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Lectotype designation of *Taphrocerus mexicanus* Waterhouse, 1889 (Coleoptera: Buprestidae: Agrilinae) with description of a new species comming from the type-serie

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Abstract. Lectotype of *Taphrocerus mexicanus* Waterhouse, 1889 is designated, the redescription of *T. mexicanus* - lectotype is given and all available paralectotypes are reviewed. *T. pseudoleoni* sp. nov. is described as new from Guatemala and Mexico and compared to the most similar *T. leoni* Dugés, 1891. All species are illustrated including aedeagi and the most important iagnostic characters are given. Record new to country is presented for *T. leoni* (Guatemala).

INTRODUCTION

As I mentioned before (Marek 2014 and 2018), there are mixed two or more different species in larger type-series of previously described species of *Taphrocerus* mostly and the lectotype designation (redescription, synonymization or description of new species eventually) is necessary. This fact applies to the type-serie of *Taphrocerus mexicanus* also.

T. mexicanus was described by Waterhouse in 1889 in his excellent work about the family Buprestidae in Central America (Waterhouse 1889) from an unspecified but larger (according to the stated size) number of specimens. He gave the localities (and *collectors*/*collections*): „Mexico: Guanajuato (*Sallé*), Tepetlapa and Xucumanatlan in Guerrero, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); Guatemala: Chiacam, Tamahu and Purula in Vera Paz, Dueñas (in Saca Tepéquez) (*Champion*)“ for his new species. Two years later Dugés described *T. leoni* and listed the localities León (Silao) and Tupátaro in Mexican state Guanajuato and Morelia in Mexican state Michoacán (Dugés 1891). Fisher proposed his idea in his work about Mexican and Central American leaf and twig mining Buprestid beetles, that *T. leoni* is probably synonym of *T. mexicanus*, but he worked with the description only (Fisher 1922). My studies showed that three different species are included in the type-serie of *T. mexicanus*. Henry A. Hespenheide, well known specialist in Buprestidae, especially of Central America, made the first „cleaning“ of the type-serie of *T. mexicanus* during his visits in British Museum in 1971 and 1989. He labelled the lectotype (but not published it) and paralectotypes (which are conspecific with „lectotype“ labelled by him) (see „Type specimens studied“ under *T. mexicanus* below). He also labelled/determined some syntypes of *T. mexicanus* not conspecific with the main series of *T. mexicanus* and he labelled them by „morphonumbers“ (T 018 and T 053, see „Type specimens studied“ under *T. mexicanus*, *T. leoni* and *T. pseudoleoni* sp. nov. below) and by inscription „not mexicanus W.“.

The results of my study and conclusions are given in the present paper.

MATERIALS AND METHODS

Lectotype designation is 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). There are three different species mixed in the type-series of *T. mexicanus* and the lectotype designation is necessary. The designation of the lectotype (and all available paralectotypes) is provided by printed white label with wide 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., year of designation.

Abbreviations for lectotype designation: the slash mark \ is used to indicate data from separate labels; my notations are in parentheses [ ], with the abbreviation [h] = handwritten, [p] = printed.

The type-specimens of *T. mexicanus* mentioned in this paper were studied directly, the type of *T. leoni* (specimen from Silao and comming from the Dugés collection, labelled „HOLOTIPO“) was studied according to the excellent photos (DV, LV, FV, etikets) took by Susana G. Gomez in the collection of UNAM (UNIBIO), which are accessible on the website <http: // unibio.unam.mx / collections / specimens / urn / IBUNAM: CNIN: COL-TIP-1413> (see also Type specimens studied under *T. leoni* and Acknowledgements below).

Designation of holotype specimen is provided by printed red label with black margin. Designation of paratype specimens is provided by white labels with wide red border and red capital letters paratype. Data from locality labells are cited „verbatim“.

Further abbreviations used in the text: ( ) = my remarks and additions; (h) = handwritten, (p) = printed; HT = holotype, PT (PTs) = paratype (paratypes), LT = lectotype, PLT = paralectotype; DV = dorsal view, FV = frontal view, LV = lateral view; FCPS = „fronto-clypeal pubescent stripe“.

A Canon D-550 digital camera with the Canon MP-65 mm f/2.8 1-5x macro lens was used to captured the colour images, multiple photographs taken were combined with Helicon Focus image software, occasional exceptions are noted at relevant places.

Specimens were measured to the nearest 0.05 mm. The length of body was measured as distance between anterior margin of the head and the apex of elytra, the width of body was measured across the widest part (usually at humeri). The pronotal length was measured in the middle, the width across the widest part (usually the beginning of basal third). The elytral length was measured as the maximal perpendicular distance between anterior margin (base) and the tip of elytra. The length of aedeagus was measured as distance between its base and apex of the parameres, the width across the widest part.

The following collection codens are used throughout the text:

BMNH The Natural History Museum, London, United Kingdom;
HMCM collection of Hans Mühle, München, Germany;
JMSC collection of Jaroslav Marek, Sýkořice, Czech Republic (it will be deposited in NMPC);
NMPC National Museum, Praha, Czech Republic;
UNAM Universidad Nacional Autónoma de México, Instituto de Biología, Ciudad de México, Mexico.

RESULTS

Taphrocerus mexicanus Waterhouse, 1889
(Figs. 1, 1a-d, 4)

Taphrocerus mexicanus Waterhouse, 1889: 128-129.

Type material. *Taphrocerus mexicanus*: lectotype (BMNH, ♂) by present designation: „SYN-TYPE [p] [round label with blue margin] \ Atoyac Vera Cruz May. H. H. S. [h] \ PARA [h] LECTOTYPE [p] T. mexicanus W. [h] H. Hespenheide det. 1971. [p] [LT designation unpublished*]“. Paralectotypes: „SYN-TYPE [p] [round label with blue margin] \ Guanajuato. [h] Mexico. Salle Coll. [p] \ PARA [h] LECTOTYPE [p] T. mexicanus W. [h] H. Hespenheide det. 1971. [p]“ (1 spec. sex not examined, BMNH); „SYN-TYPE [p] [round label with blue margin] \ Mexico. Salle Coll. [p] 734 [h] \ Taphrocerus mexicanus Deyr. apud Sallé [h] \ PARA [h] LECTOTYPE [p] T. mexicanus W. [h] H. Hespenheide det. 1971. [p]“ (1 ♂, 2 spec. sex not examined, BMNH); „SYN-TYPE [p] [round label with blue margin] \ Teapa, Tabasco. March H. H. S. [p] Taphrocerus mexicanus (Type) Waterh. [h] \ LECTOTYPE* [p] T. mexicanus W. [h] H. Hespenheide det. 1971. [p]“ (1 ♂, BMNH); „SYN-TYPE [p] [round label with blue margin] \ Teapa, Tabasco. Feb. H. H. S. [p] \ PARA [h] LECTOTYPE [p] T. mexicanus W. [h] H. Hespenheide det. 1971. [p]“ (2 ♂♂, BMNH); „SYN-TYPE [p] [round label with blue margin] \ Chiacaman, Vera Pay. Champion. [p] \ PARA [h] LECTOTYPE [p] T. mexicanus W. [h] H. Hespenheide det. 1971. [p]“ (2 spec. glued on one label, sex not examined, BMNH); „SYN-TYPE [p] [round label with blue margin] \ Tamahu, Vera Paz. Champion. [p] \ PARA [h] LECTOTYPE [p] T. mexicanus W. [h] H. Hespenheide det. 1971. [p]“ (1 spec. sex not examined, BMNH); „Tamahu, Vera Paz. Champion. [p] \ Cotype [p] [red label with black margin] \ B.C.A. III. (1) Taphrocerus mexicanus [p]“ (1 ♂, 1 spec. sex not examined, NMPC); **„SYN-TYPE [p] [round label with blue margin] \ Tepetlapa, Guerrero, 3000 ft. Oct. H. H. Smith. [p] \ Taphrocerus [p] T018 NOT MEXICANUS W. [h] det. Hespenheide [p] I [h] -19 [p] 89 [h]“ (1 ♂, BMNH, note: = *T. leoni* Dugés, 1891); „SYN-TYPE [p] [round label with blue margin] \ Xucumanatlan, Guerrero, 7000 ft. July. H. H. Smith. [p] \ Taphrocerus [p] T018 NOT MEXICANUS W. [h] det. Hespenheide [p] I [h] -19 [p] 89 [h]“ (1 ♀, BMNH, note: = *T. leoni* Dugés, 1891); „SYN-TYPE [p] [round label with blue margin] \ Duenas, Guatemala, G. C. Champion. [p] \ Taphrocerus [p] T018 NOT MEXICANUS W. [h] det. Hespenheide [p] I [h] -19 [p] 89 [h]“ (1 ♀, BMNH, note: = *T. leoni* Dugés, 1891); „SYN-TYPE [p] [round label with blue margin] \ Purula, Vera Paz. Champion [p] \ Taphrocerus [p] T053 NOT MEXICANUS W. [h] det. Hespenheide [p] I [h] -19 [p] 89 [h]“ (1 ♂, BMNH, note: = *T. pseudoleoni* sp. nov., HT, see below); „SYN-TYPE [p] [round label with blue margin] \ Purula, Guatemala. Champion. [p] \ Taphrocerus [p] T053 NOT MEXICANUS W. [h] det. Hespenheide [p] I [h] -19 [p] 89 [h]“ (1 ♀, BMNH, note: = *T. pseudoleoni* sp. nov., PT, see below); „SYN-TYPE [p] [round label with blue margin] \ Mexico. Salle Coll. [p] 734 [h] \ Taphrocerus mexicanus, Deyr. apud Sallé [h] \ Taphrocerus [p] T053 NOT MEXICANUS W. [h] det. Hespenheide [p] I [h] -19 [p] 89 [h]“ (1 ♂, BMNH, note: = *T. pseudoleoni* sp. nov., PT, see below); „SYN-TYPE [p] [round label with blue margin] \ Guanajuato [h] Mexico. Salle Coll. [p] \ 734 [p] \ Taphrocerus mexicanus, Deyr. apud Sallé [h] \ Taphrocerus [p] T053 NOT MEXICANUS W. [h] det. Hespenheide [p] I [h] -19 [p] 89 [h]“ (1 ♀, BMNH, note: = *T. pseudoleoni* sp. nov., PT, see below). The exact number of syntypes unknown.
* Hespenheide´s lectotype designation unpublished; the „lectotype“ labelled by Hespenheide has strongly damaged aedeagus (almost destroyed), that´s why I choose another syntype as the lectotype designated herein
** all syntypes/paralectotypes below are not conspecific with *T. mexicanus* - lectotype

Other specimens examined: MEXICO: „Mexico / Saunders. 74.18.“ (1 spec. sex not examined, BMNH); „Ver. 1020-1120m, Xico (Jalapa), 3. vii. 1984 / Mexico 1984, W. Wittmer“ (1 ♀, JMSC); „Mexico/Veracruz, Vulcan San Martin, Montepio, 13. 7. 1992, leg. H. Mühle“ (2 specimens sex not examined, HMCM; 1 ♂, JMSC).

Diagnosis. Medium-sized (3.10-3.95 mm), broadly elongate, rather stout, about 2.6 times longer than wide, widest at humeri and before the middle of elytra; moderately convex and rather strongly lustrous above; head and pronotum coppery with more or less intensive golden lustre, elytra coppery-brown with more or less intensive violet tinge laterally and at apical half; beneath black with very slight purple-violet lustre including legs and antennae,

Figs. 1, 1a-d: *T. mexicanus* Waterhouse, 1889. 1- LT, ♂, 3.45 mm (BMNH), 1a- aedeagus of LT, 0.85 mm, 1b- PLT, ♂, 3.85 mm (NMPC), 1c- aedeagus of PLT (NMPC), 0.95 mm, 1d- detail of apical third of the left elytron (sharp posthumeral elytral carina at apical fifth-sixth laterally), PLT, ♂ (NMPC).

abdomen with strong golden lustre; elytra with an ornamental pubescence (pattern) of white setae; prehumeral pronotal carina absent; posthumeral elytral carina present sharply, well elevated, with sharp edge at fifth-sixth only.

Redescription of lectotype. Head medium-sized, wide, distinctly narrower than posterior pronotal margin; clypeus widely „V-shaped“, separated from frons by a fine carina, strongly shagreened, epistomal pores rather large, slightly elongate transversely, separated by their own diameter; frons rather strongly shagreened, impunctate, deeply and widely depressed at middle, with a small, triangular depression at middle above clypeus, the depression merging in narrow and shallow sulcus towards vertex, with a few white setae above clypeus only; vertex rather strongly convex, finely shagreened, distinctly depressed at middle, with a fine but deep groove at middle longitudinally, sparsely punctate by fine, simple punctures, each puncture with a very short, white seta; eyes medium sized, broadly oval, moderately projecting beyond outline of head, rather well visible from above; antennae long, antennomeres 6-11 widened*.

Pronotum moderately convex, 2.09 times as wide as long, widest at the beginning of basal third; rather widely transversely depressed along anterior margin, somewhat deeper laterally and almost interruptly at middle, largely and rather shallowly depressed lateroposteriorly, very obsoletely depressed in front of scutellum; without any depression on the disc; without any bump or prominence lateroposteriorly; anterior margin very widely rounded, posterior margin strongly biemarginate, slightly but distinctly narrower than base of elytra, widely

and rather deeply emarginate in front of scutellum, sides shortly subparallel anteriorly, then strongly, almost straight dilated to the beginning of basal third, bluntly angulate and then feebly constricted to the base; surface rather strongly shagreened except for pronotal disc laterally, that is more finely shagreened, sparsely ocellate-punctate by small punctures at the depressions and on the disc at middle longitudinally, the punctures at anterior transverse depression are distinctly smaller than at the lateroposterior ones, each puncture with medium-sized, thin, white seta; scutellum medium-sized, more or less regularly cordiform, shagreened.

Elytra moderately convex, 1.96 times as long as wide, widest at humeri and before the middle, slightly but distinctly wider at humeri than pronotum at the widest part; lateral margins rather shallowly and narrowly emarginate behind humeri, rather strongly and narrowly rounded at middle, then very slowly arcuately tapering towards rather narrowly and separately rounded apices; apices serrate by sharp teeth laterally; humeral swelling well developed, laterobasal depression deep, well marked and rather large; surface rather finely shagreened, punctures in rows longitudinally larger and deeper at basal third becoming finer posteriorly, almost disappearing at apical third; with ornamental pubescence (pattern) of rather long, white setae as follows: very sparse, wide but short perisutural stripe of thin setae at basal fourth, irregular („zic-zag“) interrupted transverse stripe at middle consisting of six (3+3) obsolete spots of somewhat widened setae, two (1+1) large spots at the beginning of apical fourth of much denser, markedly widened setae; apical fifth very sparsely pubescent by short, thin, white setae; posthumeral elytral carina present sharply at fifth-sixth only, well elevated, with sharp edge.

Ventral side strongly shagreened, abdomen very lustrous, punctate by very small „U-turned up-shaped“ punctures, sparsely pubescent by extremely short, thin, white setae; anal ventrite narrowly rounded and slightly protruding apically, preapical groove following outline of margin regularly semicircular, narrow; antennal grooves deep, long, widened on prosternum; prosternal proces shortly elongate, strongly shagreened, sides regularly dilated behind, apex rhomboidal, asetose, coarsely, irregularly punctate by large, simple punctures.
*antennomeres 3-11 missing in the left antenna

Aedeagus (Fig. 1a).

Sexual dimorphism. Male is very weakly slender than female only.

Measurements. Length 3.10-3.95 mm (lectotype 3.45 mm); width 1.20-1.50 mm (lectotype 1.35 mm).

Variability. Except for the size observed: the colouration varies in more or less strong golden lustre on pronotum and in more or less intensive violet tinge of elytra; the anterior pronotal margin varies from widely arcuately rounded to staight; the elytral apices varies from rather narrowly (separately) to widely (separately) rounded (see Figs. 1, 1b); posthumeral elytral carina (well elevated, with sharp edge) varies in length: from long relatively (present from the middle of elytra to very near of apices) to short relatively (present at apical fifth-sixth only). Male genitalia is very slightly variable in more or less strongly constricted parameres apically at apical third (see Figs. 1a, 1c).

Distribution. Guatemala (Waterhouse 1889); Honduras (Westcott et Hespenheide 2006); Mexico: Chiapas (Westcott et al. 1990), Guanajuato (Waterhouse 1889), Guerrero (Waterhouse 1889), Hidalgo (Westcott et al. 1990), San Luis Potosí (Westcott et Hespenheide 2006), Tabasco (Waterhouse 1889), Tamaulipas (Westcott et al. 1990), Veracruz (Waterhouse 1889); Panama (Obenberger 1937).

Remarks. *T. mexicanus* is well distinguishable from both *T. leoni* and *T. pseudoleoni* sp. nov. (see below) by posthumeral elytral carina, that is present sharply at fifth-sixth only, but well elevated, with sharp edge, well distinct (see Fig. 1d).

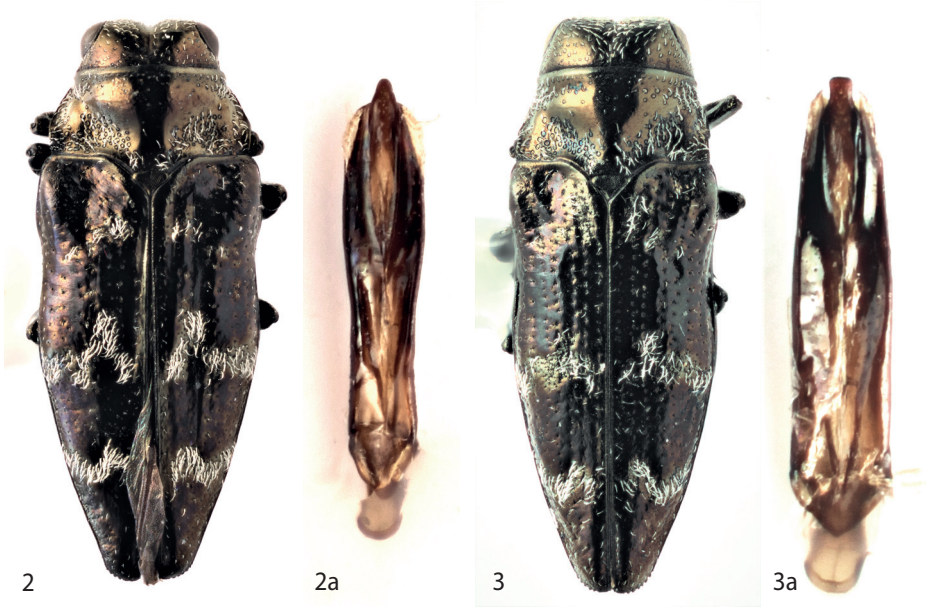
Taphrocerus pseudoleoni sp. nov.
(Figs. 2, 2a, 4a)

Type locality. Guatemala, Baja Vera Paz, Purulha.

Type material. Holotype (♂): „SYN-TYPE / Purula, Vera Paz. Champion / Taphrocerus T053 NOT MEXICANUS W. det. Hespenheide I-1989 / PARALECTOTYPE Taphrocerus mexicanus Waterhouse, 1889 J. Marek design. 2020“ (BMNH). Paratypes (3): „SYN-TYPE / Purula, Guatemala. Champion. / Taphrocerus T053 NOT MEXICANUS W. det. Hespenheide I -1989 / PARALECTOTYPE Taphrocerus mexicanus Waterhouse, 1889 J. Marek design. 2020“ (1 ♀, BMNH); „SYN-TYPE / Mexico. Salle Coll. 734 / Taphrocerus mexicanus, Deyr. apud Sallé / Taphrocerus T053 NOT MEXICANUS W. det. Hespenheide I-1989 / PARALECTOTYPE Taphrocerus mexicanus Waterhouse, 1889 J. Marek design. 2020“ (1 ♂, BMNH); „SYN-TYPE / Guanajuato Mexico. Salle Coll. / 734 / Taphrocerus mexicanus, Deyr. apud Sallé / Taphrocerus T053 NOT MEXICANUS W. det. Hespenheide I-1989 I PARALECTOTYPE Taphrocerus mexicanus Waterhouse, 1889 J. Marek design. 2020“ (1 ♀, BMNH).

Diagnosis. Medium-sized (3.35-3.80 mm), broadly elongate, stout, 2.5-2.7 times longer than wide, widest at humeri and just before the middle of elytra; moderately convex above, elytra sometimes strongly flattened, rather strongly lustrous above; head and pronotum bright coppery with strong golden lustre (especially on pronotum), elytra coppery-brown with very strong violet tinge and golden lustre; beneath black with dark purple-violet tinge including legs and antennae; elytra with an ornamental pubescence (pattern) of white setae; prehumeral pronotal and posthumeral elytral carinae absent.

Description of holotype. Head medium-sized, wide, distinctly narrower than posterior pronotal margin; clypeus very widely „V-shaped“, strongly shagreened, separated from frons by a fine carina, epistomal pores large, transversely oval, separated less than their own diameter; frons moderately convex, rather strongly shagreened, distinctly depressed at middle (DV), widely transversely depressed at anterior half (FV), the depression merging into deep and wide, well distinct sulcus towards vertex, rather densely pubescent by rather long, white setae at the anterior depression („fronto-clypeal pubescent stripe“ - ♂), glabrous at the middle transversely and by sparse, rather short, white setae at posterior half; vertex moderately convex, rather finely shagreened, markedly depressed at middle anteriorly, with a fine groove at middle longitudinally, sparsely punctate by very small ocellate punctures, each puncture with a short, thin, white seta; eyes rather large, broadly oval, rather strongly projecting beyond outline of head, well visible from above; antennae rather long and narrow, antennomeres 6-11 widened.



Figs. 2-3a: 2- *T. pseudoleoni* sp. nov., HT, ♂, (PLT of *T. mexicanus*, BMNH), 3.80 mm, 2a- aedeagus, 0.80 mm; 3- *T. leoni* Dugés, 1891, specimen ♂ from Mexico (Tepetlapa, Guerrero) (PLT of *T. mexicanus*, BMNH), 3.75 mm, 3a- aedeagus, 0.85 mm.

Pronotum moderately convex, 1.93 times as wide as long, widest at the beginning of basal third; narrowly transversely depressed along anterior margin, somewhat deeply laterally and almost interruptly at middle, largely and rather deeply depressed lateroposteriorly, with a shallow, circular depression on the disc at middle anteriorly and with two small but rather deep depressions in front of scutellum laterally; with very vague prominence lateroposteriorly; anterior margin very widely rounded, posterior margin strongly biemarginate, distinctly narrower than base of elytra, widely and shallowly emarginate in front of scutellum, sides shortly subparallel anteriorly, then strongly, almost straight dilated to the beginning of basal third, bluntly angulate and then slightly constricted to the base; surface very finely shagreened, almost smooth on the disc, sparsely ocellate-punctate by small punctures at the depressions and on the disc at middle longitudinally, the punctures at anterior transverse depression are distinctly smaller than at the lateroposterior ones, each puncture with medium-sized, thin, white seta; scutellum rather small, cordiform, strongly shagreened.

Elytra moderately convex, rather strongly, widely flattened along the suture, 1.89 times as long as wide, widest at humeri, markedly wider at humeri than pronotum at the widest part; lateral margins rather deeply and narrowly emarginate behind humeri, rather strongly and narrowly rounded at middle, then very slowly arcuately tapering towards widely and separately rounded apices, apex of elytra slightly but distinctly spathulate; apices serrate by blunt teeth laterally; humeral swelling strongly developed, laterobasal depression deep, large, well marked; surface finely shagreened with large, very finely shagreened aereas, punctures

in rows longitudinally very fine at basal half becoming more finer, almost inconspicuous at posterior half; with ornamental pubescence (pattern) of rather long, dense, white setae as follows: somewhat interrupted but distinct stripe in the end of basal fourth (obliquely down from the suture), wide, not interrupted, „zic-zag“ stripe at the middle transversely, and wide, not interrupted, „zic-zag“ stripe at the beginning of apical fourth transversely; apical fifth very sparsely pubescent by almost inconspicuous, short, white setae; posthumeral elytral carina absent.

Ventral side strongly shagreened, abdomen rather densely punctate by large, „U-turned up-shaped“ punctures, which are almost the same size on all visible sternites, rather densely pubescent by medium-sized, thin, white setae laterally and posteriorly; anal ventrite narrowly rounded, markedly protruding apically, preapical groove following outline of margin regularly semicircular, rather wide; antennal grooves deep, long, widened on prosternum; prosternal proces elongate, strongly shagreened, sides very weakly constricted between procoxae and dilated behind (almost subparallel), apex rhomboidal, very sparsely pubescent by very short, white setae, rather coarsely, irregularly punctate by fine, simple punctures.

Aedeagus (Figs. 2a, 4a)

Sexual dimorphism. Observed in: „fronto-clypeal pubescent stripe“ present in male, absent in female; the transverse depression on anterior half of frons present in male, absent in female.

Measurements. Length 3.35-3.80 mm (holotype 3.80 mm); width 1.25-1.50 mm (holotype 1.50 mm).

Variability. Except for the size observed in being more or less stout (2.5-2.7 times longer than wide); eyes from strongly to moderately projecting beyond outline of head; anal ventrite is less protruding apicaly and prosternal process is more markedly constricted between procoxae and dilated behind in female paratype from Guatemala.

Differential diagnosis. *T. pseudoleoni* sp. nov. is similar to *T. leoni* Dugés, 1891 (Figs. 3, 3a, 4b) (described from Mexico (states Guanajuato and Michoacán) and it can be distinguished by characters given in Table A below. *T. pseudoleoni* sp. nov. is also similar to *T. tenellus* (Gory, 1841) (described from Venezuela and reported from Mexican states Campeche (Westcott et al. 1990) with note: „throughout Central America (Hespenheide unpublished)“) and Tabasco (Westcott et Hespenheide 2006) in general body shape, colouration, frons deeply and rather widely depressed at middle (DV) and slightly spathulate elytral apices. *T. tenellus* is rather well distinguished by distinctly more attenuate elytra at apical half and mainly by different elytral ornamental pubescence (pattern): two (1+1) small round spots in the end of basal fourth near suture (somewhat interrupted stripe in the end of basal fourth (obliquely down from the suture) in *T. pseudoleoni* sp. nov.), six (3+3) rather dense but very narrow (!distinctly separated!), longitudinal stripes at elytral midlength (!wide, dense, not interrupted „zic-zag“ stripe at the middle transversely in *T. pseudoleoni* sp. nov.!), and two (1+1) large, slightly obliquely !oval spots! at the beginning of apical fourth (wide,

dense, !not interrupted, „zig-zag“ stripe! at the beginning of apical fourth transversely in *T. pseudoleoni* sp. nov.), as well as a few another details of its morphology. *T. pseudoleoni* sp. nov. is similar to *T. psilopteroides* Waterhouse, 1889 also (described from Mexico, Guatemala and Panama), but *T. psilopteroides* differs namely by slender body, larger eyes (LV, FV), not spathulate elytral apices, somewhat different elytral ornamental pubescence (pattern), by male genitalia (parameres more or less subparallel, apex of phallus (median lobe) widely rounded (Fig. 4c) as well as other details of morphology.

Table A. Diagnostic characters of *T. pseudoleoni* sp. nov. and *T. leoni* Dugés, 1891.

	T. pseudoleoni ♂	*T. leoni* ♂
Body shape	broadly cuneiform, somewhat more robust (2.5-2.7 times longer than wide)	broadly oval, somewhat more slender (2.7-2.8 times longer than wide)
Frons	deeply and rather widely depressed at middle (DV); with deep sulcus at middle longitudinally (FV); rather densely pubescent by long relatively, white setae at anterior half (FCPS), posterior half with sparse, short, white setae (FV)	slightly and narrowly depressed at middle (DV); with a fine groove at middle longitudinally (FV); rather densely pubescent both anterior (FCPS) and posterior half by long relatively, white setae (FV)
Vertex	less convex (FV); distinctly smaller ocellate punctures (DV); pubescent by markedly shorter and sparser white setae (DV)	more convex (FV); distinctly larger ocellate punctures (DV); pubescent by markedly longer and denser white setae (DV)
Eyes	slightly to strongly projecting beyond outline of head; rather well visible from above	not projecting beyond outline of head; very slightly visible from above
Pronotum	very finely shagreened (almost smooth on the disc); sides much stronger dilated posteriorly at anterior two-thirds, without any emargination behind the beginning of basal third; wider wider, about 1.95 times wider than long; anterior transverse depression narrower	more strongly shagreened (especially on the disc); sides less strongly dilated posteriorly at anterior two-thirds, shortly but distinctly (deeply) emarginate behind the beginning of basal third; rather slender, about 1.75 times wider than long; anterior transverse depression wider
Elytral apices	slightly but markedly spathulate; serrate by obtuse teeth	not spathulate; serrate by sharp teeth
Aedeagus	parameres distinctly emarginate at basal half, arcuately rounded at apical half (Fig. 2a); apex of phallus (median lobe) rather narrowly rounded (Fig. 4a)	parameres subparallel at basal half, slowly (almost straight) constricted at apical half (Fig. 3a); apex of phallus (median lobe) widely protruding apically and cuted (Fig. 4b)

Etymology. The specific epithet reflects very similar colouration, elytral ornamental pubescence (pattern) and a few another details of morphology as in *T. leoni* Dugés, 1891.

Taphrocerus leoni Dugés, 1891
(Figs. 3, 3a, 4b)

Taphrocerus leoni Dugés, 1891: 35, pl. 2, figs. 61, 61a.

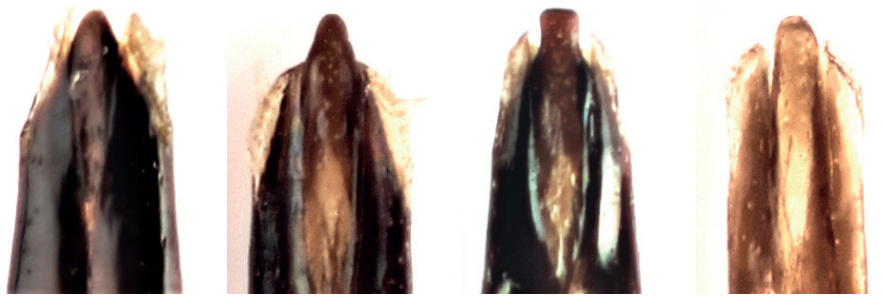
Type material*. *Taphrocerus leoni*: holotype (UNAM, sex not examined but male probably according to the pubescence of frons): „Collección E. Dugés [p] Silao. 933 (h) D - 61. (h) (red letters) (white label with black frame) / Taphrocerus leoni ? (h) (white label with acute corners) / HOLOTIPO Taphrocerus leoni Dugés (p) (red label with black frame) / 427 (h) (white label with blue stripe)".
*the holotype studied according to the excellent photos (DV, LV, FV, etikets) took by Susana G. Gomez in the collection of UNAM (UNIBIO) (see also Materials and Methods above and Acknowledgements below).

Other specimens examined: GUATEMALA: „Duenas, Guatemala, G. C. Champion." (1 ♀, BMNH, note: = PLT of *T. mexicanus*, see above). MEXICO: „Xucumanatlan, Guerrero, 7000 ft. July. H. H. Smith." (1 ♀, BMNH, note: = PLT of *T. mexicanus* see above); „Tepetlapa, Guerrero, 3000 ft. Oct. H. H. Smith." (1 ♂, BMNH, note: = PLT of *T.* mexicanus, see above).

Diagnosis. Medium-sized (3.20-4.00 mm), broadly elongate, oval, stout, about 2.75 times longer than wide, widest at humeri and just before the middle of elytra; moderately convex above, rather strongly lustrous above; head and pronotum bright golden-coppery, elytra brownish or golden-violaceous with more or less intensive golden lustre, golden or golden-green in aereas under elytral ornamental pubescence (pattern); beneath black with purplish tinge and more or less intensive golden lustre including legs and antennae; elytra with ornamental pubescence (pattrern) of white setae; prehumeral pronotal and posthumeral elytral carinae absent.

Description of male from Tepetlapa, Guerrero, Mexico. Head large, wide, narrower than posterior pronotal margin; clypeus widely „V-shaped", strongly shagreened, separated from frons by rather well elevated carina, epistomal pores medium-sized, elongate transversely, separated by their own diameter; frons weakly convex, widely and rather shallowly, transversely depressed at anterior half, the depression merging into short and shallow sulcus at middle longitudinally, finely punctate by simple punctures, pubescent by long relatively, white setae, the setae are markedly denser and widened at base at anterior half („fronto-clypeal pubescent stripe" - ♂); vertex rather strongly convex, finely shagreened, weakly, narrowly depressed at middle longitudinally, with a groove at middle longitudinally, sparsely punctate by small, ocellate punctures, the punctures are distinctly larger at posterior half than at anterior one, each puncture with medium-sized relatively, thin, white seta; eyes small relatively, slightly reniform, very poorly projecting beyond outline of head, poorly visible from above; antennae medium-sized (reaching to the pronotal midlength), antennomeres 6-11 widened.

Pronotum moderately convex, 1.78 times as wide as long, widest at the beginning of basal third and at the base; rather widely transversely depressed along anterior margin, somewhat deeply laterally and almost interruptly at middle, largely and moderately depressed lateroposteriorly, with a shallow, circular depression on the disc at middle anteriorly and with two small, deep depressions in front of scutellum laterally; with very vague prominence



Figs. 4-4c: details of apical parts of aedeagi (ventral side): 4- *T. mexicanus* Waterhouse, 1889, PLT (NMPC); 4a- *T. pseudoleoni* sp. nov., HT; 4b- *T. leoni* Dugés, 1891, specimen from Mexico (Tepetlapa, Guerrero) (BMNH); 4c- *T. psilopteroides* Waterhouse, 1889, LT (BMNH). The photos are pictured in the same ratio.

lateroposteriorly; anterior margin very widely, regularly rounded, posterior margin strongly biemarginate, the same width as base of elytra, widely and shallowly emarginate in front of scutellum, sides shortly subparallel anteriorly, then dilated to the beginning of basal third, bluntly angulate, then shortly but distinctly emarginate and then subparallel to just before the base and then slightly constricted to the base; surface rather finely shagreened except for the disc, that is rather strongly shagreened at the middle, ocellate-punctate by small punctures at the depressions and on the disc at middle longitudinally, the punctures at anterior transverse depression are the same size as at the lateroposterior ones, each puncture with rather long relatively, somewhat widened basaly, white seta; scutellum rather medium-sized, cordiform, strongly shagreened.

Elytra moderately convex, 2.05 times as long as wide, widest at humeri, slightly wider at humeri than pronotum at the widest part; lateral margins rather weakly and widely emarginate behind humeri, rather strongly and widely rounded at middle, then very slowly arcuately tapering towards rather narrowly and slightly separately rounded apices; apices serrate by sharp teeth; humeral swelling well developed, laterobasal depression deep, well marked, but rather small; surface finely shagreened with large smooth aereas, punctures in rows longitudinally larger and deeper at basal half becoming finer posteriorly, almost inconspicuous at apical fourth; with ornamental pubescence (pattern) of rather long, white setae as follows: a few thin setae at the laterobasal depressions, rather sparse but wide perisutural stripe at basal fifth becoming in obsolete, oblique stripe in the end of basal fourth, wide, not interrupted, rather narrow, dense, „zic-zag“ stripe at the middle transversely, the setae are distinctly widened basaly, wide, not interrupted, dense, „zic-zag“ stripe at the beginning of apical fourth transversely, the setae are distinctly widened basaly; apical fifth very sparsely pubescent by short, rather long relatively, white setae; posthumeral elytral carina absent.

Ventral side strongly shagreened, abdomen densely punctate by small, „U-turned up-shaped“ punctures, which are almost the same size on all visible sternites, pubescent by

medium-sized, white setae laterally and posteriorly; anal ventrite rather narrowly rounded, with shallow, semicircular emargination on apical margin, preapical groove following outline of margin regularly semicircular, wide; antennal grooves deep, widened on prosternum, medium-sized (reaching to the pronotal midlength); prosternal process elongate, sides slightly constricted between procoxae, slightly dilated behind, apex rhomboidal, surface asetose, with shallow sulcus between procoxae, apex rather coarsely punctate.

Aedeagus (Figs. 3a, 4b)

Sexual dimorphism. The pubescence of the frons is distinctly more sparcer in the female, consisting of shorter, thin, white setae (pubescent by long relatively, white setae, the setae are markedly more denser and widened at base at anterior half („fronto-clypeal pubescent stripe“ - ♂) in the male).

Measurements. Length 3.20-4.00 mm; width 1.15-1.45 mm.

Variability. Observed in the size and colouration (see Diagnosis above) only.

Distribution. Mexico: Durango (Cazier 1951), Guanajuato (Dugés 1891), Michoacán (Dugés 1891), new to state Guerrero; new to Guatemala.

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