

Studies on the genus *Taphrocerus* (Coleoptera: Buprestidae: Agrilinae) - Part I.

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Taxonomy, new synonyms, new combinations, lectotype designation, Coleoptera, Buprestidae, *Taphrocerus*, Neotropical Region

Abstract. The first part of a study on the genus *Taphrocerus* Solier, 1833 (Coleoptera: Buprestidae: Agrilinae) is presented. The following taxonomical changes are proposed: *T. bruchi* Obenberger, 1924 (= *T. loretanus* Obenberger, 1934 syn. nov.); *T. exiguus* Obenberger, 1934 (= *T. erbeni* Obenberger, 1941 syn. nov.); *T. guyanae* Obenberger, 1934 (= *T. inusitatus* Obenberger, 1941 syn. nov.); *T. scutellatus* Obenberger, 1934 (= *T. pumilus* Obenberger, 1934 syn. nov.). *Taphrocerus pressli* Obenberger, 1924 is synonymized with *T. mrazi* Obenberger, 1924 and transferred to the genus *Brachys* Dejean, 1833. The species *T. haenkei* Obenberger, 1924 is transferred to the genus *Brachys*. Lectotypes of *T. alutaceicollis* Obenberger, 1934; *T. balthasari* Obenberger, 1934; *T. bruchi* Obenberger, 1924; *T. cayennensis* Obenberger, 1934; *T. erbeni* Obenberger, 1941; *T. exiguus* Obenberger, 1934; *T. guyanae* Obenberger, 1934; *T. haenkei* Obenberger, 1924; *T. inusitatus* Obenberger, 1941; *T. klimbschi* Obenberger, 1917; *T. loretanus* Obenberger, 1934; *T. luderwaldti* Obenberger, 1934; *T. mrazi* Obenberger, 1924; *T. obscurellus* Obenberger, 1934; *T. pressli* Obenberger, 1924; *T. pumilus* Obenberger, 1934; *T. scutellatus* Obenberger, 1934 and *T. strandi* Obenberger, 1934 are designated. Records new to particular countries are presented for *T. bruchi* (Paraguay) and *T. exiguus* (Brazil, Ecuador, Colombia, Venezuela).

INTRODUCTION

Except for *T. capensis* Hespeneheide (in Bellamy & Hespeneheide, 1988) described from South Africa, the members of this genus are known from the New World only. One hundred seventy four valid species are listed at present. Only a few papers solve taxonomical problems: Obenberger's revisions (1924, 1934), paper of Cobos (1979), paper of Bellamy and Hespeneheide (1988), papers of Hespeneheide (1979, 2008). In the last years I took opportunity to study Obenberger's type material of this genus deposited in National Museum Prague, where majority of type specimens of this genus are stored (not only Obenberger's one, but some Cobos', Kerremans' and Waterhouse's too) together with many thousands of specimens collected in a few last years by my friends. This is a first of papers serving as basis for revision of this large and very difficult buprestid genus.

Obenberger published in his papers (1924, 1934) the most important species-features, but he did not work with male genitalia. I have prepared male genitalia of all males from Obenberger's type series (except for a few North-American species, which are given in loan for study) and of many thousands of males in my collection (mostly from South America). The study of some species (in numbers exceeding 500 males from the same population from one locality together with a plenty of specimens from the whole area of distribution) shows, that specimens of the same species vary in the pronotum and elytra shape in correlation with size, but there are no differences in the male genitalia (J. Marek in prep.). For these reasons mentioned above, there are mixed two or more species in Obenberger's syntype

series usually. So lectotype designation, synonymization or description of new species is necessary at first.

Another study is necessary in the relationship between *Taphrocerus* and *Brachys*. There are a few species-group in number of species of *Taphrocerus* I have already seen (more than 350 spp.) which I am not able to include in one of these genera (e.g., *T. scriptus* Obenberger, 1924; *T. gratiosus* Obenberger, 1934). By the way, there are specimens of the same species in coll. Obenberger described by him in both *Taphrocerus* and *Brachys*.

Dividing of *Taphrocerus* into two subgenera by Cobos (1979) needs revision, too (see Hespeneide, 2008).

MATERIAL AND METHODS

The work is based on the study of type material, additional specimens and sources are noted at the relevant places. All type specimens I introduce has been correctly designated, type specimens considered as synonyms were compared directly. The genitalia were prepared of all males mentioned below, occasional exceptions are noted at relevant place.

Lectotype designation 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). Lectotypes and paralectotypes are provided with a printed white label with the red border containing all relevant data as: type status (red capital letters), taxon name in the original combination, author name, year of publication, and inscription J. Marek design. with year of designation.

Abbreviations for lectotype designations: the slash mark \ is used to indicate data from separate labels; my notes are in brackets [], with the abbreviation [h] = handwritten, [p] = printed, [Obenberger's MS] = Obenberger's manuscript. The material examined for this study is deposited in the following collections:

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

NMPC National Museum, Praha, Czech Republic (V. Kubáň).

RESULTS

Taphrocerus alutaceicollis Obenberger, 1934

Taphrocerus alutaceicollis Obenberger, 1934: 51.

Type material. Lectotype (♂), (NMPC), by present designation: „Cayenne [h] \ TYPUS [p][red label with black margin] \ *Taphrocerus alutaceicollis* m. Type [h][Obenberger's MS] Det. Dr. Obenberger [p]”. Paralectotype (♀), (NMPC) the same data as male. Number of syntypes unknown.

Taphrocerus balthasari Obenberger, 1934

Taphrocerus balthasari Obenberger, 1934: 40.

Type material. Lectotype (♂), (NMPC), by present designation: „Bolivia Sta Cruz 450m [p] \ TYPUS [p][red label with black margin] \ Taphrocerus Balthasari m. Type [h][Obenberger's MS] Det. Dr. Obenberger [p]“. Number of syntypes unknown.

Taphrocerus bruchi Obenberger, 1924

Taphrocerus bruchi Obenberger, 1924: 79.

Taphrocerus loretanus Obenberger, 1934: 50. **syn. nov.**

Type material. *Taphrocerus bruchi*: Lectotype (♂), (NMPC), by present designation: „Corrientes [h] \ TYPUS [p][red label with black margin] \ Taphrocerus Bruchi m. Type [h][Obenberger's MS] Det. Dr. Obenberger [p]; Paralectotype (♀), (NMPC): „Rep ARGENTINA, prov. Corrientes, 190 , C.Bruch. “. Number of syntypes unknown.

Taphrocerus loretanus: Lectotype (♂), (NMPC), by present designation: „Loreto. Arg. II. Oglob. [h] \ TYPUS [p] [red label with black margin] \ Taphrocerus. Loretanus m. Typ [h][Obenberger's MS] Det. Dr. Obenberger [p]“. Number of syntypes unknown.

Other material examined. ARGENTINA: Corrientes, Sao Roque, II - 1920, Bosq, 1 ♂, (NMPC); Corrientes, M. J.Viana 1945, 1 ♂, (NMPC); PARAGUAY: Paraguari dep., p.n. Ybycui, 14.x.1991, 1 ♂, (JMSC); dep. Guaira, Calle Florida, 14.ix.1992, 1 ♂, (JMSC).

Remarks. The lectotype of *T. loretanus* is conspecific with the lectotype of *T. bruchi*. The name *T. loretanus* is a new subjective synonym of the name *T. bruchi*.

Distribution. Argentine, new to Paraguay.

Taphrocerus cayennensis Obenberger, 1934

Taphrocerus cayennensis Obenberger, 1934: 47.

Type material. Lectotype (♂), (NMPC), by present designation: „Cayenne [h] \ TYPUS [p][red label with black margin] \ Taphrocerus Cayennensis m. Type [h][Obenberger's MS] Det. Dr. Obenberger [p]“. Number of syntypes unknown.

Taphrocerus exiguus Obenberger, 1934

Taphrocerus exiguus Obenberger, 1934: 58.

Taphrocerus erbeni Obenberger, 1941: 94. **syn. nov.**

Type material. *Taphrocerus exiguus*: Lectotype (♂), (NMPC), by present designation: „Cayenne [h] \ TYPUS [p][red label with black margin] \ Taphrocerus exiguus m. Type [h][Obenberger's MS] Det. Dr. Obenberger [p]“. Number of syntypes unknown.

Taphrocerus erbeni: Lectotype (♂), (NMPC), by present designation: „Venezuela Erben lgt. [h] \ TYPUS [p][red label with black margin] \ Taphrocerus Erbeni m. Type [h][Obenberger's MS] Det. Dr. Obenberger [p]“. Number of syntypes unknown.

Other material examined. BRAZIL: Paramba, 3000', ii.1897, 1 ♂, (NMPC); COLOMBIA: old specimen with locality data "Columbia, Pohlke.", (NMPC); ECUADOR: Napo prov., 70 km SW Coca, Loreto, 4 -10. iii.2002, 300 m, leg. Marek Halada, 1 ♂, (JMPC); Ecuador SW, N of Machala, S of Naranjal, 5.ii.2011, lgt. Snížek, 2 ♂♂, 2 ♀♀, [purple-bronze with violet lustre], (JMPC); FRENCH GUYANA: Cayenne, Mt. Bourda, v.1992, J. Marek lgt., 10 ♂♂, 3 ♀♀, (JMPC); Fourgassie env. (MSA), xii.1992, J. Marek lgt., 1 ♂, (JMPC); St. Laurent du Maroni, v.1993, J. Marek lgt., 10 ♂♂, 2 ♀♀, (JMPC); Cayenne, West of Le Larivot, 10.viii.2006, Snížek lgt., 2 ♂♂, (JMPC); Cayenne, Le Larivot, 8.xii.2006, Snížek lgt., 6 ♂♂, 2 ♀♀, (JMPC); Kourou, Guatemala env., 15.xii.2006, M. Snížek lgt., 44 ♂♂, 10 ♀♀, (JMPC); the same data with ii.1993, 1 ♂, (JMPC); the same data with iii.1993, 1 ♂, (JMPC); PANAMA: Colón prov., Parque National Soberania, Canal Area: Gamboa vill., Cerro Pelado, 4.ix.2007, L. Sekerka lgt., 4 ♂♂, (NMPC); VENEZUELA: Maracay, Valencia See I. 1954, G.u. Helga Frey, 1 ♂, (NMPC); Apure, 1 ♂, 1 ♀, (NMPC).

Remarks. The lectotype of *T. erbeni* is conspecific with the lectotype of *T. exiguus*. The name *T. erbeni* is a new subjective synonym of the name *T. exiguus*.

A very distinctive species by shape of body and mainly by aedeagus. Obenberger (1934: 58) erroneously placed this species among species without pubescence [very finely, but distinctly white pubescent]. Specimens from South-West Ecuador [see below] differ from typical specimens by a wider body but more slender male genitalia and by colour, which is purple-bronze with violet reflection. Additional specimens are needed to ascertain if these characters are distinctive and stable for subspecific status [the southernmost locality known to me on Pacific side of the Andes].

Distribution. French Guyana, Mexico, Nicaragua, Panama, new for Brazil, Colombia, Ecuador, Venezuela.

Taphrocerus guyanae Obenberger, 1934

Taphrocerus guyanae Obenberger, 1934: 49.

Taphrocerus inusitatus Obenberger, 1941: 93. **syn. nov.**

Type material. *Taphrocerus guyanae*: Lectotype (♀), (NMPC), by present designation: „Cayenne [h] \ TYPUS [p][red label with black margin] \ Taphrocerus Guyanae m. Type [h][Obenberger's MS] Det. Dr. Obenberger [p]“. Number of syntypes unknown.

Taphrocerus inusitatus: Lectotype (♀), (NMPC), by present designation: „Cayenne [h] \ TYPUS [p][red label with black margin] \ Taphrocerus inusitatus m. Type [h][Obenberger's MS] Det. Dr. Obenberger [p]“. Number of syntypes unknown.

Other material examined: FRENCH GUYANA: Cayenne, Mt. Bourda, v.1992, J. Marek lgt., 1 ♂, (JMPC); Matoury-Balata, xii.1992, J. Marek lgt., 1 ♀, (JMPC); Cayenne, West of Le Larivot 3.-6.xi.1995, 2 ♀♀, (JMPC); Cayenne, West of Le Larivot, 8.xii.2006, M. Snížek lgt., 5 ♂♂, 1 ♀, (JMPC); same data with 10. vii.2006, 1 ♂, (JMPC); Kourou, Guatemala env., 15.xii.2006, M. Snížek lgt., 3 ♂♂, 3 ♀♀, (JMPC).

Remarks. The lectotype of *T. inusitatus* [an extremely big female] is conspecific with the lectotype of *T. guyanae*. The name *T. inusitatus* is a new subjective synonym of the name *T. guyanae*.

Distribution. So far known from French Guyana only.

***Taphrocerus klimschi* Obenberger, 1917**

Taphrocerus klimschi Obenberger, 1917: 62.

Type material: Lectotype (♀), (NMPC), by present designation: „Rio Grande [h] \ TYPUS [p][red label with black margin] \ *Taphrocerus Klimschi* m. Type [h][Obenberger's MS] Det. Dr. Obenberger [p]“. Number of syntypes unknown.

Remarks. In addition to the type specimen, this species is known to me only from numerous specimens from French Guyana [Cayenne env.]. They differ from the type by frons and vertex, which are not strongly protruding between eyes. There is not precise locality data both in the description and on the lectotype label [Brasil: Rio Grande do Sul ? do Norte ? (there is not any specimen specifically from Rio Grande do Norte in Obenberger's collection)], so more specimens from south of Amazonas river are needed to resolve its possible subspecific status.

***Taphrocerus luderwaldti* Obenberger, 1934**

Taphrocerus luderwaldti Obenberger, 1934: 38.

Type material: Lectotype (♂), (NMPC), by present designation: „S. Catharina Luderwaldt S. [p][green label with black margin] \ TYPUS [p][red label with black margin] \ *T. Luderwaldti* m. Type [h][Obenberger's MS] Det. Dr. Obenberger [p]“. Number of syntypes unknown.

***Taphrocerus obscurellus* Obenberger, 1934**

Taphrocerus obscurellus Obenberger, 1934: 61.

Type material: Lectotype (♂), (NMPC), by present designation: „Cayenne [h] \ TYPUS [p][red label with black margin] \ *Taphrocerus obscurellus* m. Type [h][Obenberger's MS] Det. Dr. Obenberger [p]“. Number of syntypes unknown.

Remarks. The most common and widespread species of „Amazonian“ *Taphrocerus* by my observations, which is very variable in correlation between the body shape and body size (study in preparation). Some more synonyms are expected.

***Taphrocerus scutellatus* Obenberger, 1934**

Taphrocerus scutellatus Obenberger, 1934: 54.

Taphrocerus pumilus Obenberger, 1934: 53. **syn. nov.**

Type material: *Taphrocerus scutellatus*: Lectotype (♂), (NMPC), by present designation: „Cayenne [h] \ TYPUS [p][red label with black margin] \ *Taphrocerus scutellatus* m. Type [h][Obenberger's MS] Det. Dr. Obenberger [p]“. Number of syntypes unknown.

Taphrocerus pumilus: Lectotype (♀), (NMPC), by present designation: „Cayenne [h] \ TYPUS [p][red label with black margin] \ *Taphrocerus pumilus* m. Type [h][Obenberger's MS] Det. Dr. Obenberger [p]“. Number of syntypes unknown.

Other material examined: FRENCH GUYANA: Cayenne, Mt. Bourda, iv.1992, J. Marek lgt., 1 ♀, (JMSC); Fourgassie env. MSA, v.1992, 5 ♂♂, (JMSC); same data with 10.vi.1992, 1 ♂, (JMSC); same data with ix.1992, 1 ♂, 2 ♀♀, (JMSC); Roura env., 18.xi.1995, M. Snížek lgt., 1 ♀, (JMSC); Cayenne, West of Le Larivot, 10.viii.2006, M. Snížek lgt., 1 ♂, 3 ♀♀, (JMSC); Cayenne, Le Larivot, 8.xii.2006, M. Snížek lgt., 5 ♂♂, 2 ♀♀, (JMSC); Mana env., 16.viii.2006, M. Snížek lgt., 1 ♀, (JMSC); route de Kaw, Fourgassie env., 5.viii.2006, M. Snížek lgt., 3 ♂♂, 1 ♀, (JMSC).

Remarks. Both *T. scutellatus* and *T. pumilus* were described in the same paper of Obenberger (1934) from Cayenne [French Guyana]. Comparison of the type specimen of *T. scutellatus* with numerous males from French Guyana shows, that Obenberger's important characteristic of this species – impressed scutellum - is a monstrosity of the type [genitalia without any differences]. The lectotype of *T. pumilus* [female] is conspecific with the lectotype of *T. scutellatus* [male]. The name *T. pumilus* is a new subjective synonym of the name *T. scutellatus*.

Distribution. So far known from French Guyana only.

***Taphrocerus strandi* Obenberger, 1934**

Taphrocerus strandi Obenberger, 1934: 36.

Type material: Lectotype (♂), (NMPC), by present designation: „Curoico Bolivia [h] \ TYPUS [p][red label with black margin] \ *Taphrocerus Strandii* m. Typ [h][Obenberger's MS] Det. Dr. Obenberger [p]“. Paralectotype ♀, NMPC, the same locality data as lectotype. Number of syntypes unknown.

***Brachys haenkei* (Obenberger, 1924) comb. nov.**

Taphrocerus haenkei Obenberger, 1924: 64.

Type material: Lectotype (♀), (NMPC), by present designation: „Sao PAULO: Mráz legit, Brasilia, [p] \ TYPUS [p][red label with black margin] \ *T. Haenkei* m. Type [h][Obenberger's MS] Det. Dr. Obenberger [p]“. Number of syntypes unknown.

Remarks. The species undoubtedly belongs to the genus *Brachys*.

***Brachys pressli* (Obenberger, 1924) comb. nov.**

Taphrocerus pressli Obenberger, 1924:65.

Taphrocerus mrazi Obenberger, 1924: 63. **syn. nov.**

Type material: *Taphrocerus pressli*: Lectotype (♀), (NMPC), by present designation: „Sao PAULO: Mráz legit Brasilia, [p] \ TYPUS [p][red label with black margin] \ *Taphrocerus Pressli* m. Type [h][Obenberger's MS] Det. Dr. Obenberger [p]“. Number of syntypes unknown.

Taphrocerus mrazi: Lectotype (♂), (NMPC), by present designation: „Sao PAULO: Mráz legit, Brasilia [p] \ TYPUS [p][red label with black margin] \ *T. Mrazi* m. Type [h][Obenberger's MS] Det. Dr. Obenberger [p]“; paralectotype male the same data as lectotype. Number of syntypes unknown.

Other material examined: BRAZIL: Sao Paulo, Fazenda Souzas de Campinas, 30.x.1994, W. Witmer, 1 ♀, (JMSC).

Remarks. The lectotype of *T. mrazi* is conspecific with the lectotype of *T. pressli*. The species undoubtedly belongs to the genus *Brachys*, but *B. mrazi* was described by Obenberger as soon as in 1923. In the first revision, I consider *T. mrazi* to be a new subjective synonym of *T. pressli* and secondary homonym of *B. mrazi*.

Distribution. So far known from Brazil only.

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