

**Studies on the genus *Taphrocerus* (Coleoptera: Buprestidae: Agrilinae) part VII.
Taphrocerus in collection of Hungarian Natural History Museum**

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Taxonomy, lectotype designations, new species, new records, Coleoptera, Buprestidae, *Taphrocerus*, Neotropical Region

Abstract. The seventh part of the study on the genus *Taphrocerus* Solier, 1833 (Coleoptera: Buprestidae: Agrilinae) is presented. Five species are newly described: *T. acaranus* sp. nov. (Brazil), *T. apti* sp. nov. (Colombia), *T. bolivianus* sp. nov. (Bolivia), *T. redeii* sp. nov. (Brazil) and *T. merkli* sp. nov. (Paraguay). Lectotypes of *T. bifasciatus* Kerremans, 1900 and *T. szekessyi* Apt, 1954 are designated. Records new to country are presented for *T. bruchi* Obenberger, 1924 (Brazil), *T. catharinae* Obenberger, 1917 (Paraguay), *T. fragilis* Marek, 2015 (Bolivia, Suriname), *T. gentilis* (Gory, 1841) (Brazil), *T. kubani* Marek, 2017 (Brazil), *T. obscurellus* Obenberger, 1934 (Colombia), *T. paradoxus* Marek, 2017 (Suriname), *T. paranaensis* Obenberger, 1924 (Paraguay), *T. parvus* Obenberger, 1924 (Argentina), *T. scutellatus* Obenberger, 1934 (Suriname), *T. susterai* Obenberger, 1941 (Nicaragua) and *T. tetragraptus* Obenberger, 1941 (Nicaragua). The list of *Taphrocerus* species stored in Hungarian Natural History Museum is contributed. Remarks for poorly-known or incorrectly determined and labelled species are given.

INTRODUCTION

As part of working on the *Taphrocerus* type-material I have received all *Taphrocerus* specimens stored in Hungarian Natural History Museum (Budapest) from extraordinary kindness of curators there. I take this opportunity to work this not so large but very important and interesting material as a whole, with remarks for poorly-known or incorrectly determined and labelled species.

This paper belongs to the series of studies on the genus *Taphrocerus* Solier, 1833 serving as a basis for revision of this large and taxonomically difficult buprestid genus. The vast majority of species can only be identified by a comparison of specimens directly together with the study of male genitalia due to their external similarity. The photos can be used primarily to rule out other species, not for safe determination.

MATERIALS AND METHODS

Lectotype designations are provided in order to preserve the stability of nomenclature by fixing the status of the specimen as the sole name-bearing type of a particular nominal taxon (in agreement with article 74.7 ICZN (1999). Designation of Lectotype specimens are provided by printed white label with red border containing all relevant data as: type status (red capital letters), taxon name in the original combination, author name, year of publication, an inscription J. Marek design. and year of designation.

Abbreviations for lectotype designations: the slash mark \ is used to indicate data from separate labels; my notations are in parentheses [], with the abbreviation [h] = handwritten, [p] = printed, [Kerremans' MS] = Kerremans' manuscript, [Obenberger's MS] = Obenberger's manuscript, [Apt's MS] = Apt's manuscript.

Further abbreviations used in the text: () = my remarks and additions, HT = holotype, AT = allotype, PT (PTs) = paratype (paratypes), ST = syntype, ST1 (ST2, ST3 ...) = specimen labelled as syntype number 1 (nr 2, nr 3 ...), LT = lectotype, PLT = paralectotype, DV = dorsal view; FV = frontal view, FVV = fronto-ventral view, LV = lateral view; (p) = printed; (h) = handwritten; (Obenberger's MS) = Obenberger's manuscript, NCR = new country record.

A Canon D-550 digital camera with the Canon MP-65 mm f/2.8 1-5x macro lens was used to capture the colour images, occasional exceptions are noted at relevant places.

Specimens were measured to the nearest 0.05 mm.

Specimens mentioned in this paper are stored mostly in collection of Hungarian Natural History Museum in Budapest, Hungary. Occasional exceptions (mostly the photos of type-specimens of mentioned species) are noted at relevant places.

The following collection codens are used throughout the text:

CEIOC Coleção Entomológica do Instituto Oswaldo Cruz, Rio de Janeiro, Brazil;

HNHM Hungarian Natural History Museum, Budapest, Hungary;

JMSC collection of Jaroslav Marek, Sýkořice, Czech Republic (it will be deposited in NMPC);

MNCN Museo Nacional de Ciencias Naturales, Madrid, Spain;

MNHM Muséum national d'Histoire naturelle, Paris, France;

NMPC National Museum, Praha, Czech Republic.

LECTOTYPE DESIGNATIONS

Taphrocerus bifasciatus Kerremans, 1900

Taphrocerus bifasciatus Kerremans, 1900: 379-380.

Type specimens studied. *Taphrocerus bifasciatus*: lectotype (HNHM, ♂), by present designation: „Amazon [p] \ Typus [h, red letters] [Kerremans' MS] *Taphrocerus bifasciatus* Kerr. [h] [Kerremans' MS] det. Kerremans [p] \ Syntypus [p, red letters] *Taphrocerus bifasciatus* Kerremans, 1900 [h] [white label with red margin]“. Paralectotype the same data as lectotype (1 ♂, HNHM). The exact number of syntypes unknown.

Diagnosis. Medium-sized (3.00-3.50 mm (lectotype 3.50 mm)), elongate, pronotum strongly convex, elytra moderately convex, lustrous; black with strong violet tinge above, frons and disc of pronotum black with strong blue lustre, beneath black with slight coppery lustre; „fronto-clypeal pubescent stripe“ of dense cream-white setae present (♂); elytra with an ornamental pubescence of rather sparse medium-sized white setae as follows: a few setae at base laterally, perisutural stripe at basal fifth, wide interrupted „zic-zag“ stripe at middle transversally, two (1+1) large circular spots at middle of apical fourth of somewhat denser setae, a few setae at the top; pronotal prehumeral carina absent, a bump at lateroposterior angles only; posthumeral elytral carina present, well elevated, entire, with a sharp edge;

prosternal process elongate, apex rhomboidal, surface strongly shagreened, with small but rather deep circular depression at middle.

Remarks. Described from unstated number of syntypes according Kerremans' description („Long. 3-3.5; lat. 0.8-1 mm“ (Kerremans 1900: 379)). Both type-specimens were glued together to a pinned single label, with a single locality label and single determination label (see above). I mounted each type-specimen on its own label (narrowly triangular), but on one common pin again. The specimens and labels are in the following order: label with the lectotype-specimen \ 1 (the order of the type-specimen from above) \ label with the paralectotype-specimen \ 2 (the order of the type-specimen from above) \ original locality label \ original Kerremans' label of taxon and type status \ original ?Kazsab's? label of taxon and type status \ my label for lectotype designation with all relevant data (see above Material and methods) \ my label for paralectotype labellation with all relevant data. (The lectotype of *T. bifasciatus* is the larger of these two type-specimens (3.50 mm), the paralectotype is the smaller one (3.00 mm).

T. bifasciatus belongs by its characters of morphology to the species-complex associated with the palms probably and is similar to *T. deplanatus* Théry, 1923, *T. fisheri* Obenberger, 1924, *T. seidli* Marek, 2015 and to *T. hornburgi* Marek, 2017 (for Figs. see Marek 2017a). It can be distinguished mainly by smaller size, more oval body shape, more convex dorsal side and by male genitalia.

Taphrocerus szekessyi Apt, 1954

Taphrocerus Székessyi Apt, 1954: 232-233.

Type specimens studied. *Taphrocerus szekessyi*: lectotype (HNHM, ♂), by present designation: „Pernambuco, Bras. E. Horváth 1930. [p] \ *Taphrocerus Székessyi* m. Typ. [h, blue letters, Apt's MS] det. Apt 195 [p] 2 [h, blue letter] \ Syntypus [p, red letters] *Taphrocerus szekessyi* Apt 1952 [h, !not Apt's MS!] [white label with red margin]“. Paralectotype the same data as lectotype but with „m. Type.“ on Apt's determination label (1 PLT, sex not examined, HNHM).

Diagnosis. Medium-sized (3.00-3.10 mm (lectotype 3.00 mm)), elongate, rather stout, moderately convex above, elytra rather strongly lustrous; above dark brown, pronotum with slight golden-purple lustre lateroposteriorly, scutellum black, beneath dark brown with more intensive golden-purple lustre including legs and antennae; epistomal pores medium-sized, separated by their own diameter; „fronto-clypeal pubescent stripe“ absent (♂); vertex markedly protruding between the eyes (DV); eyes large, reniform; with small but well elevated bump at pronotal lateroposterior angles longitudinally; elytral apices rather strongly serrate; very sparsely covered by almost inconspicuous, very short thin white setae, in longitudinal rows around the middle of elytra; posthumeral elytral carina well elevated with sharp edge at apical fifth only, obsolete with a blunt edge at basal half, almost disappearing at third-fourth; prosternal process elongate, sides slightly constricted between procoxae, apex rhomboidal, surface almost smooth.

Remarks. Described from two specimens. Although Apt gave „Holo- und Paratypus“ in the

original description, in fact the two type-specimens stored in HNHM are labelled by Apt's determination labels with inscriptions „Typ.“ („Type.“ respectively in PLT) only and by the syntype labels given by Zoltán Kaszab later (pers. communication with O. Merkl). Lectotype designation is made mainly for reason of new synonymy in preparation (note: with *T. subcarinulosus* Cobos, 1967; HT and 2 PTs stored in MNCN, 2 PTs stored in CEIOC).

T. szekessyi belongs to taxonomically extremely difficult species-complex around *T. shannoni* Fisher, 1933, characterized by very similar general body shape, many details of morphology and by almost identical male genitalia and the most important characters for distinguishing them are the measurements and shape of frons and vertex together with form of elytral posthumeral carina and colouration of dorsal side. The species of this species-complex are distributed widely in the Amazonia, Central America and South American continental shelf islands (Trinidad and Tobago) and contains about seven previously described species and a few underscribed species known to me at present (from the Peruvian and Bolivian Amazonia).

DESCRIPTIONS

Taphrocerus apti sp. nov.

(Figs. 1, 1a)

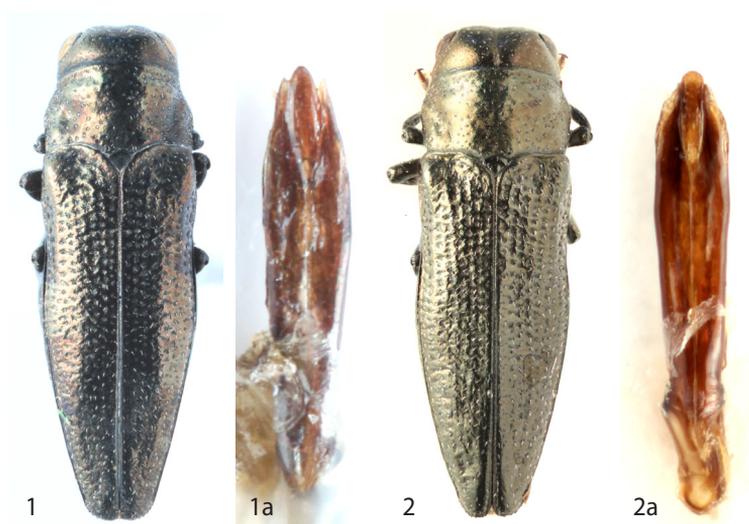
Type locality. Colombia, Baranquilla.

Type specimens. Holotype (♂): „Columbia Ujhelyi \ Barranquilla 1912. iii. \ *T. purpureipennis* Wat. det. Apt 1952.“ (HNHM). Paratypes the same data as holotype (1 ♀, HNHM; 1 ♂, 1 ♀, JMSC).

Diagnosis. Medium-sized (3.60-3.95 mm), elongate, slender, moderately convex above, rather strongly lustrous; coppery with slight purple tinge and golden reflections above, frons black, beneath black with purple lustre including legs and antennae; sparsely, uniformly covered by short thin white setae; pronotal prehumeral and elytral posthumeral carinae absent.

Description of holotype. Head rather large, wide, slightly wider than anterior pronotal margin; clypeus very widely „V-shaped“, strongly shagreened, matt, separated from frons by rather well elevated carina, epistomal pores large, slightly transversely elongate, separated less than their own diameter (almost touching); frons rather strongly convex, strongly shagreened, with wide and deep sulcus at middle longitudinally, sparsely covered by long thin white setae, somewhat densely anteriorly; vertex convex, very slightly depressed at middle, strongly shagreened, finely grooved at middle longitudinally, rather densely punctate by very small ocellate punctures, with very short thin white setae laterally only; eyes rather large, ovoid, moderately projecting beyond outline of head; antennae rather short, wide.

Pronotum convex, 1.61 times as wide as long, widest behind the middle; rather widely and shallowly depressed along anterior margin, very widely and shallowly so along posterior margin, somewhat deeper laterally, narrowly and rather deeply so anterolaterally; with very obsolete prominence at lateroanterior (!) angles; anterior margin widely regularly rounded,



Figs. 1-2a: 1- *T. apti* sp. nov., HT ♂, 3.85 mm (HNHM), 1a- aedeagus, 0.85 mm; 2- *T. alutaceicollis* Obenberger, 1934, LT ♂, 3.70 mm, French Guiana, Cayenne (NMPC), 2a- aedeagus, 0.95 mm.

posterior margin biemarginate, rather narrowly and deeply emarginate in front of scutellum, sides rather strongly arcuately dilated at anterior fourth, narrowly rounded at second-fourth, than almost straight, moderately constricted to the base; surface strongly shagreened, rather densely covered by medium-sized ocellate punctures, each puncture with thin short white seta; scutellum medium-sized, triangular, regularly rounded anteriorly, strongly shagreened.

Elytra moderately convex, very feebly wider at humeri than pronotum at base, 2.47 times as long as wide, widest at humeri and at the middle; lateral margins slightly emarginate behind humeri, feebly rounded at middle, than very slowly arcuately tapering towards rather widely, slightly separately rounded apices; apices rather strongly serrate laterally; humeral swelling strongly developed, laterobasal depression large and rather deep; surface finely shagreened, punctures in longitudinal rows larger and deeper at basal third becoming fine posteriorly, disappearing at apical fifth, which is somewhat corrugate; sparsely uniformly covered by short thin white setae; posthumeral elytral carina absent.

Ventral surface moderately lustrous, rather strongly shagreened, abdomen rather densely punctate by small „U-turned-up-shaped“ punctures, with thin but long white setae laterally and apically; anal ventrite narrowly subtruncate apically, with a shallow wide emargination on apical margin, preapical groove following outline of margin subtruncate, wide; antennal grooves rather short, shallow and wide; prosternal process elongate, constricted between procoxae, apex rhomboidal, surface strongly shagreened, widely and rather deeply depressed at middle longitudinally, asetose.

Aedeagus (Fig. 1a).

Sexual dimorphism. Observed in: anal ventrite narrowly subtruncate with the wide shallow emargination on apical margin and narrowly subtruncate preapical groove following outline of margin in male, very widely subtruncate with the wide, deep quadrate emargination on apical margin and with very widely subtruncate preapical groove following outline of margin

in female; frons with sparse long thin white setae in male, very short thin white setae in female.

Measurements. Length 3.60-3.95 mm (holotype 3.85 mm); width 1.05-1.20 mm (holotype 1.15 mm).

Variability. Except for the size observed in depth of the depression of prosternal process - from markedly deep to shallow.

Differential diagnosis. *T. apti* sp. nov. belongs to taxonomically very difficult species-complex around *T. nugator* (Gory, 1841) (see also Marek 2017: 142, 145) which is characterized mainly by a sculpture of dorsal side of body (namely by relatively unsculptured pronotum), similar male genitalia and by characteristic sexual dimorphism (see above). *T. apti* sp. nov. differs by larger size, markedly widely sulcate frons longitudinally, rather well by male genitalia and by type of sexual dimorphism as well as other details of morphology. Nevertheless it is the most similar to *T. alutaceicollis* Obenberger, 1934 (Figs. 2, 2a) (described from French Guiana, Cayenne) from which it can be distinguished by shape of pronotum (pronotum widest behind the middle in *T. apti* sp. nov., before the middle in *T. alutaceicollis*), pronotal base very feebly narrower than elytra at humeri (markedly narrower in *T. alutaceicollis*), medium-sized pronotal ocellate punctures (very small ocellate punctures in *T. alutaceicollis*), apex of phallus (median lobe of male genitalia) rather narrowly pointed (widely rounded in *T. alutaceicollis*) and by many other details of morphology. *T. purpureipennis* Waterhouse, 1889 (described from Panama, Taboga Island) (Apt's determination of type-specimens (see above „Type specimens“) belongs to different species-group (for Figs. see Marek 2016b).

Etymology. Named in honour and memory of Ödön Apt (Hungary), well-known specialist in the taxonomy of Buprestidae.

***Taphrocerus bolivianus* sp. nov.**
(Fig. 3)

Type locality. Bolivia, Guayaramerin.

Type specimens. Holotype (♀): „Soil Zoological Exp., Bolivia, Guayaramerin /Beni/, banks of the Mamore, Balogh, Mahunka, Zicsi \ No. 397/3, netting in forest, 23. xi. 1966.“ (HNHM).

Diagnosis. Medium-sized (3.20 mm), rather broadly cuneiform, moderately convex above, strongly lustrous; uniformly bronze with strong golden tinge above, beneath dark bronze including legs and antennae; sparsely pubescent by very short, almost inconspicuous thin white setae, on elytra at apical fourth only; pronotal prehumeral and elytral posthumeral carinae absent.

Description of holotype. Head medium-sized, wide, slightly narrower than anterior pronotal



Figs. 3-4: 3- *T. bolivianus* sp. nov., HT ♀, 3.20 mm (HNHM); 4- *T. mixtus* Marek, 2016, HT ♀, 3.30 mm, Brazil, Santa Catarina (NMPC).

margin; clypeus very widely „V-shaped“, strongly shagreened, matt, separated from frons by fine carina; epistomal pores large, circular, separated by their own diameter; frons widely, rather deeply depressed at middle, with obsolete sulcus at middle longitudinally, finely shagreened above clypeus becoming more stronger shagreened towards vertex, with a row of short thin white setae along inner sides of the eyes and with a few somewhat longer white setae above epistomal pores only; vertex finely shagreened, moderately convex, very slightly depressed at middle, asetose,

sparingly irregularly ocellate-punctate by small punctures; eyes rather large, widely oval, very feebly projecting beyond outline of head; antennae long and rather narrow (antennomeres 8-11 missing at the left antenna).

Pronotum convex, 1.95 times as wide as long, widest at the beginning of basal sixth; narrowly and rather deeply depressed along anterior margin, very widely so along posterior margin, more deeper laterally, narrowly and shallowly so along the sides anterolaterally; with very vague prominence at lateroposterior angles; anterior margin very widely regularly rounded, posterior margin rather strongly biemarginate, widely regularly emarginate in front of scutellum, sides moderately, almost straight dilated to basal sixth, than slightly angularly constricted to the base; surface finely shagreened, punctate by small ocellate punctures in the depressions, sparsely pubescent by very short white setae in the depressions and with a few more longer white setae along the sides; scutellum rather large, cordiform, very finely shagreened, lustrous.

Elytra moderately convex, slightly wider at humeri than pronotum at base, 2.19 times as long as wide, widest just before the middle; elytral margins very slightly narrowly emarginate behind humeri, widely regularly rounded at middle, than very slowly tapering towards widely, feebly separately rounded apices; apices rather strongly serrate laterally; humeral swelling well developed, laterobasal depression rather large and deep; surface finely shagreened, more stronger shagreened at laterobasal depressions and around scutellum, punctures in longitudinal rows larger and deeper at basal half becoming fine apically, basal half markedly coarsely corrugate; very short, almost inconspicuous white setae sparsely at apical fourth only; posthumeral elytral carina absent.

Ventral surface lustrous, abdomen finely shagreened, sparsely punctate by small „U-turned-up-shaped“ punctures, with sparse but rather long thin white setae laterally and apically; anal ventrite elongately rounded, preapical groove following outline of margin semicircular, markedly wider apically; antennal grooves rather long and narrow; prosternal

process elongate, sides constricted between procoxae, rather strongly dilated behind, apex rhomboidal, surface irregularly, rather coarsely punctate.

Sexual dimorphism. Male unknown.

Measurements. Length 3.20 mm; width 1.15 mm.

Differential diagnosis. Although *T. bolivianus* sp. nov. is described from unique female-specimen only and it is very similar and probably closely related to *T. mixtus* Marek, 2016 (Fig. 4) (described from Brazil, Santa Catarina), it can be well distinguished by general shape of body (broadly cuneiform, almost broadly conical), shape of head (eyes less projecting beyond outline of head), different shape of pronotum (1.95 times wider than long in *T. bolivianus* sp. nov., 1.75 times wider than long in *T. mixtus*), by large and markedly very finely shagreened scutellum (markedly strongly shagreened medium-sized scutellum in *T. mixtus*), elytral apices strongly serrate (minutely serrate laterally in *T. mixtus* only), strongly different shape and surface (structure) of prosternal process as well as other details of morphology.

Etymology. The species is named after the country of the origin (Bolivia); adjective.

***Taphrocerus acaranus* sp. nov.**

(Figs. 5, 5a)

Type locality. Brazil, Pará, Rio Acara.

Type specimens. Holotype (♂): „Para, Rio Acara, E. Horváth, 1930. \ Taphrocerus nanulus Obbg. det. Apt 1952“ (HNHM). Paratypes (8): the same data as holotype (1 ♂, HNHM); the same locality data but with the Apt's determination label „T. punctuliceps Obbg. det. Apt 1952“ (1 ♂, HNHM); the same locality data but with „vii. (h)“ on reverse side of the locality label (1 ♂, HNHM; 1 ♂, 1 ♀, JMSC); the same data but with „vii. 25. (h)“ on reverse side of the locality label (1 ♀, HNHM; 1 ♂, 1 ♀, JMSC).

Diagnosis. Small to medium-sized (2.65-3.20 mm), elongately cuneiform, almost conical, elytra rather strongly attenuate posteriorly, stout, moderately convex, very lustrous; above uniformly dark brown with slight golden reflections, beneath black with strong golden lustre including legs and antennae; sparsely pubescent by extremely short, almost inconspicuous thin white setae, in regular rows at elytral basal two-thirds longitudinally; prehumeral pronotal and posthumeral elytral carinae absent.

Description of holotype. Head rather large, wide, slightly narrower than anterior pronotal margin; clypeus very widely almost „T-turned-up-shaped“, strongly shagreened, feebly lustrous, separated from frons by rather strongly elevated carina, epistomal pores rather large, slightly transversely elongate, separated by their own diameter; frons convex, rather strongly shagreened, with wide and deep sulcus at middle longitudinally, more widened anteriorly, sparsely covered by short thin white setae, somewhat longer and denser between epistomal pores; vertex feebly convex, almost inconspicuously depressed at middle, strongly



Figs. 5-6a: 5- *T. acaranus* sp. nov., HT ♂, 3.15 mm (HNHM), 5a- aedeagus, 0.65 mm; 6- *T. nanulus* Obenberger, 1934, ST ♂, 3.05 mm, Brazil, Rio de Janeiro (NMPC), 6a- aedeagus, 0.95 mm.

shagreened, rather densely punctate by simple punctures, with very short and sparse white setae laterally only; eyes large, almost regularly semicircular, rather strongly projecting beyond outline of head; antennae rather short, very wide.

Pronotum rather strongly convex, 1.90 times as wide as long, widest at the beginning of basal fourth; narrowly depressed along anterior margin, markedly deeper laterally, very widely and rather shallowly depressed along posterior margin; with very obsolete bump at lateroposterior angles longitudinally; anterior margin widely regularly rounded, posterior margin rather strongly biemarginate, widely regularly emarginate in front of scutellum, sides strongly dilated at anterior sixth, then angulate and feebly, straight dilated to basal fourth, then markedly angulate and slightly emarginately constricted to the base; surface strongly shagreened at the depressions, rather finely so on the disc, densely but finely punctate by simple (!) punctures, very sparsely covered by almost inconspicuous, extremely short white setae; scutellum medium-sized, regularly triangular, widely regularly rounded anteriorly, strongly shagreened, lustrous.

Elytra convex, very slightly wider at humeri than pronotum at base, 2.21 times as long as wide, widest at humeri; lateral margins very feebly and widely emarginate behind humeri, rather strongly and narrowly rounded at middle, then very slowly gradually tapering towards widely, feebly separately rounded apices; apices rather strongly serrate; humeral swelling well developed, laterobasal depression small but rather deep; surface rather finely shagreened at basal half, more strongly shagreened at apical third, punctures in regular rows longitudinally larger and deeper at basal fourth becoming fine posteriorly, disappearing at apical fourth; sparsely uniformly covered by extremely short, almost inconspicuous thin white setae; posthumeral elytral carina absent.

Ventral surface strongly lustrous, strongly shagreened, abdomen rather densely punctate by small circular ocellate punctures opening posteriorly on first two visible sternites, last three sternites punctate by simple (!) punctures, sparsely pubescent by thin but rather long white setae laterally; anal ventrite rather narrowly elongately rounded, with a shallow wide emargination on apical margin, preapical groove following outline of margin narrowly rounded apically, rather narrow; antennal grooves rather short and very wide; prosternal process elongate, sides slightly, regularly dilated apically, apex with wide but sharp angle posteriorly, surface shagreened, strongly punctate by rather large punctures in two rows longitudinally.

Aedeagus (Fig. 5a).

Sexual dimorphism. Observed in: somewhat more attenuate elytra at apical half in male; anal ventrite more narrower rounded in male; the shallow wide emargination on apical margin of the last ventrite in male (!), missing in female (!).

Measurements. Length 2.65-3.20 mm (holotype 3.15 mm); width 0.95-1.10 mm (holotype 1.05 mm).

Variability. Except for the size observed in: two paratypes have slight but well marked purple tinge of the dorsal side.

Differential diagnosis. *T. acaranus* sp. nov. is similar to *T. nanulus* Obenberger, 1934 (Figs. 6, 6a) (described from Brazil, Rio de Janeiro) (Apt's determination of the holotype, see above „Type specimens“), but it can be easily distinguished by colouration, pronotal shape and structure (simple punctures in *T. acaranus* sp. nov., ocellate punctures in *T. nanulus*) and by strongly different male genitalia. In fact *T. acaranus* sp. nov. belongs to *T. nugator* (Gory, 1841) species-group (definition and revision of the species-group in prep.), characterized mainly by relatively unsculptured pronotum and by a characteristic sexual dimorphism of anal ventrite (see also Marek 2017a: 142, 144), but it can be easily distinguished by elytra strongly attenuate posteriorly, by male genitalia (strongly different from very uniform male genitalia of all known species of this species-group) and by sexual dimorphism (turned over - the shallow wide emargination on apical margin of the last ventrite in male (!), missing in female (!)). *T. punctuliceps* Obenberger, 1934 (described from Argentina, Misiones) (Apt's determination of seven paratypes (see above „Type specimens“)) belongs to *T. bruchi* Obenberger, 1924 species-group (for Figs. of *T. bruchi* see Marek 2015, 2017a).

Etymology. The species is named after the locality of the origin (Rio Acara); adjective.

Taphrocerus merkli sp. nov.

(Fig. 7)

Type locality. Paraguay, Asuncion.

Type specimens. Holotype (♀): „Hungarian Soil.-Zool. Exp., Paraguay: Asuncion, Botanical Garden, 2. i. 1966 \ Nr. P. 41, leg. Mahunka,“ (HNHM).

Diagnosis. Small (2.95 mm), widely oval, convex above, moderately lustrous; dark bronze above, head and pronotum with purplish lustre, elytra with rather strong golden reflections, more stronger in areas of elytral ornamental pubescence, beneath more darker bronze including legs and antennae; elytra pubescent by short thin white setae and by an obsolete stripe at middle transversely and two (1+1) obsolete spots of longer white setae at the beginning of apical fourth; prehumeral pronotal carina absent; posthumeral elytral carina present, well elevated, entire, sharp.

Description of holotype. Head medium-sized, rather wide, markedly narrower than anterior pronotal margin, markedly attenuate anteriorly (DV); clypeus widely „V-shaped“, strongly shagreened, moderately lustrous, separated from frons by rather strongly elevated carina; epistomal pores large, slightly elongate transversely, separated by their own diameter; frons feebly convex, widely and deeply depressed at middle, finely shagreened, impunctate, lustrous, with a row of very short thin white setae along inner margins of the eyes and with a few longer white setae between epistomal pores; vertex strongly convex, rather strongly shagreened, very slightly depressed at middle, with very fine, almost inconspicuous groove at middle longitudinally, sparsely irregularly punctate by small ocellate punctures, each puncture with extremely short thin white seta; eyes medium-sized, ovoid, not projecting beyond outline of head, almost invisible from above; antennae long and narrow.

Pronotum convex, 1.88 times as wide as long, widest just before the base; depressed along anterior pronotal margin, widely and shallowly at middle, markedly deeper and narrower laterally, broadly and rather shallowly depressed along posterior margin but markedly deeper anterolaterally and above scutellum, narrowly depressed anterolaterally; with rather well elevated bump lateroposteriorly; anterior margin widely regularly rounded, posterior margin rather feebly biemarginate, strongly narrowly emarginate in front of scutellum, sides shortly subparallel anteriorly, than almost straight, rather strongly dilated to the beginning of basal fourth, than obtusely angulate and feebly dilated to just before the base and very shortly constricted to the base; surface strongly shagreened and ocellate-punctate by large punctures at the depressions, each puncture with long thin white seta; scutellum medium-sized, rather widely triangular, regularly rounded anteriorly, strongly shagreened.

Elytra moderately convex, slightly wider at humeri than pronotum at base, 2.01 times as long as wide, widest just before the middle; elytral margins slightly and narrowly emarginate behind humeri, rather narrowly rounded at middle, than very slowly, almost straight tapering towards widely conjointly rounded apices; apices rather strongly serrate laterally, the top of apices smooth; humeral swelling well developed, laterobasal depression large and deep; surface finely shagreened, punctures in rows longitudinally larger and deeper at basal third becoming

fine posteriorly, disappearing at apical fourth, which is coarsely corrugate; sparsely covered by extremely short thin white setae and by markedly longer but very sparse thin white setae creating an obsolete stripe at the middle transversely and two (1+1) obsolete spots at the beginning of apical fourth; posthumeral elytral carina present, with sharp edge, well elevated from subhumeri to the beginning of apical fourth only, becoming fine, almost with blunt edge at apical fourth.

Ventral surface rather strongly lustrous, abdomen strongly shagreened, punctate by large „U-turned-up-shaped“ punctures, with sparse long thin white setae laterally and apically; anal ventrite regularly narrowly rounded, with rather shallow but wide emargination on apical margin, preapical groove following outline of margin slightly truncate apically, wide; antennal grooves long and narrow; prosternal process elongate, sides slowly straight constricted backwards, strongly dilated behind procoxae, apex rhomboidal, surface strongly coarsely corrugate.

Sexual dimorphism. Male unknown.

Measurements. Length 2.95 mm; width 1.10 mm.

Differential diagnosis. *Taphrocerus merkli* sp. nov. is not related to any known species by its shape of body (regularly widely oval, 2.65 times as long as wide) together with the most important characters of its morphology. Nevertheless it is somewhat similar to *T. admirabilis* Marek, 2017 (Figs. 9, 9a) (described from Trinidad) and it can be distinguished by smaller size, the shape of body (widely oval, 2.65 times as long as wide in *T. merkli* sp. nov., broadly elongate, 2.94 times as long as wide in *T. admirabilis*), by the widest part of pronotum (just before the base in *T. merkli* sp. nov., at the beginning of basal third in *T. admirabilis*), by not projecting eyes beyond outline of head (almost invisible from above) as well as other details of morphology (see also Table A below).

Etymology. It's pleasure for me to name this new species after Ottó Merkl (Budapest, Hungary), senior curator of Coleoptera collection in Hungarian Natural History Museum, specialist in Tenebrionidae and Lagriidae.

***Taphrocerus redeii* sp. nov.**

(Figs. 8, 8a)

Type locality. Brazil, Guapiaçu Ecol. Reserve.

Type specimens. Holotype (♂): „Brazil, Rio de Janeiro, Guapiaçu Ecol. Reserve, 22°27'9'' S, 42°46'13'' W, \ 20 m, 7.-8. xii. 2016, swept & beaten, leg. Dávid Rédei“, (HNHM).

Diagnosis. Medium-sized (3.05 mm), widely elongate, rather robust, convex above, elytra flattened, lustrous; above coppery with strong golden reflections, beneath black with coppery tinge including legs, antennae and frons black; elytra with „zic-zag“ transverse pubescent stripe of white setae just behind the middle and with two (1+1) sparse pubescent spots at the beginning of apical fourth of white setae; prehumeral pronotal carina absent; posthumeral elytral carina present, well elevated, entire, sharp.

Description of holotype. Head medium-sized, slightly narrower than anterior pronotal margin; clypeus widely „V-shaped“, strongly shagreened, matt, separated from frons by obsolete carina; epistomal pores large, circular, separated by their own diameter; frons deeply and widely depressed at middle, rather finely shagreened, with a row of thin white setae along inner sides of the eyes and with a few rather long white setae around the epistomal pores; vertex convex, very slightly depressed at middle, strongly shagreened, sparsely punctate by simple punctures, with very fine groove at middle longitudinally; eyes large, ovoid, very slightly projecting beyond outline of head; antennae rather short and wide (antennomeres 7-11 missing at the right antenna).

Pronotum convex, 2.00 times as wide as long, widest just before the base; rather widely depressed along anterior margin, more deeper laterally, broadly and deeply depressed lateroposteriorly; with a large bump at lateroposterior angles; anterior margin widely rounded, straight at middle, posterior margin rather feebly biemarginate, widely and deeply emarginate in front of scutellum, sides subparallel at first sixth of their length, then regularly, rather strongly arcuately dilated to just before the base and shortly constricted to the base; surface finely shagreened, with a few medium-sized ocellate punctures at the depressions, each puncture with thin but rather long white seta; scutellum rather small, cordiform, strongly shagreened.

Elytra (left elytron is slightly deformed) moderately convex, narrower at humeri than pronotum at base, 2.06 times as long as wide, widest just before the middle; elytral margins narrowly and rather deeply emarginate behind humeri, widely rounded at middle, then very slowly, almost straight tapering towards conjointly rounded apices; apices almost smooth, with a few obsolete blunt teeth only; humeral swelling strongly elevated, laterobasal depression very small but rather deep; surface finely shagreened, punctures in longitudinal rows larger and deeper at basal half, becoming fine apically; sparse ornamental pubescence as follows: very sparse white setae around scutellum, irregular („zic-zag“) transverse pubescent stripe (consisting from six (3+3) sparse stripes longitudinally) of white setae just behind the middle and two (1+1) sparse pubescent spots of white setae at the beginning of apical fourth; posthumeral elytral carina well elevated, entire, sharp, reaching from subhumeri to very near of apex, but not reaching apices.

Ventral surface moderately lustrous, abdomen with a few large but very shallow „U-turned-up-shaped“ punctures only and with thin but long white setae laterally and apically; anal ventrite moderately subtruncate, preapical groove following outline of margin regularly semicircular, wide; antennal grooves rather long, wide; prosternal process elongate, sides dilated behind procoxae, apex rhomboidal, surface shagreened, coarsely corrugate.

Aedeagus (Fig. 8a).

Sexual dimorphism. Female unknown.

Measurements. Length 3.05 mm; width 1.10 mm.

Differential diagnosis. *T. redeii* sp. nov. is the most similar to *T. admirabilis* Marek, 2017 (Figs. 9, 9a) (described from Trinidad) and *T. merkli* sp. nov. (see above). It can be distinguished by the characters given in Table A bellow.

Table A. Diagnostic characters of *T. redeii* sp. nov., *T. merkli* sp. nov. and *T. admirabilis* Marek, 2017.

	<i>T. redeii</i>	<i>T. merkli</i>	<i>T. admirabilis</i>
Size	smaller, 3.05 mm	smaller, 2.95 mm	larger, 3.55 mm
Body	wider, about 2.80 times as long as wide	wide, less than 2.70 times as long as wide	narrower, more than 2.90 times as long as wide
Frons (DV)	deeply depressed at middle	very slightly depressed at middle	moderately convex
Eyes	not projecting beyond outline of head	not projecting beyond outline of head	projecting beyond outline of head
Pronotum	wide, about 2.0 times as wide as long	narrower, about 1.9 times as wide as long	narrow, about 1.7 times as wide as long
Maximal width of pronotum	just before the base	just before the base	at the beginning of basal third
Pronotal sides	angulate	(almost) straight	angulate
Scutellum	rather small	medium-sized	large
Elytral apices	(almost) smooth	rather strongly serrate	strongly serrate
Distribution	Brazil (Rio de Janeiro)	Paraguay (Asuncion)	Trinidad

Etymology. Named after collector of the holotype Dávid Rédei (Budapest, Hungary), curator of Hemiptera in Hungarian Natural History Museum (temporarily in Nankai University, Tianjin, China).



Figs. 7-9a: 7- *T. merkli* sp. nov., HT ♀, 2.95 mm (HNHM); 8- *T. redeii* sp. nov., HT ♂, 3.05 mm (HNHM), 8a- aedeagus, 0.60 mm; 9- *T. admirabilis* Marek, 2017, HT ♂, 3.55 mm, Trinidad (JMCS), 9a- aedeagus, 1.05 mm.

INCORRECTLY LABELLED PREVIOUSLY DESCRIBED PRIMARY TYPES

Taphrocerus obenbergeri Apt, 1954

Taphrocerus Obenbergeri Apt, 1954: 233-234.

Type specimens studied. Holotype (by original designation (according article 73.1 ICZN (1999) (HNHM, ♂), labelled: „Sao Paolo. 1928, Bury. J. György. [p] \ Taphrocerus Obenbergeri [h] [blue letters, Apt's MS], det. Apt 195 [p] 3, Typus [h] [blue letters, Apt's MS] \ Holotypus [p] [red letters], 1953 [error!], Taphrocerus obenbergeri Apt [h] [!not Apt's MS!] [white label with red margin] \ HOLOTYPE [red capital letters] (by original designation) Taphrocerus obenbergeri Apt, 1954 J. Marek labelled 2017 [p, red label with black margin]“.

Diagnosis. Medium-sized (3.60 mm), elongate, slender, subparallel, rather strongly convex above, very lustrous; above dark bronze with rather strong purple tinge and golden reflections, beneath somewhat darker including legs and antennae; epistomal pores large, slightly elongate transversely, separated by their own diameter; sparsely, uniformly covered by almost inconspicuous, extremely short thin white setae; pronotal prehumeral and elytral posthumeral carinae absent; prosternal process elongate, sides straight dilated apically, apex rhomboidal, surface rather densely punctate; anal ventrite with a rather shallow but wide and well marked quadrate emargination on apical margin (♂!).

Distribution: Brazil (Apt 1954), so far known from the type locality (Sao Paulo) only.

Remarks. Described from unique specimen. Although there is the notice „...1 Exemplar aus Brasilien ... (Monotypus)...“ in the description and the type-specimen is labelled by Apt's determination label with inscription „Typus“, the specimen is correctly labelled by holotype label given by Kaszab later but with erroneous year of publication (see above). For this reason I placed under all original labels the holotype label with all relevant data as: type status (red capital letters), an inscription „(by original designation)“, taxon name in the original combination, author name, year of publication and an inscription „J. Marek labelled 2017“.

T. obenbergeri belongs to the species-complex around *T. nugator* (see also Differential diagnosis under *T. apti* sp. nov. above), which is characterized mainly by relatively unsculptured pronotum together with characteristic sexual dimorphism of anal ventrite and species of this complex are distributed all over the known area of the genus distribution (including unique species of *Taphrocerus* known from an Old World from South Africa, Natal).

Taphrocerus ujhelyii Apt, 1954

Taphrocerus Ujhelyii Apt, 1954: 231-232.

Type specimens studied. Holotype (by original designation (according article 73.1 ICZN (1999) (HNHM, ♀), labelled: „Columbia Ujhelyi [p] \ Aracataca 1912. II. [p] \ Taphrocerus Ujhelyii m. Typus. [h, Apt's MS] det. Apt 195 [p] 3. [h] \ Syntypus [p, red letters] Taphrocerus ujhelyi [error!] Apt 1953 [error!] [h, not Apt's MS!] [white label with red margin] \ HOLOTYPE [red capital letters] (by original designation) Taphrocerus ujhelyii Apt, 1954 J. Marek labelled 2017 [p, red label with black margin]“.

Diagnosis. Medium-sized (3.10 mm), elongate, stout, cuneiform, elytra attenuate at apical half, rather strongly lustrous; above bicolorous: head and pronotum dark coppery with strong purple tinge and golden reflections, elytra black with slight violaceous tinge, scutellum black, beneath black including antennae, legs black except for brown proximal two thirds of femurs and tibiae; eyes rather small, narrowly oval; epistomal pores large, regularly circular, separated by their own diameter; sparse but markant „fronto-clypeal pubescent stripe“ (♀!) of short white setae; almost inconspicuously covered by extremely short thin white setae; elytral apices strongly serrate; pronotal prehumeral and elytral posthumeral carinae absent; abdomen densely punctate by rather small „U-turned-up-shaped“ punctures; prosternal process elongate, sides subparallel; anal ventrite narrowly rounded, with shallow but wide emargination on apical margin.

Distribution: Colombia (Apt 1954), so far known from the type locality (Aracataca) only.

Remarks. Described from unique specimen. Although there is the notice „... 1 Exemplar aus Columbien ... (Monotypus)...“ in the description and the type-specimen is labelled by Apt’s determination label with inscription „Typus“, the specimen is labelled by syntype label given by Kaszab later (see above) (see also Remarks under *T. paradoxus* Marek, 2017 below). For this reason I placed under all original labels the holotype label with all relevant data as: type status, an inscription „(by original designation)“, taxon name in the original combination, author name, year of publication and an inscription „J. Marek labelled 2017“.

T. ujhelyii belongs to species-complex of number extremely similar species which can be exactly distinguished by male genitalia and by a comparison of specimens only. It is the most similar to *T. aeneocollis* Fisher, 1925 and *T. paradoxus* Marek, 2017 habitually (mainly by colouration - slightly bicoloured (head + pronotum x elytra)), from which it can be distinguished by characters given in Table B bellow.

Table B. Diagnostic characters of *T. aeneocollis* Fisher, 1925, *T. ujhelyii* Apt, 1954 (♀) and *T. paradoxus* Marek, 2017.

	<i>T. aeneocollis</i>	<i>T. ujhelyii</i>	<i>T. paradoxus</i>
Size	smaller, 2.90-3.20 mm	smaller, 3.10 mm (known from HT ♀ only)	larger, 3.55-4.00 mm
Colouration	head and pronotum aeneous with strong golden tinge, elytra black with rather strong brown tinge	head and pronotum black with strong coppery tinge, elytra black	head and pronotum black with strong golden-green tinge, elytra black
Body shape	wide, subcylindrical	slender, cuneiform	slender, markedly more attenuate posteriorly
Head	wider, about 3.6 times as wide as long	wider, about 3.6 times as wide as long	narrower, about 2.5 times as wide as long
Pronotal sides	very feebly angulate at the widest part; markedly less stronger dilated to the beginning of basal third (the widest part)	markedly angulate at the widest part; markedly more stronger dilated to the basal third (the widest part)	feebly angulate at the widest part; markedly less stronger dilated to the basal third (the widest part)

Pronotal base	very feebly narrower than base of elytra	very feebly narrower than base of elytra	markedly narrower than base of elytra
Scutellum	widely cordiform	regularly cordiform	widely cordiform
Elytral pubescence	extremely short, almost inconspicuous thin white setae in rows longitudinally	extremely short, almost inconspicuous thin white setae in rows longitudinally	markedly more longer and denser thin white setae in rows longitudinally (especially at apical third)
Legs	black with slight golden lustre	black, proximal two thirds of femurs and tibiae brown	completely black

REMARKS

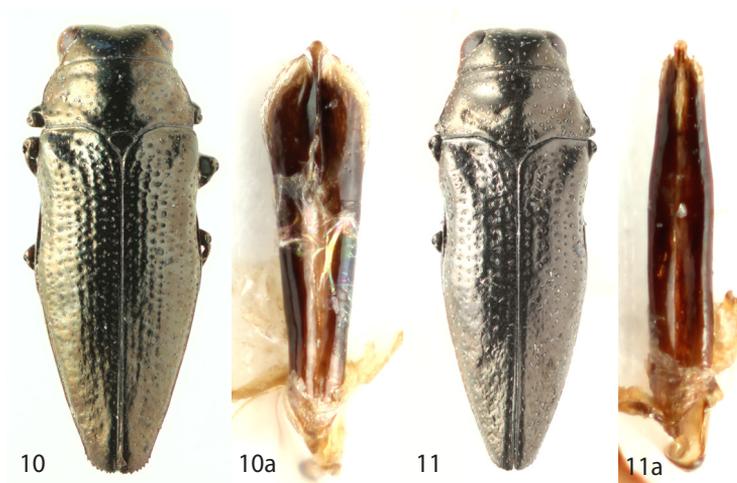
Taphrocerus vimmeri Obenberger, 1924

(Figs. 10, 10a)

Specimens examined: BRAZIL: „Sao Paulo, Raiz. d. g., Lüd. leg., v. 07 \ Taphr. acutus Obbg., det. Apt 1953“ (1 specimen sex not examined, HNHM).

Distribution: Brazil (Obenberger 1924), so far known from state Sao Paulo only.

Remarks. *T. vimmeri* belongs to a complex of species around *T. elongatus* (Gory, 1841) (*T. elongatus*, *T. rambouseki* Obenberger, 1924, *T. troniceki* Obenberger, 1937, *T. putillus* Obenberger, 1934 (note: *T. putillus* ST 2, ♀, NMPC, not ST 1, ♂, NMPC = *T. bruchi* Obenberger, 1924 (lectotype designation of ST 2 in prep.) etc.) known from southeastern Brazil, Uruguay, north Argentina and Paraguay. The complex is characterized mainly by larger size (3.40-5.60 mm), elongate body shape, relatively unsculptured pronotum and namely by wide head with strongly projecting eyes beyond outline of head. *T. vimmeri*



Figs. 10-11a: 10- *T. vimmeri* Obenberger, 1924, ST ♂, 3.80 mm (NMPC), 10a- aedeagus, 1.20 mm; 11- *T. acutus* Obenberger, 1924, ST 1 ♂, 3.00 mm, Brazil, Sao Paulo (NMPC), 11a- aedeagus, 0.90 mm.

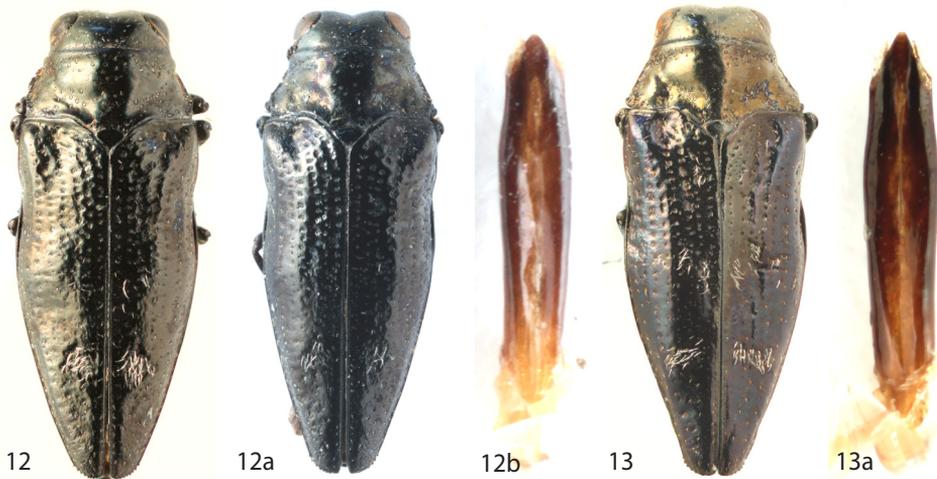
is well distinguished by unique male genitalia - parameres strongly gradually dilated proximally, apex of fallus (median lobe of male genitalia) rhomboidal (Fig. 10a). *T. acutus* Obenberger, 1924 (determination of mentioned specimen by Apt (see above) belongs to another species-group (see Figs. 11, 11a).

***Taphrocerus volitans* (Gory, 1841)**
(Figs. 12, 12a, 12b)

Specimens examined: „Cayenne \ *Taphrocerus volitans* G. det. Obenberger \ *volitans* G. coll. Apt Ödön“ (1 specimen sex not examined, HNHN).

Distribution: Brazil (Obenberger 1934, Cobos 1967), French Guiana (Gory, 1841).

Remarks. Somewhat „problematic“ species for me at present. It was described from Cayenne (French Guiana) and is reported as „widespread“ and variable species from Brazil (Espiritu Santo (Obenberger 1924), Rio de Janeiro and Nueva Iguassú (Cobos 1967). Many specimens stored in NMPC from Brazil, Sao Paulo (more than 200 specimens) determined by Obenberger as *T. volitans* are conspecific with *T. paraguayensis* Obenberger, 1924 (Figs. 14, 14a, 14b, 14c) and with very variable species in body shape and colouration *T. embriki* Obenberger, 1934 (Figs. 13, 13a). I know four specimens of *T. volitans* only from the Amazonia, all with the handwrite locality label „Cayenne“: two syntypes of *T. volitans* stored in MNHN, one specimen stored in NMPC and one in HNHN, both determined by Obenberger as *T. volitans* and all four specimens! coming from the same serie originally by my opinion. Nevertheless the two syntypes stored in MNHN belong to two different species: the first syntype (glued, slightly destroyed - pinned originally) is „*T. volitans*“ (lectotype designation is necessary) and second syntype (pinned) is conspecific with *T. guyanae* Obenberger, 1934. There are also two *T. rusticus* Thomson, 1879 syntypes in MNHN (with





Figs. 12-14c: 12- *T. volitans* (Gory, 1841) (ST ♀ of *T. volitans* var. *aethiops* Obenberger, 1924 syn.), Brazil, Espiritu Santo, 4.00 mm (NMPC), 12a- *T. volitans* (Gory, 1841), ♂ from French Guiana, Cayenne, 3.75 mm (NMPC), 12b- aedeagus, 0.95 mm; 13- *T. embriki* Obenberger, 1934, ST 2 ♂, Argentina, Misiones, 3.60 mm (NMPC), 13a- aedeagus, 1.05 mm; 14- *T. paraguayensis* Obenberger, 1924, LT ♂, Paraguay, 3.50 mm (NMPC), 14a- aedeagus, 0.95 mm, 14b- *T. paraguayensis* Obenberger, 1924 (LT ♂ of *T. sedyi* Obenberger, 1924 syn.), Brazil, Sao Paulo, 4.00 mm (NMPC), 14c- aedeagus, 1.05 mm.

locality „Bras.“ only), which seem to be conspecific with „*T. volitans*“ (not studied in detail yet). I plane to resolve this „problems“ in some of the next papers.

FAUNISTICS

Taphrocerus bruchi Obenberger, 1924

Specimens examined. ARGENTINA: „Corrientes San Roque II-1920. Bosq \ Taphroc. Bruchi Obenb. det. Apt 1952“ (1 ♂, HNHM). BRAZIL: „Sao Paolo. 1928 Bury. J. Györgi. \ alutaceicollis Obenb. det. Apt. 1952“ (1 specimen sex not examined, HNHM). PARAGUAY: „Hungarian Soil.-Zool. Exp., Paraguay: Asuncion, Botanical Garden, 2. i. 1966 \ Nr. P. 41, leg. Mahunka,“ (16 specimens sex not examined, HNHM, JMSc); „Paraguay Vezényi \ Asuncion Villa Morra \ Taphr. rotundicollis Obbg. Det. Apt 1952“ (1 specimen sex not examined, HNHM).

Distribution: Argentina (Obenberger 1924), Paraguay (Marek 2014), new to Brazil.

Remarks. Described from Argentina, Corrientes. One of the most abundant species in Argentinian and Paraguayan „Chaco“ by my observations. Synonymized with *T. loretanus* Obenberger, 1934 (Marek 2014) and *T. kormilevi* Cobos, 1956 (Marek 2015).

T. alutaceicollis Obenberger, 1934 (Apt's determination of specimen from Brazil (see above „Specimens examined“) belongs to different species-group (see Differential diagnosis under *T. apti* sp. nov. above).

T. rotundicollis Obenberger, 1924 (Apt's determination of specimen from Paraguay,

Villa Mora (see above „Specimens examined“) is somewhat similar to *T. bruchi*, but differs mainly by not projecting eyes beyond outline of head, pronotal shape and by male genitalia (parameres angulate at the beginning of apical third laterally).

Taphrocerus catharinae Obenberger, 1917

Specimens examined. PARAGUAY: „Hungarian Soil.-Zool. Exp., Paraguay: Asuncion, Botanical Garden, 2. i. 1966 \ Nr. P. 41, leg. Mahunka,“ (2 ♂♂, HNHM); „Hungarian Soil.-Zool. Exp., Paraguay: Puerto P. Stroessner, 26-28.xii. 1965 \ Nr. P. 9, leg. Mahunka,“ (1 ♂, JMSC).

Distribution: Brazil (Obenberger 1917), new to Paraguay.

Remarks. Described from Brazil, Santa Catarina. The paralectotype (LT designation Marek 2016) was considered to be different species and described as *T. mixtus* (Fig. 4) (see also Remarks under *T. bolivianus* sp. nov. above). So far known to me from four male-specimens only.

Taphrocerus fragilis Marek, 2015

Specimens examined. BOLIVIA: „Soil Zoological Exp., Bolivia, Guayaramerin /Beni/, Fundo Nuevo Cuba, Balogh, Mahunka, Zicsi \ No. 408, netted from vegetation, 26. xi. 1966“ (1 ♀, HNHM). SURINAME: „Paramaribo, Suriname \ *T. pictus* Kerr., det. Apt 1952“ (2 ♀♀, HNHM, 2 ♀♀, JMSC).

Distribution: French Guiana (Marek 2015), new to Bolivia and Suriname.

Remarks. Described from two specimens (HT ♂, PT ♀) from Cayenne (French Guiana). The specimen from Bolivia and two specimens from Suriname differ from the type-specimens by having obsolete pubescent design of very sparse white setae at third-fourth of elytra (see also Table C below).

Somewhat similar *T. pictus* Kerremans, 1896 (described from „Brésil“ without precise locality data) (Apt’s determination of specimens from Suriname (see above „Specimens examined“) can be distinguished by characters given in Table C below.

Table C. Diagnostic characters of *T. fragilis* Marek, 2015 and *T. pictus* Kerremans, 1896.

	<i>T. fragilis</i>	<i>T. pictus</i>
Size	smaller, 2.40-2.80 mm	larger, 3.00 mm
Head	narrower, 2.9 times as wide as long	wider, 3.8 times as wide as long
Eyes	not projecting beyond outline of head	projecting beyond outline of head
Elytral ornamental pubescence (pattern)	absent or with a few very sparse short setae at the middle laterally and at the beginning of apical fourth at middle	present, two (1+1) small spots at the middle, short stripe along suture just behind the middle and two (1+1) transversely oval spots at the beginning of apical fourth of rather long setae

Elytral posthumeral carina	entire, well elevated, with sharp edge	present obsolete (with blunt edge) at subhumeri and at apical third
Elytral apices	very finely serrate	strongly serrate laterally

Taphrocerus gentilis (Gory, 1841)

Specimens examined. BRAZIL: „Brasilia, Manaus, 1930. vii. 25. Molnár \ Holiki Obenb. det. Apt 1952“ (1 ♂, HNHM).

Distribution: French Guiana (Gory, 1841), new to Brazil.

Remarks. Described from unstated specimens from Cayenne (French Guiana). One of the most abundant species in French Guiana by my observations. The male-specimen mentioned here differs very slightly from the syntype (stored in MNHN) in having somewhat more strongly elevated fold at elytral apical fourth laterally. This fact caused misdetermination (determination made probably according the Obenbergers' key only (Obenberger 1934) by Apt as *T. holiki* Obenberger, 1924 (see above), although *T. holiki* belongs to strongly different species-group (see Marek 2016).

Taphrocerus kubani Marek, 2017

Specimens examined. BRAZIL: „Pernambuco. Bras., E. Horváth 1930 \ Ogloblini Obenb. det. Apt 1952“ (1 ♂, HNHM; 1 ♂, JMCS); the same locality data but with „*Taphrocerus temporalis* Obenb. det. Apt 1952 (1 ♀, HNHM).

Distribution: French Guiana (Marek 2017), new to Brazil.

Remarks. Described from unique male-specimen from Fourgassier (French Guiana). The sexual dimorphism observed in: body somewhat slender in male, more robust in female; obsolete „fronto-clypeal“ pubescent stripe consisting of a row only of rather long white setae present in male, absent in female.

From *T. ogloblini* Obenberger, 1934 (Apts' determination of two male-specimens (see above „Specimens examined“) differs mainly by body shape, shape of frons and vertex and male genitalia (see Marek 2017b: 391), from *T. temporalis* Obenberger, 1934 (Apts' determination of female-specimen (see above „Specimens examined“) differs mainly by smaller size, body shape, markedly shorter thin white setae on elytra and strongly by male genitalia (see Marek 2016a: 408) (note: lectotype designations of *T. ogloblini* and *T. temporalis* in preparation, there are mixed number of different species in the syntype-series stored in NMPC).

Taphrocerus obscurellus Obenberger, 1934

Specimens examined. BRAZIL: „Brasilia, Boa Vista \ *T. punctuliceps* Ob. det. Apt 1952“ (1 specimen sex not examined, HNHM); „Brasilia, Boa Vista \ *T. nanulus* Obbg. det. Apt 1952“ (1 ♂, 1 ♀, HNHM); „Pernambuco, Bras., E. Horváth 1930. \ *Taphrocerus punctuliceps* Obbg. det. Apt 1952“ (1 ♂, 1 ♀, HNHM); „Para, Rio Acara E. Horvath, 1930 , VII. 25 \ *Taphrocerus unicolor* Obenb det. Apt 1952“ (1 ♀, HNHM). COLOMBIA: „Columbia

Ujhelyi \ Baranquilla 1912. III. \ *Taphrocerus agriloides* Crotch det. Apt 1953.“ (1 ♂, HNHM). SURINAME: „Paramaribo, Suriname \ *Taphrocerus angustus* Gory det. Apt 1953“ (1 ♂, HNHM).

Distribution: Brazil (Marek 2017a), French Guiana (Obenberger 1934), Suriname (Marek 2017a), Venezuela (Marek 2017a), new to Colombia.

Remarks. *T. obscurellus* is very variable in size (2.60-4.20 mm) and in correlation between the body shape and body size (see also Marek 2017a), not so in male genitalia and is widely distributed all over the Amazonia. The specimens mentioned here fully correspond to the large number of specimens from the type locality (Cayenne, French Guiana).

T. angustus (Gory, 1841) (Apts' determination of male-specimen from Suriname (see above „Specimens examined“) was described in the genus *Brachys* Dejean, 1833 from Cayenne (French Guiana) also. There are two syntypes of *T. angustus* stored in MNHN. The first syntype belongs really to the genus *Brachys* (LT eventually), the second one is conspecific with *T. obscurellus* Obenberger, 1934.

T. nanulus Obenberger, 1934 (so far known from Brasil, Rio de Janeiro only) and *T. punctuliceps* Obenberger, 1934 (so far known from Argentina, Misiones only) (Apts' determination of specimens from Brazil, Boa Vista (see above „Specimens examined“) differ from *T. obscurellus* namely by colouration and strongly by male genitalia (see also Figs. 6, 6a above).

T. unicolor Obenberger, 1924 (so far known from Paraguay and Argentina only) (Apts' determination of female-specimen from Brazil, Rio Acara (see above „Specimens examined“) differs from *T. obscurellus* namely by markedly pubescent dorsal side of body, especially of elytra.

T. agriloides Crotch, 1873 (Apts' determination of male-specimen from Colombia (see above „Specimens examined“) differs from *T. obscurellus* namely by relatively unsculptured pronotum and it is known from the U.S.A. only.

***Taphrocerus paradoxus* Marek, 2017**

Specimens examined. SURINAME: „Paramaribo, Suriname \ *Taphrocerus ujhelyii* Apt i. l., det. Apt 1953 \ *Taphrocerus timidus* Chev. Det. H. Pochon“ (1 ♂, HNHM).

Distribution: French Guiana (Marek 2017), new to Suriname.

Remarks. Although Apt determined (in 1953) this specimen as *T. ujhelyii* (see above „Specimens examined“), he has not contribute it to the type-serie of this species (probably having doubtful about). For distinguishing *T. ujhelyii* and *T. paradoxus* see Table B above. Determination given by Pochon as *T. timidus* Chevrolat, 1867 (so far known from Cuba only) is completely incorrect.

Taphrocerus paranaensis Obenberger, 1924

Specimens examined. ARGENTINA: „Prov. De Buenos Aires J. Boso coll. \ Taphrocerus Holiki Obenb. det. Apt 1952 (1 specimen sex not examined, HNHM). BRAZIL: „Pernambuco, Bras. E. Horváth 1930. \ Taphrocerus Holiki Obenb. det. Apt 1952“ (1 ♀, HNHM). PARAGUAY: „Hungarian Soil.-Zool. Exp., Paraguay: Asuncion, Botanical Garden, 2. i. 1966 \ Nr. P. 41, leg. Mahunka,“ (1 ♂, HNHM, 1 ♂ JM5C).

Distribution: Argentina (Marek 2016a), Brazil (Obenberger 1924), new to Paraguay.

Remarks. Described from unstated number of specimens from Brazil - „Páráná“ and synonymized with *T. tigrensis* Obenberger, 1947 (Marek 2016a). The specimens from Argentina and Brazil mentioned here have the posthumeral elytral carina (present obsoletely at apical third only) more strongly elevated and almost with sharp edge. This fact, probably, caused misdetermination by Apt (as *T. holiki* Obenberger, 1924 (see above „Specimens examined“), although *T. holiki* belongs to strongly different species-group (see Marek 2016a).

Taphrocerus parvus Obenberger, 1924

Specimens examined. ARGENTINA: „Argentina, Prov. Chaco, 2. ix. 1949 \ Colonia Benitez, leg. M. Aczél \ Taphrocerus nepos Obenb, Col. H. Pochon“ (1 ♀, HNHM).

Distribution: Paraguay (Obenberger 1924), new to Argentina.

Remarks. *T. parvus* belongs to a large species-group of habitually very similar species, which are distributed in North Argentina, Paraguay and South-Eastern Brazil (see also Marek 2017b). The species of this complex can be distinguished by a comparison of male specimens only, the most important diagnostic characters are the general shape of body (namely shape and measures of vertex and pronotum) together with male genitalia. Females are mostly unidentified.

T. nepos Obenberger (determination of mentioned specimen by ?Pochon? (see above „Specimens examined“) is „unpublished manuscript name“ and the „type-specimens“ of *T. nepos* stored in NMPC are conspecific with the syntype of *T. parvus*.

Taphrocerus scutellatus Obenberger, 1934

Specimens examined. SURINAME: „Paramaribo, Suriname \ Taphrocerus angustus Gory det. Apt 1953“ (1 ♀, HNHM).

Distribution: French Guiana (Obenberger 1934), new to Suriname.

Remarks. Described from unstated number of specimens from Cayenne (French Guiana). It belongs to species-group distinguished at first sight from all other (by body shape and some details of morphology), which contains a few previously described species and more underscribed species known to me at present, but its determination is very difficult and based

on a comparison of specimens only (very fine but stable differences in shape of frons and vertex together with strongly different male genitalia mostly, definition of species-group and revision in prep.).

T. angustus (Gory, 1841) (Apts' determination of mentioned female-specimen (see above „Specimens examined“) was described in the genus *Brachys* Dejean, 1833 from Cayenne (French Guiana) also. There are two syntypes of *T. angustus* stored in MNHN. The first syntype belongs really to the genus *Brachys* (LT eventually), the second one is conspecific with *T. obscurellus* Obenberger, 1934.

***Taphrocerus susterai* Obenberger, 1941**

Specimens examined: NICARAGUA: „Nicaragua, Dpto San Juan, Refugio Bartola, lowland rainforest, 10°58'N, 84° 20'W \ from vegetation, 15.-20. vi. 2007, leg. O. Merkl, N. Bálint & T. Németh“ (1 specimen sex not examined, HNHM).

Distribution: Costa Rica (Obenberger 1941), new to Nicaragua.

Remarks. Well distinguished species from all Central American species of *Taphrocerus* by metallic-blue elytra with posthumeral elytral carina together with markedly fusiform general shape of body. Variable in density of white setae in pubescent spots (1+1) at elytral apical third (from dense setae to completely asetose).

***Taphrocerus tetragraptus* Obenberger, 1941**

Specimens examined. NICARAGUA: „Nicaragua, Dpto San Juan, Refugio Bartola, lowland rainforest, 10°58'N, 84° 20'W \ from vegetation, 15.-20. vi. 2007, leg. O. Merkl, N. Bálint & T. Németh“ (1 ♀, HNHM).

Distribution: Costa Rica (Obenberger 1941), new to Nicaragua.

Remarks. Somewhat variable species in elytral ornamentation (pattern) including density of white setae.

THE LIST OF TAPHROCERUS STORED IN HNHM (to 31. xi. 2017)

Species	Type status (if any)	Note
<i>T. acaranus</i> sp. nov.	HT, 4 PTs	
<i>T. affinis</i> Marek, 2017	6 PTs	
<i>T. agriloides</i> Crotch, 1873		
<i>T. apti</i> sp. nov.	HT, PT	
<i>T. aureopilosus</i> Obenberger, 1934		ST ♂ of <i>T. kheili</i> Obenberger, 1924 (see Remarks bellow)
<i>T. bifasciatus</i> Kerremans, 1900	LT, PLT	
<i>T. bolivianus</i> sp. nov.	HT	
<i>T. bruchi</i> Obenberger, 1924		Brazil, Sao Paulo - NCR
<i>T. catharinae</i> Obenberger, 1917		Paraguay, Asuncion - NCR
<i>T. collarti</i> Cobos, 1959		
<i>T. colombiae</i> Obenberger, 1934		

<i>T. cylindricollis</i> Kerremans, 1896			
<i>T. depilis</i> Kerremans, 1896			
<i>T. difficilis</i> Obenberger, 1924			
<i>T. exiguus</i> Obenberger, 1934			
<i>T. fasciatus</i> Waterhouse, 1889			
<i>T. finitimus</i> Obenberger, 1924	ST		
<i>T. fragilis</i> Marek, 2015			Bolivia, Guayaramerin - NCR; Suriname, Paramaribo - NCR
<i>T. gentilis</i> (Gory, 1841)			Brazil, Manaus - NCR
<i>T. gracilis</i> (Say, 1825)			
<i>T. hansii</i> Obenberger, 1924	ST		
<i>T. havaii</i> Marek, 2016	PT		
<i>T. helferi</i> Obenberger, 1924			ST of <i>T. helferi</i> var. <i>chalcus</i> Obenberger, 1924 syn. (see Remarks below)
<i>T. kapczyhaberi</i> Apt, 1954	HT		HT is loaned at present (see Remarks below)
<i>T. kheili</i> Obenberger, 1924	ST		ST ♂ is conspecific with ST 1 ♂ of <i>T. aureopilosus</i> Obenberger, 1934 stored in NMPC (see Remarks below)
<i>T. kubani</i> Marek, 2017			Brazil, Pernambuco - NCR
<i>T. laevicollis</i> LeConte, 1878			
<i>T. matouryensis</i> Marek, 2016	PT		
<i>T. merkli</i> sp. nov.	HT		
<i>T. nicolayi</i> Obenberger, 1924	PLT		
<i>T. obenbergeri</i> Apt, 1954	HT		
<i>T. obscurellus</i> Obenberger, 1934			Colombia, Baranquilla - NCR
<i>T. paradoxus</i> Marek, 2017	2 PTs		Suriname, Paramaribo - NCR
<i>T. paraguayensis</i> Obenberger, 1924			
<i>T. paranaensis</i> Obenberger, 1924			Paraguay, Asuncion - NCR
<i>T. parvus</i> Obenberger, 1924			Argentina, Chaco - NCR
<i>T. redeii</i> sp. nov.	HT		
<i>T. rotundicollis</i> Obenberger, 1924			
<i>T. saintantoinnei</i> Marek, 2016	PT		
<i>T. schaefferi</i> Nicolay et Weiss, 1920			
<i>T. scutellatus</i> Obenberger, 1934			Suriname, Paramaribo - NCR
<i>T. simillimus</i> Obenberger, 1924	2 STs		the smaller ST ♂ is conspecific with ST ♀ of <i>T. zikani</i> Obenberger, 1924 stored in NMPC (see Remarks below)
<i>T. sulcifrons</i> Fisher, 1922			
<i>T. susterai</i> Obenberger, 1941			Nicaragua - NCR
<i>T. szekessyi</i> Apt, 1954	LT, PLT		
<i>T. tavakiliani</i> Marek, 2016	PT		
<i>T. tetragraptus</i> Obenberger, 1941			Nicaragua - NCR
<i>T. theryi</i> Obenberger, 1924	2 STs		
<i>T. ujhelyii</i> Apt, 1954	HT		
<i>T. vimmeri</i> Obenberger, 1924			
<i>T. volitans</i> (Gory, 1841)			
<i>T. zikani</i> Obenberger, 1924			one of STs of <i>T. simillimus</i> stored in HNHM (see Remarks below)
<i>T. pressli</i> Obenberger, 1924	PLT		transferred to the genus <i>Brachys</i> (Marek 2014)
<i>T. mrazi</i> Obenberger, 1924	PLT		synonym of <i>T. pressli</i> Obenberger, 1924 (Marek 2014) (note: !not <i>Brachys mrazi</i> Obenberger, 1923)

Remarks and additions:

T. aureopilosus Obenberger, 1934. ST ♂ of *T. kheili* Obenberger, 1924 stored in HNHM is conspecific with ST 1 ♂ of *T. aureopilosus* stored in NMPC (LT designation in prep.). For distinguishing these two species see Marek 2016b.

T. helferi var. *chalceus* Obenberger, 1924 = synonym of *T. helferi* Obenberger, 1924 (according article 45.6 ICZN (1999)).

T. kapczyhaberi Apt, 1954. Not studied. The unique type-specimen is not in collection of HNHM at present.

T. zikani Obenberger, 1924. Described from unstated number of specimens from Brazil, Minas Gerais and known to me from the states Sao Paulo and Rio de Janeiro also (unpubl.). There are two syntypes of *T. simillimus* Obenberger, 1924 in HNHM (from Sao Paulo), which belong to two different species: one is conspecific with ST 1 ♂ of *T. simillimus* stored in NMPC (lectotype designation in prep.) and second one is conspecific with ST ♀ of *T. zikani* stored in NMPC.

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