A new species of *Otiorhynchus* Germar from the Laga Mountains, central Apennines (Coleoptera: Curculionidae)

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Abstract

A new species *Otiorhynchus* (*Aranihus*) *venarum* n. sp. from the central Apennines is described. It differs from the close *O. ligneus* (Olivier) and *O. frescati* Boheman by its longer rostrum, shorter second funicular joint, less erect elytral setae, and acutely crenulate tibiae. *Otiorhynchus colasi* Roudier, 1854 is elevated to species rank from subspecies of *O. ligneus*. Notes on the presence of the new species at the alpine level of the Apennines are included.

Keywords: Curculionidae, *Otiorhynchus* (*Aranihus*), Apennines, new species, new rank

Introduction

During a survey of the weevil fauna of the Laga Mountains an undescribed species of *Otiorhynchus* Germar, 1822 of the subgenus *Aranihus* Reitter, 1912 was discovered. This subgenus hitherto comprised 35 taxa, 28 of them occurring only in the Iberian peninsula and in North Africa (Magnano & Alonso-Zarazaga 2013). In addition to *O. guttula assimilis* Gemminger, 1871, an endemic Sardinian subspecies of *O. guttula guttula* Fairmaire, 1859 which lives only in Corsica, just three species are to be found in peninsular Italy, namely *O. frescati* Boheman, 1842, indicated by Abbazzi & Maggini (2009) from almost all regions and Sicily, *O. misellus* Stierlin, 1861 only cited from Piedmont, and *O. ligneus* (Olivier, 1807) consistently known from Piedmont, Lombardy and Emilia Romagna. The quotation from South Tirol by Bertolini (1893) accepted by Abbazzi & Maggini (2009) is rightly considered as extremely doubtful by Peez & Kahlen (1977).
The species here described is very close to *O. frescati* and *O. ligneus*. It is noteworthy that in the catalogue of Palaearctic Coleoptera by Magnano & Alonso-Zarazaga (2013) *O. ligneus* is divided into two subspecies: *O. ligneus ligneus* indicated from Austria, Belgium, Bosnia, Denmark, England, Estonia, France, Germany, Hungaria, Iceland, Ireland, Italy, Latvia, Lithuania, Moldavia, Netherlands, Norway, Romania, Slovenia, Slowakia, Switzerland and Spain, this last record basing on a single doubtful datum by Waltl (1839), and *O. ligneus colasi* Roudier 1954 described upon a single female from the Sierra Nevada, southern Spain (Roudier 1954). However, the even quite short description of the latter taxon led us to consider it as a valid species, and this for the following reasons:

1. *Otiorhynchus ligneus* was only once indicated from "Andalusien" by Waltl (1839) surely upon mislabelled specimen[s] (coming most probably from northwestern Italy) collected during his long trip from Austria to southern Spain across northern Italy and France.
2. The Waltl (1839) record was always uncritically repeated by Rosenhauer (1856), Iglesias Iglesias (1920), Roudier (1954), Alonso-Zarazaga (2002) and Magnano & Alonso-Zarazaga (2013).
3. Neither in the list of the weevils from the Basque Country (northwestern Spain) by Ugarte & Alonso-Zarazaga (2002) nor in any of the contributions by other authors on Spanish weevil fauna (e.g. Ferragu 1972, Roudier 1958, Alonso-Zarazaga et al. 2006, Baselga & Novoa 2004, Cobos 1950, Fuente 1919, Velázquez de Castro et al. 1990) is a new finding of *O. ligneus* in Spain ever mentioned.
4. *Otiorhynchus ligneus* ranges from northwestern to central and eastern Europe, the closest locality to Spain from which it is reliably known is the forest of La Massane (Pyrénées Orientales) at the border with the Spanish province of Girona (Dajoz 1965).
5. Thick scape and funicular jonts 4 to 7 globular and not longer than wide (Roudier 1954), instead of subtriangular and at least slightly longer than wide as in *O. ligneus* are rather specific than subspecific for this group of closely related *Otiorhynchus*.

In consequence *Otiorhynchus* (*Aranihus*) *colasi* Roudier, 1954, **stat. rev.** is here elevated to species rank from subspecies of *O. ligneus* (Olivier, 1807).

Material and methods

In addition to the specimens in the private collections of the authors, additional material of *Otiorhynchus* (*Aranihus*) of the Museo Civico di Zoologia of Rome, Italy, the Entomology Museum of the University of "La Sapienza", Rome, and of the late friend Luigi Magnano, Poggibonsi, Italy was studied. Measurements are taken as explained in Borovec et al. (2009), and the total length of specimens does not include the rostrum. Length of rostrum is measured from base to epistome, excluding mandibles. Terminology of rostral regions follows van den Berg (1972), Oberprieler (1988) and Thompson (1968, 1992).
Microscopes Wild M5 and Olympus SZH10 up to 108 x magnification were used to study the insects. To extract genitalia of dry specimens, they were softened using the method by Sacco (1984). Genitalia were then left in KOH 10 % solution for some minutes, then cleaned and mounted in DMHF on a label pinned under the specimen.
Photos were taken by Francesco Sacco by means of a Nikon D90 camera with a AF Micro Nikkor 60 mm objective, and then elaborated using the programs Helicon Focus 5.1 and Adobe Photoshop PS4. Labels of specimens are quoted as written, a slash separating lines on the same label. Abbreviations of the specimens depositories are as follows: CBCI = Cesare Bellò collection, Castelfranco Veneto, Italy; ECRI = Enzo Colonnelli collection, Rome, Italy; EMUR = Entomological Museum of the Rome University " La Sapienza", Italy; GOCV = Giuseppe Osella collection, Verona, Italy; MCZR = Museo Civico di Zoologia, Rome, Italy; NMST = Naturmuseum Südtirol, Bolzano, Italy; RCRI = Roberto Casalini collection, Rome, Italy.

Otiorhynchus (*Aranihus*) *venarum* n. sp.

Diagnosis. An *Otiorhynchus* very similar to *O. ligneus* and *O. frescati* differing from both of them by the longer rostrum and all tibiae acutely crenulate in both sexes.

Type series. "I: Lazio - Monti della Laga / Monte Le Vene - Costa Pisciarelli, / 42°41'21"N, 13°20'12"E, 1890 m / 17.VII.2014 - E. Colonnelli legit", 1 ♂ holotype (MCZR). Paratypes: same locality data and collector, 9 ♂♂ 10 ♀♀; " I: Lazio - Monti della Laga / Monte Le Vene - Costa Pisciarelli, / 42°41'21"N, 13°20'12"E, 1890 m / 25.VII.2014 - E. Casalini legit", 1 ♂ 4 ♀♀ (2 NMST, 1 EMUR, 1 CBCI, 2 GOCV, 5 RCRI, 13 ECRI).

Holotype. Body length 5.33 mm. Piceous, shining, antennae and legs dark ferrous-red. Dorsum of rostrum, head, pronotum, disc of elytra and legs clothed by sparse golden curved semierect hairlike scales which are more raised on elytral declivity. Ventral surface with very sparse almost recumbent golden setae. Rostrum as long as wide, sides hardly converging from base to quite strongly protruding pterygia. Epifrons almost flat, rugosely punctured and thinly keeled from base unto the subapical oblique declivity, at the narrowest point between antennal insertion about 0.45 times as wide as rostrum, sides weakly keeled. Epistome very short, U-shaped and distinct from epifrons by its smooth surface. Scrobes pit-shaped, entirely visible in dorsal view, in lateral view barely curved downwards near eyes. Head separated from rostrum by a slight transversal impression, distance between eyes about the same as that between antennal insertion, space between eyes with an elongate pit, vertex slightly convex, punctured, temples just a little shorter than the greater diameter of an eye. Eyes quite small, elliptical and fairly convex. Antennae moderately thin; scape almost straight and barely widening topwards apex; first funicular antennomere about 1.50 times longer and hardly wider than the second, antennomeres 2 to 7 scarcely diminishing in length, all not transverse; club fusiform, quite elongate, about as long as the three preceding segments. Pronotum 1.09 times wider than long, widest at middle, quite flat dorsally in lateral view; anterior margin hardly narrower than basal one; sides moderately rounded; disc with quite large umbilicate granules becoming a trifle smaller on sides. Scutellum barely visible. Elytra elongate-oval, 1.40 times longer than wide and 1.63 as wide as pronotum, barely convex on basal half, apical declivity almost perpendicular; striae formed by rows of roundish large punctures; intervals not wider than striae, smooth and with a regular row of acute rasp-like granules. Legs moderately elongate; femora quite strongly clubbed, edentate; pro and mesotibiae barely curved at extreme base, their inner side acutely granulate at apical 2/3; metatibiae with their inner side a little concave and granulate from basal fourth, outer side of tibiae with just a little raised setae, apex of internal side mucronate; tarsi robust. Ventrites 1 and 2 with large shallow common impression. See also Fig. 1. Aedeagus as depicted in Fig. 3.

Paratypes. Males are almost identical to the holotype. Elytra of females are more oval and only 1.37 times longer than wide (Fig. 2), and lack the ventral impression. Spermateca as depicted in Fig. 4. Body length 5.07–5.50 mm.

Differential diagnosis. All the Spanish and northern African species (*O. colasi* Roudier excepted, see above) plus *O. guttula* Fairmaire are much larger and very different from the new species which is instead similar and surely intimately related with the remaining European species, viz. *O. colasi* Roudier from southern Spain, *O. tenuicostis* Hustache, 1920

from France and Spain, *O. schaeferi* Hoffmann, 1961 from France, *O. vitellus* Gyllenhal, 1834 from France, and the aforementioned *O. misellus* Stierlin from southwestern France and northwestern Italy, *O. ligneus* (Olivier) and *O. frescati* Boheman. It is with the two last species that the new one is particularly close due to size, sculpture and general shape. However, *O. venarum* differs from the variable *O. ligneus* by less erect dorsal setae, rostrum as long as wide insted of shorter than wide, scape only barely instead of moderately clubbed, first funicular antennomere 1.5 times longer than second instead of about as long as it, and elytra more elongate. From *O. frescati*, also living in central Apennines (Di Marco & Osella 2001), the new species differs by less erect setae on elytra and legs, rostrum not shorter than wide, first funicular antennomere 1.5 times longer than second instead of about as long as it, and elytra more elongate being 1.40 instead of at most 1.35 times longer than wide (Figs. 5, 6, 7). Also, *O. ligneus* and *O. frescati* have internal margin of tibiae with minute or even lacking granules. On the other hand, *O. tenuicostis*, *O. misellus* and *O. vitellus* have a double vestiture formed by recumbent tiny and half-lifted thicker setae. *Otiorhynchus schaeferi* has an irregular or partly double row of elytral setae and few large instead of several irregular denticles on internal margin of tibiae like those of *O. cobosi* Hoffmann, 1957 from southern Spain (Hoffmann 1961), and cannot be confused with *O. venarum*. In addition, according to its description (Roudier 1954), *O. colasi* has scape much thicker and the funicular segments 4 to 7 globular instead of subcylindrical as those of the new species.

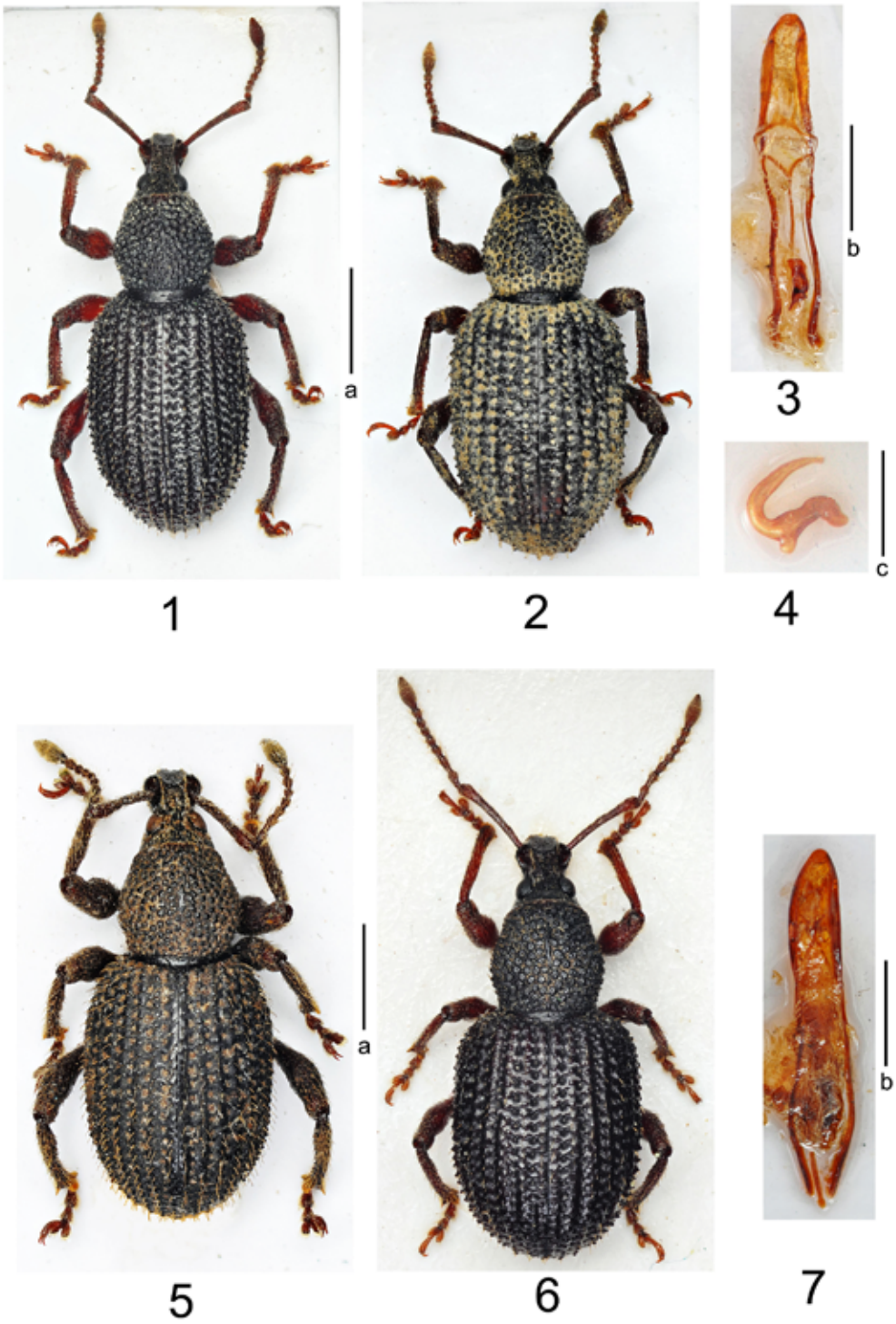
Etymology. The species is named after the Mount Le Vene (the Italian for "veins") by apposition of the plural genitive of the Latin word "vena" in reference to its type locality.

Ecology. All specimens were collected under flat stones along a short south-facing slope (Fig. 8).

Notes. This is the first *O.* (*Aranihus*) found at alpine level on the Apennines well above beech trees limit. All the close species cannot be found at such an elevation, whereas this is the case of several of the southern Spanish and northern African members of this subgenus though unrelated with the new species here described. Moreover, the spot where *O. venarum* was collected appears to be quite unique on the Laga Massif, and our efforts to collect adults outside the tiny slope along a small ridge of the mountain were vain. A question arises thus about the possible origin and colonization of the Laga mountains by *O. venarum*. Most probably, the new species being very close to *O. frescati* and *O. ligneus*, both of which do not live above the timber line, one can suppose a relict distribution during the Quaternary glaciations of some populations of one of the above species, which gave rise to *O. venarum* since this last species appears well adapted to cool climate of the upper elevations of this mountain range.

Riassunto

Viene descritta la nuova specie *Otiorhynchus* (*Aranihus*) *venarum* n. sp. dei Monti della Laga (Appennino centrale) diversa dagli affini *O. ligneus* (Olivier) e *O. frescati* Boheman per il rostro più lungo, per il secondo articolo del funicolo più corto, per le setole elitrali meno erette e curvate, per il margine interno delle tibie con fini e fitti acuti denticoli. *Otiorhynchus colasi* Roudier, 1854 è elevato a specie da sottospecie di *O. ligneus*. Sono incluse note sulla presenza di questa nuova specie nel piano alpino degli Appennini centrali.



Figs. 1-7. Habitus of *Otiorhynchus venarum* n. sp., holotype (1), and of a female paratype (2). Aedeagus of a paratype of *O. venarum* n. sp. (3); spermatheca of a female paratype (4). Habitus of a male of *O. frescati* Boheman from Tuscany, Pieve Santo Stefano (5), and of a female from Latium, Roma-Insugherata (6). Aedeagus of a male *O. frescati* from Tuscany, Pieve Santo Stefano (7). Scale bars: a = 2 mm; b = 1 mm; c = 0. 15 mm.

Fig. 8. Habitat of *Otiorhynchus venarum* n. sp.

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