



About the *Agrilus* from UNESP collection, University of Ilha Solteira (SP), and two additional new taxa from Amazonia (Coleoptera, Buprestidae)

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Abstract. A list of *Agrilus* species (Buprestidae) collected by researchers at the Department of Plant Protection (UNESP) in Ilha Solteira is provided. The contribution includes the description of a new species, *Agrilus adrianae* sp. n., to which are added the descriptions of two additional entities found in the collections of the Museum of Zoology of São Paulo (MZSP): *Agrilus matus* sp. n. and *Agrilus subtilis* sp. n.

Riassunto. Sugli *Agrilus* della collezione dell'UNESP, Università di Ilha Solteira (SP) e su ulteriori due nuovi taxa dell'Amazonia (Coleoptera, Buprestidae). È proposto un elenco delle specie del genere *Agrilus* rinvenuti dai ricercatori del Department of Plant Protection (UNESP) di Ilha Solteira. Il contributo comprende la descrizione di una nuova specie, *Agrilus adrianae* sp. n., cui sono aggiunte le descrizioni di ulteriori due entità rintracciate nelle collezioni del Museo di Zoologia di São Paulo (MZSP): *Agrilus matus* sp. n. e *Agrilus subtilis* sp. n.

Resumo. Sobre os *Agrilus* da coleção da UNESP, Campus Ilha Solteira (SP) e descrição de duas novas espécies para Amazônia (Coleoptera, Buprestidae). É proposta uma lista de espécies pertencentes ao gênero *Agrilus* coletadas pelos pesquisadores do Departamento Plant Protection (Unesp - Ilha Solteira). O trabalho inclui a descrição de uma nova espécie, *Agrilus adrianae* sp. n. e duas novas espécies encontradas nas coleções do Museu de Zoologia da Universidade de São Paulo (MZSP): *Agrilus matus* sp. n. e *Agrilus subtilis* sp. n.

Key words. Coleoptera, Buprestidae, Brazil, checklist, *Agrilus* new species.

ZooBank registration. <https://zoobank.org/NomenclaturalActs/a83a3a27-5887-49dd-87f4-85b5637bc8f6>
<https://zoobank.org/NomenclaturalActs/15d891b5-2d47-4b1c-8af3-0654c519c1b7>
<https://zoobank.org/NomenclaturalActs/a2c8a61e-2c6e-481d-bb84-fc56afb393d7>

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Introduction

In November 2018, after the invitation of Prof. Carlos Fletchmann, a specialist in Curculionidae Scolytinae, we had the opportunity to visit the Plant Protection Department of the University of Ilha Solteira (UNESP) in the state of São Paulo. This possibility was the natural development of a previous collaboration (CURLETTI & MIGLIORE, 2014). On that occasion, we had the opportunity to revise the collection, get to know the staff of collaborators, and learn their working methodology in the search for xylophages harmful to cultivated plants in their experimental facilities. The use of window traps placed between branches and primed with ethanol is also moderately attractive to Buprestidae, particularly species of the genus *Agrilus*. The importance of the collection is, in our opinion, the fact that each specimen is accompanied not only by the essential data (locality, date, collector), but is enriched with further important information concerning the biotope in which they were found, providing previously unpublished information on the biology of the species. For this

reason, it is considered useful to provide a list of the species preserved in the UNESP and Museu de Zoologia, São Paulo (MZSP) collections and currently on loan for study in the Museo Civico di Storia Naturale, Carmagnola (MCCI). Their study has led to the identification of a previously undescribed species, together with two other new taxa from the Museu de Zoologia, São Paulo (MZSP).

Materials and methods

The faunistic list provided in this paper follows an alphabetical order; in addition, collecting data provided on the labels of each specimen is given verbatim. Of the two unidentified species on the checklist, one is in poor condition and unidentifiable, while the second, consisting of two female specimens, belongs to a group that can only be identified by using male genitalia. The specimens were prepared dry, gluing them onto specially shaped cards to fix the specimens in the ventral median part, which allows the observation of characters useful for showing anatomical details. In some specimens, genitalia were dissected and dry-mounted next to the specimens. The glue used is water-soluble.

Photographs were taken with a Canon EOS 5D Mark II camera using different lenses depending on the subjects: Canon MP-E 65 for dorsal views, Lomo Plan 3.5x0.10 for lateral views and a 20x metallographic microscope lens of unknown make for genitalia. The photos were processed with the Zereine Stacker software. The material was collected mainly with the help of ethanol traps, yellow sticky traps, spider webs, and hand collection.

Acronyms:

GCCI	Collezione Curletti, Carmagnola, Italy.
MCCI	Museo Civico di Storia Naturale, Carmagnola, Italy.
MEFEIS	Entomology Museum, Ilha Solteira University, Brazil. INPA: Instituto Nacional de Pesquisas da Amazônia, Manaus, Brazil.
MZSP	Museu de Zoologia, São Paulo, Brazil.
UNESP	Ilha Solteira University, Department of Plant Protection, Brazil.

Checklist

Agrilus adrianae sp. n., see description.

Agrilus desideratus Kerremans, 1897. 1 ex., Selviria SP, UNESP Farm, cerradão fragment in advanced stage of regeneration, 20°23'25"S 51°24'65"W, ethanol-baited FIT, 12.I.2021, G.C. Pinheiro leg.; 1 ex. MS Selviria, 20°22'58"S 51°24'43"W, 96% ethanol-baited window sticky trap in cerradão fragment in advanced stage of regeneration, 30.IX.2022, G. Paiola leg.

Agrilus elimatus Obenberger, 1935, 1 ex., BR-MG-São Roque de Minas, Fazenda Taquaril, *Khaya grandifoliola* stand planted, Jan. 2013, 20°7'44.98"S 42°27'05.10"W, ethanol-baited FIT, 11/05/2016, E.C. Simões leg.; 1 ex., BR-MS-Selvíria, UNESP Farm, cerradão in advanced stage of regeneration, 20°22'58.72"S 51°24'42.30"W, ethanol-baited bottle trap, 13.IV.2018, G. Paiola, leg.

Agrilus espirosus Curletti, 2020. 1 ex., BR-ES-Linhares, Floresta Nacional dos Goitacazes, secondary seasonal deciduous forest fragment, 19°26'08.7"S 40°04'33.4"W, ethanol-baited FIT, 24.I.2017, D.S. Martins leg.

Agrilus fasciatellus Thomson, 1878. 1 ex., BR-MG-São Roque de Minas, Fazenda Taquaril, *Khaya grandifoliola*, stand planted Mar 2010, 20°6'21.86"S 42°27'30.19"W, ethanol-baited FIT, 11/05/2016, E.C. Simões leg.; 1 ex., Apucarana PR, 06.IX.2023, 23°32'51"S 51°21'36"W, 96% ethanol-baited FIT in *Toona ciliata*, cvBV1119 stand planted in November 2020, L. de Souza Covre leg.

Agrilus flechtmanni Curletti & Migliore, 2014. 13 exx., typical series; 2 exx., BR-SP-Ilha Solteira, UNESP campus, 20°25'08"S 51°20'31"W, ex trunk of fallen *Anadenanthera falcata*, yellow sticky card, 14-25.XI.2018, G. Curletti leg.

Agrilus nobilitatus Kerremans, 1899. 1 ex., BR-MS-Selvíria, UNESP Farm, cerradão fragment in advanced stage of regeneration, 20°23'01.3"S 51°24'41.3"W, ethanol-baited window trap, 17.XI.2017, G. Paiola, leg.; 1 ex., Selvíria SP, cerradão fragment in advanced stage of regeneration, 20°23'02"S 51°24'45"W, 09.III.2021, ethanol-baited FIT, G.C. Pinheiro leg.

Agrilus sigillum Curletti & Brûlé, 2013. 1 ex., Selvíria MS, 20°22'58"S 51°24'43"W, 30.IX.2022, 96% ethanol-baited window sticky trap in cerradão fragment in advanced stage of regeneration, G. Paiola leg.

Agrilus similanus Obenberger, 1923. 1 ex., Selvíria, MS, 20°22'58"S 51°24'43"W, 07.X.2022, 96% ethanol-baited window sticky trap in cerradão fragment in advanced stage of regeneration, G. Paiola leg.

Agrilus verutus Kerremans, 1897. 1 ex., BR-SP-Ilha Solteira, UNESP campus, 20°25'08"S 51°20'31"W, ex trunk of fallen *Anadenanthera falcata*, 14-25.XI.2018, yellow sticky card, G. Curletti leg.

Agrilus sp. 1. 1 ex., Capinópolis MG, 18°45'58"S 49°29'02"W, 30.IX.2022, 96% ethanol-baited FIT in *Khaya grandifolia* stand planted in November 2013, L. de Souza Covre leg.

Agrilus sp. 2. 2 exx. Selvíria, 20°22'58"S 51°24'43"W, 30.IX.2022, 96% ethanol-baited window sticky trap in cerradão fragment in advanced stage of regeneration, G. Paiola leg.

Additional extra taxa

Agrilus matus n. sp., see description.

Agrilus subtilis n. sp., see description.

Descriptions

Agrilus adrianae sp. n. (Figs. 1, 2)

Material examined

Holotypus ♀: Brazil, Curitiba PR, Parque Bacacheri, 25°23'20"S 49°13'49"W, 30.IX.2024, 96% ethanol-baited FIT in secondary mixed ombrophilous forest in intermediary stage of regeneration (MEFEIS).

Holotype description

Length 6.1 mm. Stumpy form, width/length ratio 0.29. Bright bronze dorsal color. Head small, bilobed, subconical in appearance, with eyes not protruding in dorsal view. Vertex about half as wide as the anterior margin of the pronotum. Frons broad, concolorous, with two vague circular impressions barely perceptible at mid-height. Inner margins of the eyes parallel, forming a hint of keel. Grey, short pubescence presents only at base. Epistoma strongly transversely carinate. Antennae serrate from the fourth antennomere onwards.

Pronotum wide anteriorly, width/length ratio 1.42. Lateral margins rounded and basal angles right. Anterior margin slightly advanced between eyes. Disc with a wide and deep median depression, covered with grey pubescence. Same pubescence, but shorter and less visible on sides. Abnormal sculpture, striated horizontally on the sides of the median depression. Prehumeral carinae interrupted. Marginal carinae united posteriorly by about half their length. Gular sclerite broad, with slightly sinuate anterior margin. Prosternal process parallel. Scutellum broad and carinate. Elytra slightly elongated in relation to their width. Apices subrounded, coarsely microdenticulate, tending to coppery color. Pubescence hardly describable (Fig. 1), in which, however, a broad transverse band can be seen at 2/3 of the length. Abdomen practically glabrous, or rather with barely visible short pubescence uniformly distributed. Legs with metatibia flattened and longer than the metatarsus. Basal metatarsomere as long as the sum of the following three. All claws dentate.

Etymology

Named after Adriana da Silva Santos who collected for many years in urban fragments of the original forest in Curitiba.

Diagnosis

A. adrianae n. sp. has monochrome pubescence. The similar South American species have as a rule two-colored pubescence (CURRETTI & BRÛLÉ, 2011). *A. sallei* Dugés, 1878 of Mexico is the species with which it shows some affinity, but this one has more prominent eyes, depression of the pronotum less wide and deep, and concave elytral apices.



Fig. 1. *Agrilus adrianae* sp. n., holotype, dorsal view.



Fig. 2. *Agrilus adrianae* sp. n., holotype, lateral view.

Agrilus subtilis sp. n. (Figs. 3, 4)

Material examined

Holotype ♀: Brazil, Manaus, Campus Universitario, 28.VII.1979 (MZSP).

Paratype ♀: idem, 25.V.1978 (GCCCI).

Holotype description

Length 4.9 mm. Thin and elongated, width/length ratio 0.17, glabrous appearance; uniform dark bronze color. Head globose, prominent, with eyes not protruding and barely visible in dorsal view. Vertex more than half the width of the anterior margin of the pronotum. Frons narrow, glabrous, barely furrowed longitudinally, with bright coppery color and coarse sculpture. Antennae short, serrate by fourth antennomere. Pronotum elongate, with lateral margins arcuate medially, but strongly sinuate posteriorly, with acute basal angles. Sculpture coarse, forming broad transverse arcuate striae. Prehumeral carinae barely visible, almost absent. Marginal carinae spaced, parallel, also separated posteriorly. Gular sclerite with regular rounded anterior margin. Prosternal process flat and parallel. Scutellum in normal, slightly transverse, carinate. Elytra with thin, punctate, pale pubescence visible under medium magnification. Protuberance of humerus accentuated and prominent. Apices thin, separately rounded, microdenticulate. Venter practically glabrous, with apical margin of last ventrite rounded. Metecoxa and metepisterna pubescent with white. Legs with metatibia as long as metatarsus. Basal metatarsomere longer than the sum of the following two. All claws dentate.

Paratype description

Length 4.9 mm. The paratype has less arcuate lateral margins of the pronotum and clearly visible, almost the entire prehumeral carinula. Despite these differences, the remaining characters closely match those described for the holotype.

Etymology

From Latin “subtilis” = thin, slim, for its narrow and elongate shape.

Diagnosis

Agrilus subtilis sp. n. is similar to *Agrilus languens* Kerremans, 1903 from which it differs substantially in its more prominent and globular head.



Fig. 3. *Agrilus subtilis* sp. n., holotype, dorsal view.



Fig. 4. *Agrilus subtilis* sp. n., holotype, lateral view.

Agrilus matus sp. n. (Figs. 5, 6, 7)

Material examined

Holotype ♂: Brazil, MS [Mato Grosso del Sul], SW Bodoquena 20°41'50"S 54°52'54"W, 15.XI.2011 (MZSP). Paratypus ♀: idem (GCCCI).

Holotype description

Length 5.1 mm. Black dorsal color, vaguely cuneiform appearance, with pronotum wider than the elytra that are narrowed posteriorly. Three pairs of elytral white spots arranged along the suture, respectively at the base, 1/3 and 2/3 of the elytra. Vertex 1/3 as wide as the anterior margin of the pronotum. Frons glabrous, bright copper color, coarse sculpture. Clypeus concolor, trapezoidal, not carinate. Antennae lobed from the fourth antennomere; the lobes of the antennae are bronzed at the apex. Pronotum slightly convex in the median part, flattened posteriorly, wider anteriorly, strongly sinuous before the posterior angles which are acute. Anterior margin moderately curved. Rough, transversal sculpture. White scattered pubescence along the lateral margin. Prehumeral carinulae not very evident and not very visible, entire, joined to the lateral margin just before its mid-length. Marginal carinae open forwards, also separated posteriorly. Gular lobe with widely sinuated anterior margin. Prosternal process flat and parallel. Scutellum with slightly arcuate median carina. Elytra tapered posteriorly, with separately rounded and microdenticulate apices. In addition to the three pairs of spots, the disc is covered in short, thin and uniform pubescence, almost invisible at the base, but progressively lighter and more visible towards the back. First laterotergum with white pubescent spot. Same pubescence on the metacoxa, on the metepisternum, at the sides of the three apical ventrites. Another central anterior pubescence on the basal ventrite, which has a further spot on the median part, placed in a vague depression. Legs: metatibia as long as the metafemur; metatarsus less long than metatibia; basal metarsomere less long than the sum of the following two. Anterior claws bifid. Aedeagus only partially extracted so as not to damage the specimen, presumably 1.2-1.4 mm long, sclerified, flattened, symmetrical, with apex of the median lobe acute (Fig. 7).

Paratype description

Length 5.2 mm. Apart from size, no differences from the holotype are noticeable. Sexual characters reside solely in the conformation of the anterior claws, which are dentate in the female.

Etymology

From the partial name of the holotype country.

Diagnosis

Among the many known species with the same arrangement of elytral spots, the one most similar to *Agrilus matus* sp. n. is *Agrilus biankii* Obenberger 1933, whose pronotum is vaguely similar. In this species described by Obenberger, the elytral apex is less acute, the secondary elytral setae are absent, the prehumeral carinulae are absent, the vertex is more furrowed, and the anterior margin of the pronotum is more advanced between the eyes.

The geographical information on the label needs to be verified, as the coordinates indicate a forest more than 200 km away from the town of Bodoquena. No village of the same name is reported near this biotope. Alternatively, it can be assumed that the term Bodoquena was intended as a micro-region and not as a town.



Fig. 5. *Agrilus matus* sp. n., paratype, dorsal view.



Fig. 6. *Agrilus matus* sp. n., paratype, lateral view.

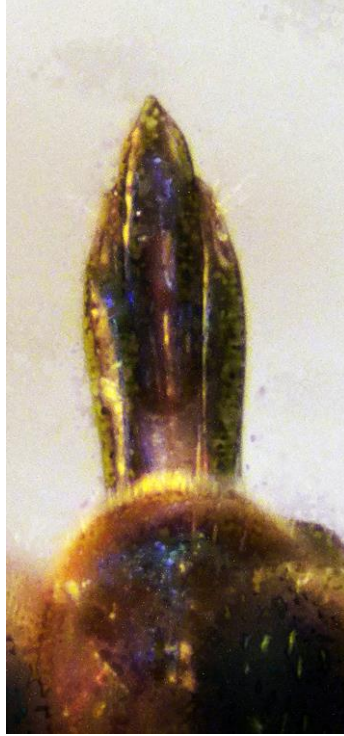


Fig. 7. *Agrilus matus* sp. n., aedeagus, visible part, 0.5 mm.

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