZIL. *Pará*: Coraci, 15 km. NW Canindé, Rio Gurupi (1 ex., CDZ); *Maranhão*: Igarapé Gurupi-Una, Aldeia Araçu (2 exx., CDZ).

NOTES

P. scutellaris has not been mentioned in the literature after its description (except for catalogues) and its distribution was heretofore unknown. The material presently available comes from the eastern limits of the Amazonian forest, and possibly indicates that the species is Amazonian. There is large amount of variation in the elytral coloration, and it is very possible that *roedingeri* Liebke, known from the opposite, western end of the Amazonian forest, is a mere color variant of Chaudoir's species.

***Pentagonica roedingeri* Liebke, 1941**

Pentagonica roedingeri Liebke, 1941: 253, fig. 14b (holotype, Sivia, Peru; Liebke collection, probably destroyed).

SPECIMENS EXAMINED

PERU. *Cuzco*: Quincemil, 750 m (1 ex., MCZ).

NOTES

As noted above (and in the key), Liebke's species is distinguished from *scutellaris* only by color differences on the elytra, especially the apical spot. Material from intermediate localities will show whether the species are really distinct or not.

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