

The genus *Passaliolla* BALTHASAR, 1945 in Central and South America (Coleoptera: Scarabaeidae: Aphodiinae: Eupariini)*

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Abstract. The Neotropical genus *Passaliolla* BALTH. is redefined, a key to five species is presented. Lectotype of *P. aspericeps* HAROLD is designated, the following synonyms are proposed: *Passaliolla brasiliana* BALTHASAR, 1965 (= *aspericeps* HAROLD, 1876), *P. depressa* BALTHASAR, 1945 (= *cancellata* BATES, 1887) and *P. imitatrix* BALTHASAR, 1965 (= *corticalis* BATES, 1887).

Key words. Coleoptera, Scarabaeidae, Aphodiinae, Eupariini, *Passaliolla*, taxonomy, Neotropical.

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I. INTRODUCTION

Passaliolla is a small genus of rare Eupariini consisting of five species known from the Central and South America. BALTHASAR (1945) established *Passaliolla* as a monotypic genus to accommodate a distinctive species *P. depressa* BALTH. from Brazil. In 1965, BALTHASAR added two new species, transferred *Saprosites eugastricus* HAROLD, 1869 to *Passaliolla* and provided a key to four species in the genus. The secondary junior synonyms were discovered when the type specimens and original descriptions of *Saprosites* REDT. were examined in connection with current revision of that genus. As a matter of fact, all the species of *Passaliolla* hitherto known have been described in the genus *Saprosites* by HAROLD (1869, 1876) and BATES (1887).

Passaliolla can be distinguished from all other genera of Eupariini by its unusual, dorso-ventrally compressed body. This character occurs rarely among various unrelated taxa of Coleoptera, e.g. in the subfamily Penichrolucaninae (Lucanidae). A seeming rarity of specimens in the collections and a small number of species in the genus, I suspect are partly because of collecting techniques. Some specimens of *Passaliolla* have been recorded coming to light or taken from litter, under bark and in rotten logs in rain forests.

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The generic diagnosis is given below, followed by key to species and their descriptions. Under species descriptions, all characters of the generic diagnosis are presumed to apply unless stated otherwise.

Abbreviations for collections in which the material is deposited are as follows:

BCP – BALTHASAR's Collection, Prague; BMNH – British Museum of Natural History, London; CMN – Canadian Museum of Nature, Ottawa; FVMC – Fernando VAZ-de-MELLO Collection, Viçosa; HHNM – Hungarian Natural History Museum, Budapest; ISEA – Institute of Systematics and Evolution of Animals, Krakow; PSC – Paul SKELLEY Collection, Gainesville; SMTD – Staatliches Museum für Tierkunde, Dresden; USNM – United States National Museum of Natural History, Washington DC.

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II. TAXONOMY

Genus *Passaliolla* BALTHASAR

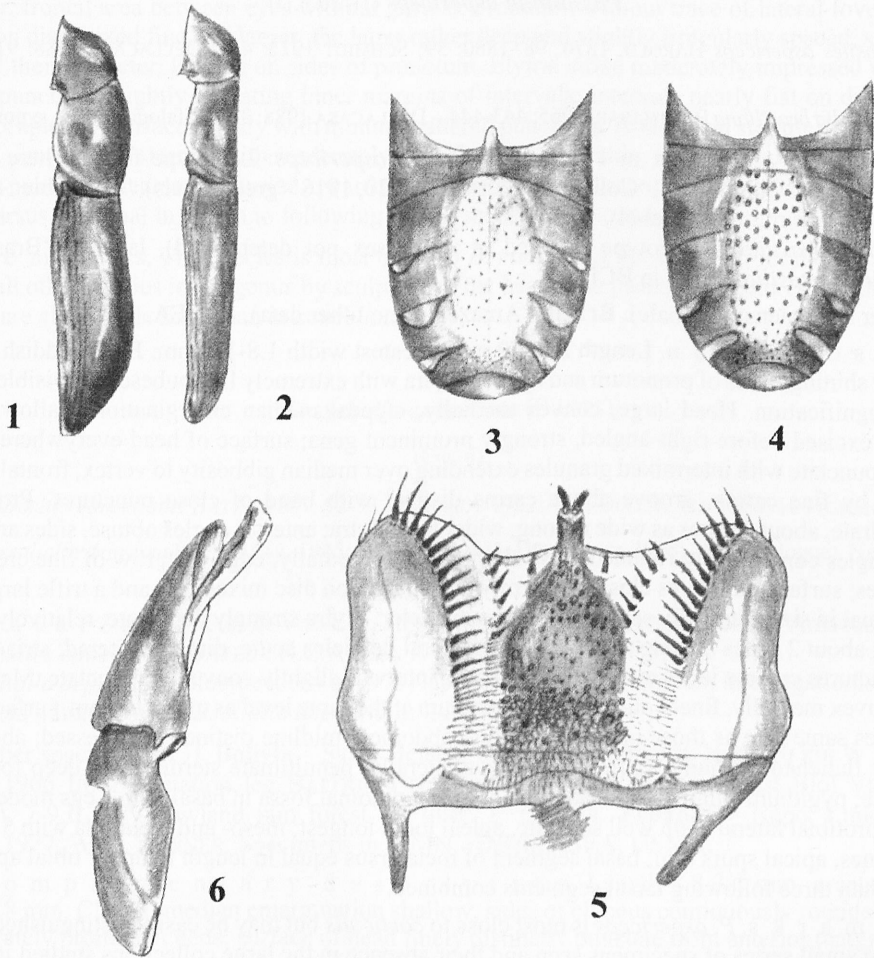
Passaliolla BALTHASAR, 1945: 104-105.- 1965: 445-446. DELLACASA 1988: 271 (catalogue).

Type species *Passaliolla depressa* BALTHASAR (= *Saprosites cancellatus* BATES), by monotypy.

D i a g n o s i s. Length 2.8-4.0 mm. Body narrow, parallel-sided, strongly deplanate (Fig. 2), shining; colour reddish brown to reddish black. Head large, almost equal in width to anterior pronotal edge, gena protruding, clypeal surface with fine, evenly distributed punctures and, in most cases, with intermixed minute to large granules. Pronotum subquadrate, disc deplanate, sides straight to obtusely rounded posterior angles, base without marginal line, slightly excised on each side of median lobe; surface concave at anterior angles and everywhere minutely to finely punctate with larger punctures intermixed. Scutellum small, narrowly triangular. Elytra parallel-sided, strongly flattened without basal marginal line, humeral denticles moderate in size; striae impressed, stria punctures fine; intervals more or less convex on disc, slightly elevated apically, 10-th interval longest, extending from base to elytral suture. Flight wings functional. Prosternum with large triangular process; mesosternum as long as metasternum, discal area longitudinally elevated at middle, mesocoxae flattened even slightly concave, space between mesocoxae smaller than width of mesofemur; metasternum at the same level as mesosternum, surface of both usually minutely to finely punctate; abdomen flattened at middle, sternites coalesced (Figs 3-4), their sutures visible only on sides; surface of sternites punctate and laterally concave and/or foveate, penultimate sternite always with more or less deep fovea on each side; pygidium in anterior half with deep groove ended by median pit to receive elytral sutural process, transverse carina lacking, posterior half shining, minutely punctate. Legs moderate in length; profemur shining, perimarginal groove fine; meso- and metafemora parallel-sided, flattened; protibia tridentate, teeth separate, apical tooth elongate; meso- and metatibiae as long as femora., apex usually with three accessory spines including external spine, apical spurs thin; tarsus as long as tibia, joints slender; claws fine hornlike.

External sexual differences invisible. The epipharyngeal structures (Fig. 5) and male genitalia (Fig. 6) of particular species are homogenous in shape with no significant differences.

R e m a r k s. *Passaliolla* is closely allied to *Saprosites* REDT. (Fig. 1) which it resembles by the form of the head, pronotum, elytra and legs, but differs by having strongly compressed and generally narrower body (Fig. 2) and unusual structure of the abdominal sternites (Figs 3-4).



Figs 1-6. 1-2 – body in lateral view: 1 – *Saprosites brevisculus* HAR.; 2 – *Passaliolla eugastrica* (HAR.). 3-4 – abdominal sternites: 3 – *P. cossonoides* (BATES); 4 – *P. cancellata* (BATES). 5-6 – *P. corticalis* (BATES): 5 – epipharynx; 6 – aedeagus in lateral view.

Key to the species of *Passaliolla*

1. Length 3.8-4.0 mm. Head with granules extending from clypeal margin to vertex, frontal suture marked by fine carina, groove above suture distinct *P. aspericeps* (HAR.)
- Length 2.8-3.2 mm. Head granulate in various degree or without granules, frontal carina lacking, groove weakly marked or invisible 2
2. Disc of pronotum with fine and larger punctures, the latter separated by 1-2 their diameter 3
- Disc of pronotum with minute to fine punctures, the latter scattered, separated by 3-4 their diameters. 4
3. Head without granules, simply punctate, clypeus above median emargination with slight transverse carina; elytra about 2.5 times as long as pronotum, elytral striae moderately deep *P. eugastrica* (HAR.)
- Clypeal surface below median gibbosity with band of transverse granules, clypeal carina lacking; elytra about 2 times as long as pronotum, elytral striae deep *P. cancellata* (BATES)
4. Head with large, rough granules extending from anterior margin to vertex, clypeal edge slightly emarginate before strongly prominent gena *P. corticalis* (BATES)
- Head with very fine granules extending from anterior margin to front of median gibbosity, clypeal edge continuously rounded toward slightly prominent gena *P. cossonoides* (BATES)

Passaliolla aspericeps (HAROLD)

Saprosites aspericeps HAROLD, 1876: 98.-1880: 39; SCHMIDT 1922: 411; DELLACASA 1988: 91 (catalogue).

Passaliolla brasiliana BALTHASAR, 1965: 443-444.-DELLACASA 1988: 287 (catalogue). New synonymy.

M a t e r i a l e x a m i n e d. *Saprosites aspericeps*: Lectotype female (here designated), labelled 'Columbien', 'Coll. C. FELSCH Kauf. 20, 1918' (green labels), 'Columbien *Saprosites aspericeps* m.' (white label), in SMTD.

Passaliolla brasiliana: Holotype (studied in 1973, sex not determined), labelled 'Brasilien', '*Passaliolla brasiliana* m.', in BCP.

Other specimens (1 female). **Brazil** – Amazonas (no other data), in ISEA.

D e s c r i p t i o n. Length 3.8-4.0 mm, greatest width 1.8-1.9 mm. Body reddish black, strongly shining, sides of pronotum and apex of elytra with extremely fine pubescence visible under high magnification. Head large, convex medially; clypeal median emargination shallow, sides slightly excised before right-angled, strongly prominent gena; surface of head everywhere finely closely punctate with intermixed granules extending over median gibbosity to vertex, frontal suture marked by fine carina, groove above carina distinct with band of close punctures. Pronotum subquadrate, about 2 times as wide as long, wider than elytra; anterior angles obtuse, sides and posterior angles continuously rounded, base slightly lobed medially, edge with row of fine crenating punctures; surface punctures close, uniformly distributed, on disc mixed fine and a trifle larger, on sides equal in size, generally separated by one diameter. Elytra strongly deplanate, relatively short, parallel, about 2 times as long as pronotum; humeral denticles acute, directed laterad; striae deep, fine punctures crenate inner margins of intervals; intervals slightly convex, impunctate. Mesosternum convex medially, finely punctate; metasternum at the same level as mesosternum, surface with punctures same size as those on pronotum and abdomen, midline distinctly impressed; abdomen strongly flattened medially, sternite 4 concave laterally, penultimate sternite with deep fovea on each side; pygidium shining, punctate with deep longitudinal fossa in basal half. Legs moderate in length; protibial lateral teeth well separate, apical tooth longest; meso- and metatibia with 3 accessory spines, apical spurs thin; basal segment of metatarsus equal in length to upper tibial apur and longer than three following tarsal segments combined.

R e m a r k s. *P. aspericeps* is most close to *corticalis* but may be easily distinguished by its size. The small series of specimens seen and their absence in the large collections studied indicate that the species is very rare or hardly accessible for collectors. HAROLD (1880) recorded additional specimen from Columbia (La Luzera).

Passaliolla eugastrica (HAROLD)

(Fig. 2)

Saprosites eugastricus HAROLD, 1869: 101.-SCHMIDT 1922: 406-407.

Passaliolla eugastrica: BALTHASAR 1965: 445.-DELLACASA 1988: 327 (catalogue).

Type data. Described from Brazil (no exact locality); type specimen probably lost.

M a t e r i a l e x a m i n e d. Specimens (18). **Argentina** – Prov. Misiones, Iguazu Nat. Park, Nandu Camp, I.I.1991, rotten logs, sifting, S. & J. PECK. **Brazil** – (SC) Santa Catarina; Nova Teutonia; (RJ) Nova Friburgo, I.1998, P. GROS; (MG) Cordisburgo, Faz. Pontinha, VII.1994; (ES) Venda Nova, I.1998, F. VAZ DE MELLO. Specimens in: CMN, FVMC, ISEA, USNM.

C o m p l e m e n t a r y d e s c r i p t i o n. Length 2.8-3.2 mm, greatest width 0.8-0.9 mm. Clypeal median emargination shallow, sides of clypeus continuously rounded toward moderately prominent gena, surface just above median emargination with slight transverse carina, punctures from anterior area to vertex distinct, fine, evenly distributed, separated by about one di-

ameter, frontal area between eyes without groove. Pronotum without trace of lateral fovea, punctures on disc mixed fine and larger, the latter rather deep and slightly irregularly spaced, separated by 1-2 their diameter, lacking on sides of pronotum. Elytral striae moderately impressed with fine close punctures slightly crenating inner margins of intervals; intervals nearly flat on disc, feebly convex apically, surface usually with minute scattered punctures. Abdominal sternite 4 concave laterally, penultimate sternite with moderately deep fossa on each side; median area of abdomen with coarse punctures decreasing in size toward apex, separated by about one diameter. Basal segment of metatarsus subequal in length to following two tarsal segments combined.

R e m a r k s. The species is most close to *P. cancellata* but differs from that species and from all other species in the genus by sculpture of the head. The pronotal punctures and the elytral striae are also a little finer than in *cancellata*.

***Passaliolla cancellata* (BATES)**

(Fig. 4)

Saprosites cancellatus BATES, 1887: 92-93.- SCHMIDT 1922: 412; DELLACASA 1988: 104 (catalogue).

Passaliolla depressa BALTHASAR, 1945: 105.- 1965: 445; DELLACASA 1988: 287 (catalogue). New synonymy.

M a t e r i a l e x a m i n e d. *Saprosites cancellatus*: type labelled 'Amazonas Ega', '*Saprosites cancellatus* BATES', B.C.A. Col. II (2) *Saprosites*', in BMNH.

Passaliolla depressa: Holotype (seen in 1973) labelled 'Brasilia ?' [signum interrogationis hui designationi adiunctum] '*Passaliolla depressa* m.', in BCP.

Other specimens (13). **Bolivia** – Santa Helena; Beni, Guayaramerin; Beni, 10 km W of town, 27.XI.1966, from vegetation, leg. BALOGH; Cochabamba, 67 km Villa Tunari, Est. Biol. Valle Sajta 300 m, 7-9.II.1979, lowland rain forest, ex litter, F. GÉNIER. **Ecuador** – Napo, Limoncocha, 12.VI.1977, W. E. STEINER. Specimens in: CMN, HNHM, ISEA, USNM.

C o m p l e m e n t a r y d e s c r i p t i o n. Length 2.8-3.0 mm, greatest width 0.7-0.8 mm. Clypeal median emargination shallow, sides of clypeus continuously rounded toward moderately prominent gena; surface of head finely distinctly punctate from anterior margin to vertex, punctures on median gibbosity separated by about one diameter, clypeal area with intermixed granules forming distinct wrinkles just below median gibbosity; frontal area between eyes without groove. Pronotum without trace of lateral fovea, punctures on disc mixed fine and larger, the latter rather deep and slightly irregularly spaced, separated by 1-2 their diameter, lacking on sides of pronotum. Elytral striae rather deep with fine close punctures slightly crenating inner margins of intervals, striae 6, 7 before apex ended by 4-5 large punctures; intervals convex on disc, laterally flat, surface usually with minute scattered punctures. Abdominal sternite 4 concave laterally, penultimate sternite with deep oblique fossa (Fig. 4) median area of abdomen with deep punctures decreasing in size toward apex, separated by about one diameter. Metatarsus relatively short, basal segment subequal in length to following three tarsal segments combined.

R e m a r k s. The species is most close to *P. corticalis*, but differs in having the clypeal surface with transverse granules, the pronotal punctures larger and closer and the elytra relatively shorter with deeper striae.

***Passaliolla corticalis* (BATES)**

(Figs 5-6)

Saprosites corticalis BATES, 1887: 93.- SCHMIDT 1922: 411; DELLACASA 1988: 226 (catalogue).

Passaliolla imitatrix BALTHASAR, 1965: 444-445.- DELLACASA 1988: 287 (catalogue). New synonymy.

M a t e r i a l e x a m i n e d. *Saprosites corticalis*: type labelled 'Amazonas Ega', '*Saprosites corticalis* BATES', 'B.C.A. Col. II (2) *Saprosites*', in BMNH.

Passaliolla imitatrix: Holotype and paratype (seen in 1973), labelled 'Brasilien, Prov. Amazonas Rio Negro', '*Passaliolla imitatrix* m.', in BCP.

Other specimens (19). **Bolivia** – Covendo, W. M. MANN. **Ecuador** – Napo, Misahuali, 19.II.1983, L. HUGGERT; Napo, Limoncocha, 13.VI.1977, W. E. STEINER; Napo 400 m, Jatun Sacha Biol. Station, 21 km E Puerto Napo, 20.VII.1994, virgin rain forest, LEVY & GÉNIER. **Peru** – Iquitos, III-IV, 1931, R.C. SHANNON; Loreto, 160 km NE Iquitos, Rio Sucussari, 2 km from Rio Napo, VIII, under bark, P. SKELLEY. **Suriname** – Brokopondo distr., Brownsberg Nat. Park, Mazaroni Plateau 400-500 m, 16.VIII.1982, W. E. STEINER. Specimens in: CMN, ISEA, PSC, USNM.

C o m p l e m e n t a r y d e s c r i p t i o n. Length 2.9-3.1 mm, greatest width 0.7-0.8 mm. Clypeal median emargination distinct, sides of clypeus slightly emarginate before strongly prominent gena; surface of head finely distinctly punctate with intermixed rough granules extending from anterior margin to vertex, separated by 1-2 diameters, area between eyes with shallow transverse groove and band of close punctures. Pronotum with small pit on each side, punctures on disc rather shallow, mixed fine and slightly larger, the latter scattered, separated by 3-4 diameters, lacking on sides of pronotum. Elytral striae moderately impressed with fine close punctures slightly crenating inner margins of intervals; intervals convex on disc, laterally flat, surface usually with minute scattered punctures. Abdominal sternite 4 slightly concave laterally, penultimate sternite with deep oblique fossa; median area of abdomen with coarse punctures decreasing in size toward apex, separated by about one diameter. Metatarsus relatively short, basal segment subequal in length to following three tarsal segments combined. Epipharynx as in Fig. 5. Male genitalia as in Fig. 6.

R e m a r k s. The species is similar to *P. aspericeps*, mainly in the shape and sculpture of the head with strongly protruding gena and with distinct vertical groove just behind granulate area. It differs from *aspericeps* by its smaller size, shorter pronotum and less close pronotal punctures.

***Passaliolla cossonoides* (BATES), comb. nov.**

(Fig. 3)

Saprosites cossonoides BATES, 1887: 93, t. 6, fig. 22.- SCHMIDT 1922: 411; DELLACASA 1988: 226 (catalogue).

Type data. Described from 'Mexico Cordova'. Type not seen, in BMNH.

M a t e r i a l e x a m i n e d. Specimens (57). Two specimens labelled '*Saprosites cossonoides* BATES det.', Centralamerica', 'Coll. C. FELSCH Kauf 20 1918', in SMTD. Other specimens: **Costa Rica** – Turrialba. **Guatemala** – Alta Vera Paz, Cacao Trece Aguas; San Juan in Vera Paz, Tamahu, San Geronimo. **Honduras** – Atlantida, Tela, Lancetilla. **Mexico** – near San Andres; Cordova. **Panama** – Canal Zone, Paraiso; Madden Forest; Porto Bello; Chiriqui, 6 km N Boquete; Chiriqui, 10-15 km S Hato del Volcan, 300-900 m.

Months collected. January - February, April - June, October, December. Specimens in: CMN, ISEA, USNM.

C o m p l e m e n t a r y d e s c r i p t i o n. Length 2.9-3.2 mm, greatest width 0.8-0.9 mm. Clypeal median emargination distinct, sides of clypeus continuously rounded toward slightly protruding gena; surface of head finely punctate throughout with intermixed very fine granules extending from anterior margin to front of median gibbosity, separated by 1-2 diameters, area between eyes with shallow transverse groove and band of close punctures. Pronotum with small pit on each side, punctures on disc rather shallow, mixed fine and slightly larger, the latter scattered, separated by 3-4 diameters, lacking on sides of pronotum. Elytral striae moderately impressed with fine close punctures slightly crenating inner margins of intervals; intervals convex on disc, laterally

flat, in some specimens with minute scattered punctures. Abdominal sternites 3, 4 slightly concave laterally, penultimate sternite with deep fossa on each side (Fig. 3); median area of abdomen with moderate to fine punctures decreasing in size toward apex, separated by 1-2 diameters. Metatarsus relatively short, basal segment subequal in length to following three tarsal segments combined.

R e m a r k s. *Passaliolla cossonoides* seems to be most close to *P. corticalis* sharing a similar sculpture of the pronotum and elytra, but it differs by significantly finer clypeal granules and finer punctures of the abdominal segments. This is the most common species in the genus, collected under bark in tropical evergreen forests, most probably restricted to the Central America.

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