

# *Procrustomachia*

Occasional Papers of the Uncensored Scientists Group

3, 4: 51-55

Milanówek

30 IX 2018

ISSN 2543-7747

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## **A buprestid with dentate metafemora: *Agrilus (Deyrollilus sg.n.) lancifer* DEYR. (Coleoptera: Buprestidae)**

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### **Introduction**

One in every four of the hitherto known species of the **Buprestidae** LEACH belongs to *Agrilus* CURT., but despite – or perhaps rather just because of – their multiplicity the genus remains very poorly known even at the  $\alpha$ -taxonomic level. Until the very end of XX century a comprehensive (often badly outdated) revisions of the genus *Agrilus* CURT. existed only for the Nearctic (FISHER 1949) and few local [mainly European – COBOS (1986), THÉRY (1942), SCHAEFER (1949) – but also *e.g.* Antillean (FISHER 1925), Indochinese (DESCARPENTRIES & VILLIERS 1963a,b,c) or Philippinese (FISHER 1921, OBENBERGER 1924)] faunae, and the only serious attempt at the supraspecific classification was ALEXEEV's (АЛЕКСЕЕВ 1998) subdivision of Palaearctic representatives of the genus. In the last years the situation has started to significantly improve: CURLETTI's and JENDEK's studies have already brought the faunistic and taxonomic knowledge of exotic *Agrilus* CURT. to the state enabling publication of the former's comprehensive revisions of Australian (CURLETTI 2002), Solomonese (CURLETTI 2003) and New Guinean (CURLETTI 2006) taxa, the latter's reviews (begun with JENDEK 2000 and hopefully not ended with JENDEK & NAKLÁDAL 2018) of various groups of S-Asian species, or such monumental works as JENDEK & GREBENNIKOV 2011. Nevertheless, very much yet remains to be done before Neotropical, Ethiopian or Indo-Pacific *Agrilus* CURT. faunae may be evaluated as reasonably well known...

Among *ca.* 1000 known species representing the genus in the Indo-Pacific Region there is a rather prolific group of mostly small beetles, easily recognizable by tridentate elytral apices and several other characteristics giving them a distinctive, almost unmistakable (somewhat resembling the Palaearctic sg. *Quercagrilus* ALEX., whose elytra have, however, simply rounded tips) outlook and justifying the erection of a new subgenus described below.

### Conventions

Like in my other publications (unless “corrected” by editors...), I follow the very useful conventions of applying (of course, except wordly citations, where the original form must be retained) SMALL CAPS to *all* [irrespective of context and full vs. abbreviated version: inconsistent use deprives the display of any sense!] personal family- (*not* given-) names, *italicizing* species- and genus-group names (as well as citations and words in languages different from that of the main text), and writing the suprageneric taxon-names in **Bold** [the latter is not a generally accepted custom, but is often important, as some of such names (*e.g.* of the subtribes **Buprestina LEACH**, **Melobasina BÍLY** or **Coraeбина BED.**) are (or may easily become) “homonymous” (but valid!) with generic or subgeneric ones (*Buprestina OBB.*, *Melobasina KERR.*, *Coraeбина KERR.*): we must make possibly unequivocal what we have in mind, and possibly easy for the reader to “optically” spot the “wanted” name in the (especially longer) text!

### Abbreviations:

H	=	width of head with eyes
V	=	width of vertex between eyes
RBH	=	collection of Roman B. HOLYŃSKI
BPkyh	=	specimen-identifying signature

### *Deyrollilus sg.n.*

**Type species:** *Agrilus viridiaeneus* DEYROLLE 1864: 177-178

**General characteristics:** Body small or (rarely) medium sized (3-10 mm.), slender, usually dark (various combinations of green, blue, bronzed or blackish); elytral pubescence white or yellowish, more distinct (especially in apical half) towards suture, otherwise almost evenly distributed or with more or less conspicuous dark transverse area at posterior third; exceptionally whitish pubescence reduced to linear [peri-]sutural vittae. Epistome less than twice wider than long; front longer than wide, maximum width at upper third or fourth, sides sinuately narrowed downwards; eyes rather prominent; vertex narrow ( $V:H \leq 0.5$ ). Prehumeral carinula on pronotum (with few exceptions) sharp, separated from lateral margin at base but then turning outwards to closely approach it at midlength and usually run parallel to anterior fourth; rather deep sulci along inner side of prehumeral carinulae usually connected by shallower transverse prebasal depression; median sulcus shallow, often indistinct; marginal and submarginal carinae confluent at base. Elytral apices tridenticulate but lateral and – especially – sutural denticle often more or less obliterated. Apex of anal sternite rounded or very broadly and shallowly emarginated; pygidium with sharply elevated, usually bicarinate ridge, prolonged into more or less distinct (sometimes reduced to poorly individualized triangular protrusion) mucro; 1. metatarsomere subequal to all the following combined. Sexual differences may appear in structure and/or colour (flat, densely and finely punctulate, green or blackish in male; markedly sulcate, rather coarsely punctatorugose, cupreous-red in female) of front, pubescence (more conspicuous in male) of prosternal process, occurrence in male of pair of more or (usually) less conspicuous tubercles at the suture between 1. and 2. sternite and (in at least one species) dentate metafemora with brush of white pubescence – but none of these sexual characters seems to be universal in the subgenus.

**Remarks:** It is not easy to formulate a concise but reliable diagnosis for this subgenus, although more or less clearly tridenticulate elytral apex in combination with small to (rarely) medium-sized body, dark colouration, lack of contrasting pubescent pattern (at most a subglabrous area behind elytral midlength or narrow sutural stripe in apical half), narrow front and vertex, pronotal disk not or but shallowly depressed along midlength, very well (with very few exceptions) developed prehumeral carinulae accentuated from inner side by deep sulci, mucronate or at least acutely triangular pygidium, 1. metatarsomere as or nearly as long as the remaining ones together, &c., make it immediately recognizable “at glance”. The majority of here included species seem to fit the concept of the “*Agrilus adonis* species-group”, whose author (JENDEK 2015), however, includes there – besides many taxa unknown to me – also some having, in my opinion, little to do with *A. adonis* DEYR. or its true relatives

(while not mentioning some evidently belonging here). Named in honour of Henri DEYROLLE, whose elaboration of rich WALLACE's collections still remains the most important single source of knowledge of the insular Indo-Pacific **Buprestidae** LEACH in general and *Agrilus* CURT. in particular.

**Included species:** *A. insularis* DEYR., *A. tripartitus* DEYR., *A. pictithorax* OBB., *A. albogaster* DEYR., *A. jendeki* sp.n., *A. celebiensis* DEYR., *A. cyanicollis* DEYR., *A. viridiaeneus* DEYR., *A. tuberculiventris* DEYR., *A. aurocoeruleus* OBB., *A. illocatus* sp.n., *A. adonis* DEYR., *A. ciliatipes* DEYR., *A. rosazae* CURL., *A. inquinatus* SND., *A. gianfrancoi* sp.n., *A. saundersianus* OBB., *A. nigrocinctus* SND., *A. lancifer* DEYR., ?*A. lineatomaculatus* DEYR.; several species known to me only from descriptions and/or pictures seem also to belong here, but I am leaving their eventual inclusion to the students having the possibility to examine them in nature.

**Geographical distribution:** The area of greatest diversity of the subgenus extends from Malay Peninsula through Greater Sunda Is. and Celebes to Philippines; somewhat aberrant (on various ways) species occur in NE-India, "China" (without locality details) and Solomon Is.; none of the species known to me *in natura*, inhabiting Lesser Sundas or New Guinea, can be included in *Deyrollilus* sg.n. [although some described by CURLETTI (2006) seem to be conceivable candidates].

*A. lancifer* DEYR., one of the largest representatives of *Deyrollilus* sg.n., has been known already for more than one and a half century: it was first discovered by DEYROLLE (1864) among the material collected by WALLACE on Borneo, KERREMANS (1900) described it secondarily from Perak (Malay Peninsula) as *A. perakianus* KERR., and then OBENBERGER (1924) again from Borneo as *A. dajakorum* OBB. JENDEK (2001) synonymized *A. dajakorum* OBB. with *A. lancifer* DEYR., but *A. perakianus* KERR. has still been treated in collections and referred to in catalogues (e.g. BELLAMY 2008) as separate species, although it seems also identical to them: I have not seen the type of (or any other specimen reliably identified as) *A. lancifer* DEYR., but am unable to find any taxonomically interpretable difference between the original descriptions [to be sure, according to the Latin version of OBENBERGER's (1924c) diagnosis of *A. dajakorum* OBB. front would be flat ("*Fronte plana*"), but this qualification has not been repeated in (otherwise practically identical) English translation, and anyway DEYROLLE writes clearly "*Tête ... largement sillonnée au milieu*"!]; also the two specimens from Perak in my collection (compared to two syntypes of *A. perakianus* KERR. in BMNH) show no appreciable "above-individual" difference from four Bornean and one Palawanese beetles.

Thus, at least four renowned specialists have studied the species in detail, and none of them (nor, as far as I am aware, anybody else) mentions any particularity of its legs, so I was totally astonished having discovered on the male metafemur a blunt – and somewhat hidden under a prominent tuft of dense white pubescence, a culmination of pubescent brush stretching over the entire basal half of posterior edge of the femur – but well developed dent! [Fig. 1]. I can recollect no other *Agrilus* CURT. species with dentate legs, and generally in the **Buprestidae** LEACH. such structures are very rare: dents occur e.g. on male mesotibiae in some *Dicerca* ESCH. or on profemora in both sexes of *Chrysobothris* ESCH. but, as far as I remember, never on metafemora! The exact function of metafemoral dent in *A. (D.) lancifer* DEYR. remains unknown, but – as a peculiarity of only male sex – it, like genitalia, pheromones or courtship behaviour (see e.g. HOLYŃSKI 2009 for the discussion) evidently plays some role as a component of specific mate recognition system (SMRS).



dorsal



lateroventral

**Fig. 1**

*A. (D.) lancifer* Deyr. ♂ [RBH: BPkyh] – Palawan: Binaluan

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Informal *Uncensored Scientists Group*

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