
ANNALES
UNIVERSITATIS MARIAE CURIE-SKŁODOWSKA
LUBLIN — POLONIA

VOL. LXIII/1/11

SECTIO C

2008

RAFAŁ GOSIK, JACEK ŁĘTOWSKI

Department of Zoology, Maria Curie-Skłodowska University, ul. Akademicka 19,
20-033 Lublin, Poland

The revision of weevils specimens of genus *Miarus* Schönherr,
1826 (*Coleoptera: Curculionidae*) from the collection of the
Department of Zoology, Maria Curie-Skłodowska University

Rewizja okazów ryjkowców z rodzaju *Miarus* Schönherr, 1826 (*Coleoptera: Curculionidae*)
kolekcji Zakładu Zoologii Uniwersytetu im. Marii Curie-Skłodowskiej

SUMMARY

The aim of the work was to verify correctness of identification of specimens of genus *Miarus* Schönherr, 1826 found in the materials collected at the Department of Zoology, UMCS, by differences in shape of aedeagus. Out of specimens published so far as *M. campanulae*, majority belongs to *M. ajugae*. Some specimens of *M. monticola* were mistakenly identified as *M. campanulae*. In an unpublished collection there was one specimen of *M. monticola* identified as *M. campanulae*. Three new localities of *M. monticola* were recorded in this report.

STRESZCZENIE

Weryfikacji poddano oznaczenia ryjkowców z grupy *Miarus campanulae* kolekcji Zakładu Zoologii UMCS. W przebadanym materiale nie stwierdzono obecności okazów samców *M. campanulae*. Wcześniej dane dotyczące tego gatunku odnosiły się w rzeczywistości do *M. ajugae* lub *M. monticola*.

Keywords: *Coleoptera*, weevil, *Miarus abnormis*, *M. ajugae*, *M. campanulae*, *M. monticola*, verification, revision, distribution, new record, Poland.

INTRODUCTION

Genus *Miarus* SCHÖNHERR, 1826 is represented in Europe by 21 species, of which 3 species: *M. abnormis* Solari, 1947, *M. ajugae* (Herbst, 1795) and *M. monticola* Petri, 1912 were undoubtedly recorded in Poland (1, 18). Even though *M. campanulae* Linnaeus, 1767 was reported from many localities, its occurrence in Poland seems doubtful (1, 18).

Occurrence of *M. abnormis* is connected with mountain areas of: Albania, Austria, the Czech Republic, France, Greece, Italy, Poland, Slovakia and Yugoslavia. The distribution of *M. ajugae* appears to be close to Palearctic; its occurrence in Europe is confirmed in: Austria, Bulgaria, the Czech Republic, France, Germany, Italy, Poland, Russia and Slovakia. *M. monticola* is a Palearctic species, in Europe distributed in: Albania, Austria, Bulgaria, Germany, Poland, Romania, Russia, Slovenia and Yugoslavia. *M. campanulae* is a European species, reported in: Austria, British Islands, Bulgaria, Denmark, Estonia, Finland, Germany, Ireland, Latvia, Lithuania, Nederland, Norway, Slovakia, Sweden and Switzerland (1).

The above-mentioned *Miarus* species are quite similar to each other, therefore distinguishing one from another on the basis of morphological features may be questionable. Nevertheless, distinguishing the species is possible based on differences in the shape of the aedeagus (Fig. 1). Contrary to other morphological features the shape of the aedeagus is rather permanent and invariable in a number of the species (13). The verification of collected/published specimens is necessary to the knowledge of real occurrence of these weevils.

MATERIAL

The examined material consists of 316 specimens (202♂ and 114♀) from the genus *Miarus*, collected on 30 localities.

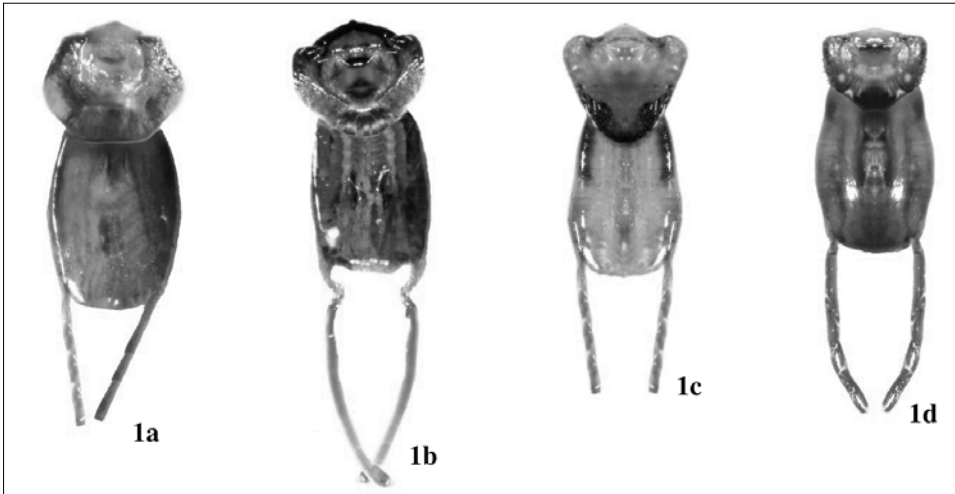


Fig. 1. The aedeagus of: *Miarus abnormis* (1a), *M. ajugae* (1b), *M. campanulae* (1c) and *M. monticola* (1d).

The specimens identified/published as *Miarus campanulae*:

- Bezek, 25.05.1973: 1 ♀, 1 ♂; (12) = *M. ajugae*.
 Biała Góra, 15.05.1996: 1 ♀; 24.05.1996: 6 ♀, 16 ♂; 14.06.1996: 5 ♂; 15.05.1997: 3 ♀, 9 ♂;
 12.06.1997: 2 ♀, 11 ♂; 03.07.1997: 5 ♀, 4 ♂; (14) = *M. ajugae*.
 Biała Góra, 24.05.1996: 8 ♂; 14.06.1996: 1 ♂; (14) = *M. monticola*.
 Bochothnica, 21.06.1991: 2 ♂; (16) = *M. ajugae*.
 Chelm, 18.05.1976: 1 ♂; 13.05.1986: 1 ♀, 1 ♂; (unpublished) = *M. ajugae*.
 Ciechanki Łańcuchowskie; 12.06.1990: 1 ♂; (17) = *M. ajugae*.
 *Gródek, published in (3, 4) (specimens absent).
 Kąty, 01.07.1961: 1 ♂; 21.05.1951: 4 ♀, 2 ♂; (10) = *M. ajugae*.
 Kraśnik, 05.06.1951: 1 ♂; (9) = *M. ajugae*.
 Lublin, 04.06.1954: 2 ♀; 11.08.1958: 1 ♂; (5) = *M. ajugae*.
 *Łabunie, published in (3) (specimens absent).
 Machnowska Góra, 15.05.1996: 5 ♀, 21 ♂; 25.05.1996: 19 ♀, 19 ♂; 15.06.1996: 1 ♀, 1 ♂;
 15.06.1997: 4 ♀, 30 ♂; 17.07.1997: 4 ♀, 3 ♂; (15) = *M. ajugae*.
 Machnowska Góra, 15.06.1996: 1 ♂; (15) = *M. monticola*.
 Nasilów, 12.05.1994: 2 ♂; 21.06.1991: 1 ♂; (16) = *M. ajugae*.
 Przeorski, 31.05.1980: 6 ♀, 1 ♂; 14.06.1980: 1 ♂; 05.07.1980: 2 ♀; (unpublished) = *M. ajugae*.
 Rudnik, 08.09.1965: 1 ♂; (unpublished) = *M. ajugae*.
 Sielec, 21.05.1985: 19 ♀, 31 ♂; (unpublished) = *M. ajugae*.
 Sieradz, 25.05.1965: 1 ♂; (unpublished) = *M. ajugae*.
 *Stawska Góra, (3) (specimens absent).
 *Tarnogóra, (4) (specimens absent).
 Trzcianki, 21.06.1991: 2 ♂; (16) = *M. ajugae*.
 Wandzin, 31.05.1983: 1 ♂; (unpublished) = *M. monticola*.
 *Wymysłów ad Opoka Duża, (7) (specimens absent).
 Wychody, 15.05.1972: 1 ♀, 1 ♂; (unpublished) = *M. ajugae*.

The specimens identified/published as *Miarus monticola*:

- Gródek, 27.06.1990: 1 ♂; (unpublished) = *M. monticola*.
 Kraśnik, 27.05.1961: 1 ♀; 19.06.1959: 1 ♀, 1 ♂; (9) = *M. monticola*.
 Tylisz, 16.08.1971: 1 ♂; (unpublished) = *M. monticola*.

The specimens identified/published as *Miarus ajugae* (*M. prejuratus*):

- Gródek, 07.05.2003: 1 ♂; (unpublished) = *M. ajugae*.
 Józefów, 22.07.1988: 1 ♀; 06.07.1988: 1 ♂; (10) = *M. ajugae*.
 Łysa Góra, 10.06.1970: 1 ♂; (6) = *M. monticola*.
 Mielnik, 13.05.2003: 1 ♀, 1 ♂; (unpublished) = *M. ajugae*.
 Radoszki, 03.05.1989: 1 ♂; (11) = *M. ajugae*.
 Rudnik, 28.06.2004: 11 ♀, 9 ♂; (unpublished) = *M. ajugae*.
 Wieprzec, 05.07.1989: 1 ♀, 1 ♂; (10) = *M. ajugae*.
 Wołczyń, 12.06.2001: 1 ♀, 1 ♂; (unpublished) = *M. ajugae*.
 Wychody; 15.05.1972: 1 ♀, 1 ♂; (unpublished) = *M. ajugae*.
 Wytuczno, 29.05.1972: 1 ♂; (8) = *M. ajugae*.

DISCUSSION

The results of this study are consistent with conclusions of Wanat & Mokrzycki (18), they suggest that *M. campanulae* is absent in Polish fauna. Most specimens identified before as *M. campanulae* in fact belong to *M. ajugae*, a few to *M. monticola*. At some localities both species inhabit together (Fig. 2). The body



Fig. 2. Localities of revised specimens from the genus *Miarus*

1. Number and localities of revised specimens *Miarus ajugae*.
 2. Number and localities of published (unrevised) specimens of *Miarus campanulae*.
 3. Number and localities of revised specimens *Miarus monticola*.
1. Mielnik (FD30); 2. Sieradz (CC41); 3. Wytoczno (FC50); 4. Wołczyny (FC80); 5. Trzcianki (EB69); 6. Bochohnica, Nasilów (EB68); 7. Rudnik (FB18); 8. Ciecanki Łańcuchowskie (FB38); 9. Lublin (FB07); 10. Bezek (FB57); 11. Stawska Góra (FB67); 12. Chełm (FB76); 13. Sielec (FB75); 14. Kraśnik (EB84); 15. Wymysłów (EB63); 16. Tarnogóra (FB53); 17. Gródek (GB03); 18. Radoszki (EB52); 19. Kąty (FB41); 20. Łabunie (FB61); 21. Wieprzec, Wychody (FB51); 22. Józefów (FA49); 23. Przeorsk (FA78); 24. Biała Góra, Machnowska Góra (FA88).
 - A. Wandzin (EB99); B. Łysa Góra (EB03); C. Kraśnik; D. Gródek; E. Biała Góra, Machnowska Góra; F. Tylicz (EV07).

length of males of *M. monticola* is on average 2.6 mm long (max. 2.8 mm). It is distinctly smaller than males of *M. ajugae* (on average 3.6 mm long). Though small specimens of *M. ajugae* (body length 2.8 mm) are also seen. *M. ajugae* is very common in the middle-east part of Poland. Usually its populations are numerous. Exemplars of *M. monticola* are found on siberian bellflower (*Campanula sibirica* L.) on xerothermic habitats (*Cirsio-Brachypodium pinnati*, *Origano-Brachypodium pinnati*, *Thalictrum-Salvietum pratensis*) and psammophilous plant communities (*Corynephorum canescentis*). The specimens of *M. ajugae* are found also on ruderal plants communities, dry meadows and plantations on: bellflower (*Campanula* sp.), dandelion (*Taraxacum officinale*) and sainfoin (*Onobrychis viciifolia*). Regrettably, most specimens found by Cmoluch (3, 4, 7) in Gródek, Łabunie, Stawska Góra and Wymysłów are absent



Fig. 3. Distribution of *Miarus campanulae* in Europe

in the collection, which makes their verification impossible. As the specimens of *M. campanulae* are not currently found at these localities, older reports presumably pertain to *M. ajugae* or *M. monticola*. Furthermore, remarks about biology of *M. campanulae* given by Cmoluch (4) pertain most probably to *M. ajugae*. Poland is localized in the center of the distribution area of *M. campanulae* (Fig. 3), so its host plants (*Campanula* spp.) are here widespread. On this basis we suppose that its occurrence in Poland is still possible. Probably the increase of competition between twin species (*M. ajugae*) is the cause of limited occurrence of *M. campanulae* in the lower part of the country. The specimens of *M. abnormis* were also not found in the collected material. Absence of this species on the localities in the lower part of Poland is not surprising, because *M. abnormis* is considered as typical mountain weevil.

ACKNOWLEDGEMENTS

We gratefully express thanks to Dr. Stanisław KNUTELSKI (Kraków) and Dr. Peter SPRICK (Hannover) for supplying the comparative specimens of *M. campanulae* group.

REFERENCES

1. ALONSO-ZARAZAGA A. M. 2005. Fauna Europaea, <http://www.faunaeur.org>.
2. BURAKOWSKI B., MROCKOWSKI M., STEFAŃSKA J. 1997. Chrząszcze (*Coleoptera*) Ryjkowce – *Curculionidae*, Katalog Fauny Polski XXIII, 21.
3. CMOLUCH Z. 1963. Badania nad fauną ryjkowców (*Coleoptera*, *Curculionidae*) roślinnych zespołów kserotermicznych południowo-wschodniej części Wyżyny Lubelskiej. Ann. UMCS, C, 17: 1–75 (1962).
4. CMOLUCH Z. 1971. Studien über Rüsselkäfer (*Coleoptera*, *Curculionidae*) xerotermer Pflanzenassoziationen der Lubliner Hochebene. Acta Zool. Cracov., 16: 29–216.
5. CMOLUCH Z. 1972. Ryjkowce (*Curculionidae*, *Coleoptera*) roślinnych zbiorowisk śródmiejskich Lublina. Pol. Pismo Entomol., 42: 545–562.
6. CMOLUCH Z. 1980. Ryjkowce (*Curculionidae*, *Coleoptera*) Świętokrzyskiego Parku Narodowego. Ann. UMCS, C, 34: 209–218.
7. CMOLUCH Z. 1986. Ryjkowce (*Curculionidae*, *Coleoptera*) roślinnych zespołów kserotermicznych i łąkowych Wymysłowa i Opoki Dużej (woj. tarnobrzeskie), Ann. UMCS, C, 38 (18): 211–286.
8. CMOLUCH Z. 1992. Rüsselkäfer (*Coleoptera*, *Curculionidae*) von Polesie Lubelskie. Ann. UMCS, C, 44: 1–64.
9. CMOLUCH Z., KOWALIK W. 1963. Ryjkowce (*Curculionidae*, *Coleoptera*) zbiorowiska leśnego koło Kraśnika (woj. lubelskie). Ann. UMCS, C, 18: 69–104.
10. CMOLUCH Z., LETOWSKI J., MINDA-LECHOWSKA A. 1994. Ryjkowce (*Coleoptera*, *Curculionidae*: *Rhinomaceridae*, *Attelabidae*, *Apionidae*, *Curculionidae*) Roztocza. Fragm. Faun., 37: 267–290.
11. CMOLUCH Z., LETOWSKI J., RZEPECKI M. 1995. Ryjkowcowate (*Coleoptera*: *Rhinomaceridae*, *Attelabidae*, *Apionidae*, *Curculionidae*) roślinnych zbiorowisk kserotermicznych Wyżyny Sandomierskiej. Ann. UMCS, C, 48: 177–200.

12. CMOLUCH Z., MINDA A. 1978. Ryjkowce (*Curculionidae*, *Coleoptera*) stwierdzone na *Medicago sativa* w Bezku (woj. chełmskie) i Feliksowie (woj. zamojskie). Ann. UMCS, C, 32: 243–254.
13. FREUDE H., HARDE K., LOHSE G. 1983. Die Käfer Mitteleuropas. Band 11. Göcke & Evers. Krefeld.
14. GOSIK R., LETOWSKI J. 2003. Ryjkowcowate (*Curculionoidea*: *Rhinomaceridae*, *Attelabidae*, *Apionidae*, *Curculionidae*) użytku ekologicznego „Biała Góra”. Parki Nar. Rez. Przyr., 21 (2): 247–266.
15. LETOWSKI J., GOSIK R. 2002. Ryjkowcowate (*Coleoptera*, *Curculionoidea*: *Rhinomaceridae*, *Attelabidae*, *Apionidae*, *Curculionidae*) projektowanego rezerwatu „Machnowska Góra”. Parki Nar. Rez. Przyr., 21 (4): 471–484.
16. LETOWSKI J., GOSIK R., CZARNAWSKI W., BUDZYŃSKA E. 2003. Materiały do znajomości ryjkowcowatych (*Curculionoidea*, *Coleoptera*) Kazimierskiego Parku Krajobrazowego. Parki Nar. i Rez. Przyr., 22 (2): 227–245.
17. LETOWSKI J., GOSIK R., STANIEC B., CZARNAWSKI W. 2001. Ryjkowcowate (*Curculionoidea*: *Rhinomaceridae*, *Attelabidae*, *Apionidae*, *Curculionidae*) wybranych zespołów roślinnych Nadwieprzańskiego Parku Krajobrazowego. Parki Nar. Rez. Przyr., 20 (4): 47–66.
18. WANAT M., MOKRZYCKI T. 2005. A new checklist of weevils of Poland (*Coleoptera*: *Curculionoidea*). Genus, 16 (1): 69–117.