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***Monotoma quadricollis* AUBÉ, an overlooked species**

(Coleoptera: Monotomidae)

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Abstract

Monotoma quadricollis AUBÉ is reinstated as a proper species distinct from *M. bicolor* VILLA & VILLA. Both species seem to be widespread in Europe. Differential characters, including the male genitalia, are figured. A neotype is designated for *Monotoma bicolor* VILLA & VILLA.

Key words: Coleoptera, Monotomidae, *Monotoma bicolor*, *Monotoma quadricollis*, lectotype designation, neotype designation, Europe.

Introduction

For some time it was clear to me that the name *Monotoma bicolor* VILLA & VILLA, 1835 as it is in use nowadays either refers to a rather variable species or to more than one species. However, all recent authors agree on the interpretation of *Monotoma bicolor* (e.g. VOGT 1967, ŠLIPIŃSKI 1981, PEACOCK 1977, OTERO & DIAZ 1994).

To investigate this problem specimens of *M. bicolor* sensu auct. were examined in greater detail. It was found that, based on male genitalia and orientation of the setae on the head, two taxa could be discerned. Based on the clearly distinct genitalia and the absence of transitions these taxa are regarded as distinct species. Relevant type material was examined to clarify the nomenclature of both species. According to HETSCHKO (1930) *Monotoma quadricollis* AUBÉ, 1837 is the oldest available name for *M. bicolor* sensu auct. (nec VILLA & VILLA).

***Monotoma bicolor* VILLA & VILLA**

Monotoma bicolor VILLA & VILLA 1835: 49.

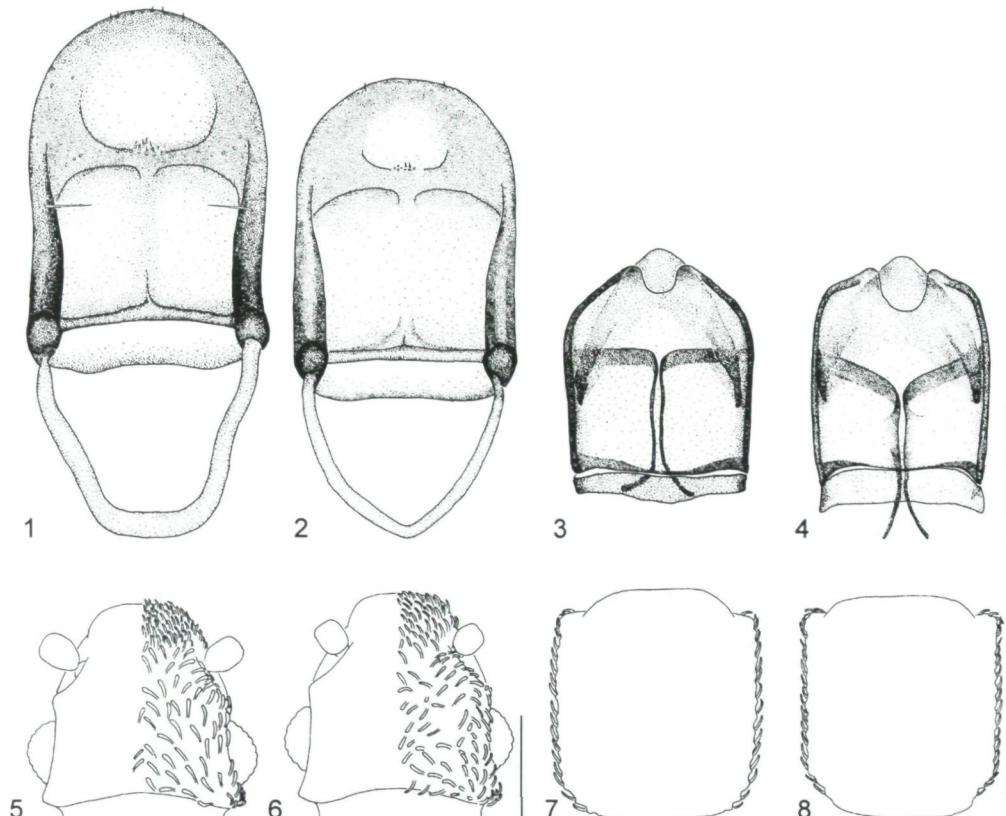
Monotoma quisquiliarum REDTENBACHER 1849: 203.

Type material: Neotype ♂ of *Monotoma bicolor* (here designated): "Savona, Xbre 1872, Doria. / Neotypus, *Monotoma bicolor* Villa & Villa, des. O. Vorst vii.1998 [red]" (MCG).

Lectotype ♀ of *Monotoma quisquiliarum* (here designated): "[no original label] / Lectotypus, *Monotoma quisquiliarum* Redtenbacher, des. O. Vorst iv.1998 [red] / *Monotoma bicolor* Villa & Villa, det. O. Vorst 1998" (NMW). Paralectotype ♀: "[no original label] / Paralectotypus, *Monotoma quisquiliarum* Redtenbacher, des. O. Vorst iv.1998 [red] / *Monotoma bicolor* Villa & Villa, det. O. Vorst 1998" (NMW).

As the collection of the brothers Villa, deposited in MCM according to HORN et al. (1990), was lost during the Second World War (M. Pavesi, e-mail) no type material was available for study. In order to fix the identity of *M. bicolor* VILLA & VILLA a specimen from northern Italy, where most of the material of Villa & Villa originated from, is designated here as neotype.

Diagnosis: Male genitalia: top of aedeagus with small emargination of about 1/5 of total width of plate; tegmen with thickened ridge halfway between basis and apex (Figs. 1, 3). Head: scale-like setae at inside of eyes, from temples to antennal sockets, uniformly pointed forward; temples a little less than half of eyes length (Fig. 5). Pronotum: parallel-sided with posterior angles rounded and anterior angles present but faint (Fig. 7). Most often bicolorous: head, pronotum and pygidium brown, elytra contrasting reddish brown, scutellar area slightly darkened.



Figs. 1 - 4: Male genitalia of *Monotoma bicolor*, type: 1) tegmen, 3) aedeagus; *M. quadricollis*, type: 2) tegmen, 4) aedeagus. Scale bar = 100 µm.

Figs. 5, 6: Head of 5) *Monotoma bicolor*, The Netherlands, Culemborg; 6) *M. quadricollis*, The Netherlands, Utrecht. Scale bar = 0.2 mm.

Figs. 7, 8: Pronotum of 7) *Monotoma bicolor*, The Netherlands, Culemborg; 8) *M. quadricollis*, The Netherlands, Utrecht. Scale bar = 0.2 mm.

Geographical distribution: The Netherlands, Germany, Czech Republic, France, Italy, Greece, Cyprus, Israel, Tunisia and Morocco; probably much wider distributed.

Bionomics: Based on own observation, the ecological preference of this species does not differ from that of most other species of the subgenus *Monotoma* SEIDLITZ. It can be found in all kinds of decaying vegetable matter, especially (old) haystacks but also in heaps of manure (e.g. horse, pig) intermixed with straw or saw-dust and can be considered strongly synanthropic, at least in Central Europe.

Material:

NETHERLANDS: Bunnik, 29.IX.1985, 2 exs., pig manure, leg. O. Vorst (coll. O. Vorst, as all other specimens by this collector); Culemborg, 16.XI.1991, 3 exs., old manure heap, leg. O. Vorst; Deuteren, 9.V.1992, 1 ex., old haystack, leg. O. Vorst; Nieuwkuijk, 17.III.1990, 2 exs., manure heap, leg. O. Vorst; Vechten, 26.XII.1989, 13 exs., horse manure, leg. O. Vorst; Zeist, 17.III.1984, 1 ex., compost, leg. O. Vorst.

SPAIN: Ponferrada, 1 ex., leg. Paganetti (NMW).

GERMANY: Saarland, Nennig, 8.VI.1996, 3 exs., rotting haystack, leg. O. Vorst; Magdeburg, 30.X.1908 1 ex. (NMW).

AUSTRIA: Wien, Lainzer Tiergarten, VIII.1954, 1 ex., leg. F. Schubert (NMW); Lower Austria, Mannswörth, 26.VI.1984, 2 exs., leg. M.A. Jäch (NMW); Klosterneuburg, 19.V.1948, 3 exs., leg. P. Meyer (NMW); Vöslau, 3 exs., leg. Kaufmann (NMW); Purgstall, 11.X.1978, 1 ex., leg. F. Ressl (NMW); Kamp Valley, 5 exs., leg. Minarz (NMW).

CZECH REPUBLIC: Trebon, 15.VI.1998, 1 ex., haystack, leg. O. Vorst.

FRANCE: Cannes, 1915, 1 ex., leg. E. Bayon (MCG); Corsica, 1 ex. (NMW).

ITALY: Genova, Sturla, 13.VIII.1939, 1 ex., chicken-house (MCG); Genova, Boccadasse, 4.III.1900, 1 ex., leg. R. Gestro (MCG); Elba, 1980, 1 ex., leg. Paganetti (NMW); Sardegna, S.Vito, IV.1872, 1 ex., leg. R. Gestro (MCG).

GREECE: Attica, 1 ex., leg. Reitter (NMW).

CYPRUS: Limassol, 6.IX.1920, 1 ex., VIII.1924, 1 ex., leg. Mavromoustakis (MCG).

ISRAEL: Kaifa [= Haifa], 1 ex., leg. Reitter (NMW); Kesalon, Judaean Hills, 2.VI.1985, 1 ex., leg. M.A. Jäch (NMW).

TUNISIA: 1881, 1 ex., leg. G. Doria (MCG).

MOROCCO: 1 ex., leg. M. Quedenfeldt (NMW).

Monotoma quadricollis AUBÉ

Monotoma quadricollis AUBÉ 1837: 465, pl. 17: fig. 7.

Type material: Lectotype ♂ (here designated): ".9 mai 18.. [illegible handwriting, circular yellow label] / TYPE [red] / Muséum Paris, Coll. Ch. Aubé / Lectotypus, *Monotoma quadricollis* Aubé, des. O. Vorst vii.1998 [red]" (MNP).

Paratypes: 4 specimens: 1 ♂: "Sicile [handwriting, circular label] / TYPE [red] / Muséum Paris, Coll. Ch. Aubé / Paralectotypus, *Monotoma quadricollis* Aubé, des. O. Vorst vii.1998 [red] / *Monotoma quadricollis* Aubé, det. O. Vorst 1998", 1 ♂: "... [illegible handwriting, circular yellow label] / TYPE [red] / Muséum Paris, Coll. Ch. Aubé / Paralectotypus, *Monotoma quadricollis* Aubé, des. O. Vorst vii.1998 [red] / *Monotoma bicolor* Villa & Villa, det. O. Vorst 1998", and 1 ♂ and 1 ♀: "TYPE [red] / Muséum Paris, Coll. Ch. Aubé / Paralectotypus, *Monotoma quadricollis* Aubé, des. O. Vorst vii.1998 (red) / *Monotoma bicolor* Villa & Villa, det. O. Vorst 1998" (MNP).

In the collection of Charles Aubé (MNP) there are five specimens under the name of *M. quadricollis* that are considered syntypes; all are carrying a red label "TYPE". They appear to belong to two different species. A male specimen is hereby selected as lectotype, as it fits the description of Aubé most accurately. It is labelled accordingly. The four remaining specimens become paratypes, three of which are examples of *M. bicolor* VILLA & VILLA. AUBÉ (1837) considered *M. bicolor* a variety (Var. B) of his *M. quadricollis*. However, none of the syntypes is labelled as such.

Diagnosis: Male genitalia: top of aedeagus with broader and deeper emargination of about 1/4 of the total width of plate; tegmen with thickened ridge distal from middle, at about 1/3 from apex (Fig. 2, 4). Head: scale-like setae at inside of eyes pointed forward in posterior part, from temples to half-way of the eyes, and backward in the anterior part, from the antennal sockets to half-way of eyes; however, backward pointing setae in some specimens for a large part replaced with forward pointing setae; temples about half of eyes length (Fig. 6). Pronotum: usually parallel-sided with posterior angles rounded and anterior angles distinctly marked, protruding beyond the sides of pronotum (Fig. 8). Colour variable: from bicoloured with brown head, pronotum and pygidium and lighter elytra to uniformly brown.

Geographical distribution: The Netherlands, Germany, Austria, Switzerland, France, Italy, Yugoslavia and Romania; probably wider distributed. Seems to be much scarcer in southern Europe than its sister species.

Bionomics: There is no indication that the bionomics of this species differ from those of *M. bicolor* (see above); occurring sometimes together with *M. bicolor*.

Material:

NETHERLANDS: Buren, 7.IX.1991, 6 exs., horse manure, leg. O. Vorst; Deuteren, 9.V.1992, 1 ex., old haystack, leg. O. Vorst; Geldermalsen, 4.III.1990, 1 ex., manure heap, leg. O. Vorst; Laren, 13.III.1993, 1 ex., old hay, leg. O. Vorst; Mechelen, 1.VI.1991, 18 exs., manure heap, leg. O. Vorst; Utrecht, 10.III.1996, 7 exs., old haystack, leg. O. Vorst; Zeewolde, 6.V.1995, 7 exs., reed heap, leg. O. Vorst.

GERMANY: Bremen, Lesum, 5.IV.1959, 5 exs., leg. v. Budberg (NMW); Erlangen, 9 exs., leg. Rosenhauer (NMW); Saarland, Nennig, 8.VI.1996, 2 exs., rotting haystack, leg. O. Vorst.

AUSTRIA: Wien, Nußberg, 7 exs., leg. H. Soucek (NMW); Lower Austria, Marchfeld, 1 ex., leg. Wingelmüller (NMW); Burgenland, Neusiedlersee, 7.X.1950, 1 ex., leg. F. Schubert (NMW); Carinthia, Koralpe, Rassingbach, 6.VII.1956, leg. R. v. Budberg (NMW); Vorarlberg, Feldkirch, 19.VI.1940, 3 exs., leg.

Moosbrugger (NMW).

SWITZERLAND: Genève, V.1984, 2 exs., V.1991, 1 ex., leg. C.J.M. Berger (NNM); Olten, 14.VII.1996, 1 ex., heap of wood chips, leg. O. Vorst.

FRANCE: Var, La Londe l. Maures, 1/10.IV.1975, 3 exs., leg. P. Poot (NNM).

ITALY: Piemonte, Gavi, VIII/IX.1924, 1 ex., leg. C. Mancini (MCG).

YUGOSLAVIA: Ruma, 2 exs., leg. Schwieger (MCG).

ROMANIA: "Herkulesbad" [= Baile Herculane], 1895, 1 ex., leg. L. Ganglbauer (NMW).

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