

NOTA / NOTE

Note on *Curculio rubicundus* Herbst, 1795
(Coleoptera: Curculionidae).Miguel Á. Alonso-Zarazaga¹, Enzo Colonnelli² & Roberto Caldara³

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Abstract: The name *Curculio rubicundus* Herbst, 1795 was found through a database search to be in use until now for two different species of Curculionidae: as a valid species in the ceutorhynchine genus *Coeliodinus* Dieckmann, 1972, and as a synonym of the curculionine *Ellescus scanicus* (Paykull, 1792), a member of the tribe Ellescini C.G. Thomson, 1859. The **new species** *Coeliodinus phrymos* Alonso-Zarazaga & Colonnelli is described for the species of Ceutorhynchini Gistel, 1848 so far misidentified as *Curculio rubicundus* Herbst. The following **new synonymy** is thus established: *Coeliodinus phrymos* Alonso-Zarazaga & Colonnelli, **new species** (= *Curculio rubicundus* Herbst, 1795 *sensu* Paykull, 1800, not *Curculio rubicundus* Herbst, 1795 = *Curculio melanocephalus* Marsham, 1802, not *Curculio melanocephalus* DeGeer, 1775). *Coeliodinus phrymos* is designated type species of genus *Coeliodinus* under Art. 70.3.2. of the International Code of Zoological Nomenclature.

Key words: Coleoptera, Curculionidae, *Coeliodes rana*, double use, new species, new synonymy.

Resumen: Nota sobre *Curculio rubicundus* Herbst, 1795 (Coleoptera: Curculionidae). Una búsqueda en una base de datos ha permitido encontrar que el nombre *Curculio rubicundus* Herbst, 1795 ha sido empleado hasta ahora para dos especies distintas de Curculionidae: una especie válida en el género de ceutorrinquinos *Coeliodinus* Dieckmann, 1972 y un sinónimo del curculionino *Ellescus scanicus* (Paykull, 1792) de la tribu Ellescini C.G. Thomson, 1859. Se describe la **nueva especie** *Coeliodinus phrymos* Alonso-Zarazaga & Colonnelli para la especie de Ceutorhynchini Gistel, 1848 mal identificada hasta ahora como *Curculio rubicundus* Herbst. Se establece también la siguiente **nueva sinonimia**: *Coeliodinus phrymos* Alonso-Zarazaga & Colonnelli **n. sp.** (= *Curculio rubicundus* Herbst, 1795 *sensu* Paykull, 1800, non *Curculio rubicundus* Herbst, 1795 = *Curculio melanocephalus* Marsham, 1802, non *Curculio melanocephalus* DeGeer, 1775). Se designa *Coeliodinus phrymos* especie tipo del género *Coeliodinus* en aplicación del Art. 70.3.2 del Código Internacional de Nomenclatura Zoológica.

Palabras clave: Coleoptera, Curculionidae, *Coeliodes rana*, doble empleo, nueva especie, nueva sinonimia.

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Introduction

Catalogues and databases are powerful tools for improving our knowledge of a selected group of animals and plants, and, although the publication of one of these should be seen rather as a starting than an endpoint, an updated catalogue gives an overview of what has been published up to a certain date about the nomenclature of a group of taxa.

The recently issued cooperative catalogue of Palearctic Curculionoidea (Alonso-Zarazaga et al., 2017), precisely because it is a multi-authored paper coordinated by the first author of this note, put forward some errors about the nomenclature of this beetle superfamily, errors which otherwise would have been concealed, as it was thus far the case.

In particular, the first author noticed that the name *Curculio rubicundus* Herbst, 1795 appeared twice in the database WTaxa (<http://wtaxa.csic.es>) while it was being prepared for a recent update (4 December 2017). He checked later the occurrence of both uses in this catalogue, on page 142 as the type species of the ceutorhynchine genus *Coelioidinus* Dieckmann, 1972, and then on page 196, as a synonym of the curculionine *Ellescus scanicus* (Paykull, 1792), and both sources agreed.

He warned the second and third authors, responsible, respectively, for the Ceutorhynchini Gistel, 1848 and Ellescini C.G. Thomson, 1859 parts of the catalogue in order to discover first of all the true identity of *Curculio rubicundus* Herbst, and next to solve the nomenclatural problem posed by this name.

Material and methods

Measures of specimens were taken, as explained in Colonnelli (2005), with an ocular grid associated to a Wild M5 microscope. Labels are reported as written, a slash separating different lines of a label. Names of localities were completed between square brackets when necessary. Pictures were taken by Francesco Sacco with a Nikon D810 camera provided with an AF Micro Nikkor 60 mm 1:2.8, f/5.6 lens mounted on bellows, lighted by a flash linked to the camera. Picture of the entire specimen needed 175 shoots, and that of aedeagus required 54 shoots, then stacked with the program Helicon Focus to obtain good quality photos.

Results

The Johann Friedrich Herbst collection is in the Zoologische Sammlungen, Museum für Naturkunde Berlin (Horn et al., 1990), where his specimens were unfortunately incorporated into the general collection, causing difficulties in recognising Herbst's types among the whole of the huge old collection. Luckily, Herbst's book (1795), in addition to the rather short descriptions, contains quite good colour plates making in this case unnecessary to search for the actual type(s), assuming that they still exist.

In fact, the description, the figure and the type locality point unequivocally to the identity of *Curculio rubicundus* Herbst, 1795 with the previously described curculionine *Curculio scanicus* Paykull, 1792, for which we have no doubt about the synonymy between these two names, synonymy already established by Illiger (1805).

Paykull (1800: 263) was the first to incorrectly use *Curculio rubicundus* Herbst for a ceutorhynchine, when he failed to recognise Herbst's species, confusing it with his still unnamed "var. β " (Paykull, 1792: 73) of *Curculio quercus* Linnaeus sensu Fabricius, 1787, a species presently named *Coeliodes rana* (Fabricius, 1787). However, the description by Herbst (1795): "Rüssel braunroth, rund, glatt, nicht viel länger, als der Brustschild...Füsse sind braunroth, etwas plump, die Hüften unbewafnet" and the figure 6 on plate 80 differs from the description by Paykull (1800: 263): "rostro inflexo, glabriusculus, capite thoraceque fere longiore", in addition to the fact that in any of the Palaearctic Ceutorhynchini the legs can be defined as "plump".

Subsequently, Marsham (1802: 253) described from England as *Curculio melanocephalus* the same ceutorhynchinae that had been misidentified as *Curculio rubicundus* by Paykull (1800). However, *Curculio melanocephalus* Marsham, 1802 is a primary homonym of *Curculio melanocephalus* DeGeer, 1775 and cannot be used as the valid name for this species.

Illiger (1805: 141), in a paper clearly overlooked by the absolute majority of subsequent authors, in which he commented and corrected the species listed in Fabricius's "*Systema Eleutheratorum*" (1801), was the first to establish the synonymy between *Curculio scanicus* Paykull, 1792 and *C. rubicundus* Herbst, 1795 under the genus *Rhynchaenus* [Clairville], 1798. Also Gravenhorst (1807: 201) placed

Rhynchaenus rubicundus among the species with elongate body, a feature of *Ellescus scanicus* rather than that of a ceutorhynchine which have almost always a plump body.

Gyllenhal (1813) gave the same name to two different species under the genus *Rhynchaenus*: on page 118 *Curculio rubicundus* Herbst was rightly placed among the synonyms of *Ellescus scanicus* (Paykull, 1792), whereas on page 136 the same name of *Rhynchaenus rubicundus*, attributed to Paykull (1800), was used for a ceutorhynchine treated between the similar *Amalus scortillum* (Herbst, 1795) and *Coeliodes ruber* (Marsham, 1802). In addition, he established on page 118 the synonymy between *Curculio rubicundus* Herbst *sensu* Paykull, 1800 and *C. melanocephalus* Marsham, 1802.

From Gyllenhal (1813) on, almost all subsequent authors (e.g. Dejean, 1821, 1835; Germar, 1823; Zetterstedt, 1828; Stephens, 1829; Sahlberg, 1835; Endrulat, 1855; Marseul, 1857; Weise, 1891; Winkler, 1932) misused *C. rubicundus* for the ceutorhynchine under the genera *Rhynchaenus* [Clairville], *Falciger* Dejean, 1821, *Ceutorhynchus* Germar, 1823 or *Coeliodes* Schoenherr, 1837.

In the monumental monograph by Schoenherr, the name *rubicundus* appeared twice, firstly (Schoenherr, 1835: 322) attributed to Herbst as a synonym of *Ellescus scanicus* (Paykull), and then (Schoenherr, 1837: 286) attributed to Paykull under *Coeliodes* Schoenherr. The same error was repeated by Gemminger (1871), where on page 2513 the name, attributed to Herbst, is quoted as a synonym of *Ellescus scanicus*, and on page 2601, attributed to Paykull, is under *Coeliodes*.

In the Junk catalogue, issued in several parts and in different years, *Curculio rubicundus* Herbst, 1795 was given by Dalla Torre & Hustache (1930: 15) as the valid name of a *Coeliodes*, and next by Klima (1934: 52) as a synonym of *Ellescus scanicus*.

Finally, the double use of Herbst's name was mistakenly repeated in the Löbl & Smetana (2013) and in the Alonso-Zarazaga *et al.* (2017) catalogues.

At this point, it is clear that for solving the confusion about *Curculio rubicundus* Herbst, 1795 originated by Paykull (1800) is necessary to give another name to the ceutorhynchine weevil. Its only available synonym *Curculio melanocephalus* Marsham, 1802 is a primary homonym, and cannot be used. Moreover, as stated in the Art. 49 of the International Code of Zoological Nomenclature (ICZN, 1999), *Curculio rubicundus* Herbst, 1795 *sensu* Paykull, 1800 is a misidentification and thus an unavailable name. In accordance, we describe it as a new species as follows.

***Coeliodinus phrymos* Alonso-Zarazaga & Colonnelli, new species**

Type series. Sweden: "Hall[and]. Dagsås /Byasjön /2.I.75 /Gyllerfors", 1 male holotype (Museo Civico di Zoologia, Rome, Italy). Sweden: "Sm[åland]. Björnö / 9. 4.1977 /G. Gillerfors", 1 male paratype (Enzo Colonnelli collection, Rome, Italy). Sweden: "Hall[and]. Dagsås / 12.8.1984 / G. Gyllerfors", 1 female paratype (Enzo Colonnelli collection, Rome, Italy).

Other material. We studied samples from Sweden, the Netherlands, England, Poland and Italy. For distribution, details on variability and size and host plants, make reference to Dieckmann (1972), Colonnelli (2004), Rheinheimer & Hassler (2010) and Alonso-Zarazaga *et al.* (2017).

Description. Holotype: 2.3 mm. Shining, ferrous-red, pronotum and under surface reddish-brown. General shape and dorsal vestiture as in Fig. 1. Intervals with single row of seta-like scales on apical half. Legs rather short and thin, meso and metatibiae mucronate inwards at apex. Ventriles 1 and 2 quite flat. Aedeagus as in Fig. 2. The male paratype, whose body length is 2.5 mm, is very similar to the holotype, except that rostrum and pronotum, apical margin excepted, is blackish like the basal margin of elytra and the suture. The female paratype, which is 2.6 mm long, is like the holotype, but its rostrum is a trifle longer, the meso- and metatibiae are not mucronate, and the abdomen is slightly convex.

Diagnosis and comparative notes. A western Palaearctic *Coeliodinus* Dieckmann, 1972 separated by its size at most of 3 mm from the larger (3.2-3.5 mm) eastern Palaearctic *C. parcesquamosus* (Hustache, 1916), and by its usually red-brown or brown rostrum and posterior half of elytra with a

single row of scales on intervals from the Euro-Siberian *C. nigritarsis* (Hartmann, 1895) and the eastern Palaearctic *C. etorofuensis* Kôno, 1935 whose rostrum is black and elytral scales are arranged in two irregular rows on posterior half. From the Japanese *C. brunneus* (Hustache, 1916) the new species is distinct by its paler colour, at least partly reddish instead of dark brown. Moreover, the eastern Palaearctic *C. sibiricus* (Reitter, 1916) and *C. subrubicundus* (Reitter, 1916) have an entirely reddish-brown body.

Etymology. The new species is named from the Greek φρύμος, meaning mixture, in reference to the confusion till now caused by the misuse of the Herbst name. A noun in apposition, invariable.

We establish here the following new synonymy: *Coeliodinus phrymos* Alonso-Zarazaga & Colonnelli, **new species** (= *Curculio rubicundus* Herbst, 1795 *sensu* Paykull, 1800 not *Curculio rubicundus* Herbst, 1795, unavailable name; = *Curculio melanocephalus* Marsham, 1802 not *Curculio melanocephalus* DeGeer, 1775, **syn. nov.**).

The type species of the genus *Coeliodinus* Dieckmann, 1972 was originally designated as *Curculio rubicundus* Herbst, 1795. From the nomenclatural reasoning presented above, it is clear that the species Dieckmann used is in fact *Curculio rubicundus* Herbst, 1795 *sensu* Paykull, 1800, a misidentification. In application of Art. 70.3.2 (ICZN, 1999), we select as type species of *Coeliodinus* the valid name of the latter, i.e., *Coeliodinus phrymos* Alonso-Zarazaga & Colonnelli, sp. n.

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Figs. 1-3. - *Coeliodinus phrymos* n. sp., holotype. **1.** - Habitus in dorsal view (2.3 mm) with locality label. **2.** - Aedeagus (1.3 mm) in dorsal view. **3.** - Spiculum gastrale (1.0 mm). Photos by Francesco Sacco.