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Dieckmanniellus chevrieri (BOHEMAN, 1845) new for the Polish fauna,
and new records of two other species of Nanophyidae
(Coleoptera: Curculionoidea)

MAREK WANAT¹ & JERZY BOROWSKI²

¹Museum of Natural History, University of Wrocław, Sienkiewicza 21, 50-335 Wrocław;
e-mail: wanatm@biol.uni.wroc.pl

²Institut of Forest Sciences, University of Łódź, Branch in Tomaszów Mazowiecki, ul. Konstytucji 3 Maja
65/67, 97-200 Tomaszów Mazowiecki; e-mail: borowski@filia.uni.lodz.pl

ABSTRACT. *Dieckmanniellus chevrieri* (BOHEMAN, 1845) is recorded from Poland for the first time and illustrated. Further records of *Nanophyes brevis* BOHEMAN and *N. globiformis* KIESENWETTER from various regions of Poland are provided and discussed. Key to genera of Nanophyidae occurring in Central Europe is given.

Key words: entomology, faunistics, Coleoptera, Curculionoidea, weevils, Nanophyidae, *Dieckmanniellus*, *Nanophyes*, Poland, new records, distribution, key to genera.

INTRODUCTION

Nanophyidae is a small (ca. 300 species worldwide) and well defined morphologically group of the weevils (Curculionoidea). Its taxonomic status and phylogenetic relationships still remain controversial, the group is prevailingly placed among orthocerous weevils although possessing geniculate antennae. Currently its inclusion as subfamily Nanophyinae into the family Brentidae in a broad sense has gained wider acceptance (e.g. KUSCHEL 1995, OBERPRIELER i in. 2007, BOUCHARD i in. 2011), but other authors still reserve the family status for Nanophyidae and consider its putative sister relationships with apionids as problematic (e.g. ZIMMERMAN 1993, WANAT 2001, ALONSO-ZARAZAGA 2011).

There are over a hundred species of Nanophyidae known from the Palaearctic, but only about 40 from Europe (ALONSO-ZARAZAGA 2011). The fauna of Central Europe,

as completely lacking representatives of the relatively speciose in Mediterranean and Central Asia tribe Corimaliini, comprises only 13 species (DIECKMANN 1963, BÖHME 2005). In Poland, six species were known for a long time, now classified in genera *Nanomimus* ALONSO-ZARAZAGA (2), *Nanophyes* SCHOENHERR (3) and *Microon* ALONSO-ZARAZAGA (1) (BURAKOWSKI et al. 1992, WANAT & MOKRZYCKI 2005), but recently the seventh species, *Nanophyes brevis*, was found in several localities (WANAT & SZYPULA 2008). All of them live on plants from genera *Lythrum* L. and *Peplis* L. (Lythraceae).

In this note we record from Poland the first member of the genus *Dieckmanniellus* ALONSO-ZARAZAGA, found for the first time in the south-east part of the country, on Przemyskie Foothills. In addition, several new and widely spaced localities of *Nanophyes brevis* GYLL. are recorded, confirming that this newcomer to Poland is already widespread here, and new records of rare *N. globiformis* KIESW. from three further subregions of Poland.

METHODS

The division of Poland into subregions is adopted from the Catalogue of Polish Fauna (BURAKOWSKI i in. 1992). Simple four-sign UTM grid code, referring to the square 10 × 10 km, is given in parentheses for each locality. All geographic coordinates are given in decimal degrees. The following abbreviations are used: JB – leg. J. BOROWSKI, PK – Landscape Park, MW – leg. M. WANAT.

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RESULTS

Dieckmanniellus chevrieri (BOHEMAN, 1845)

Nanophyes chevrieri BOHEMAN, 1845: 193.

Nanophyes helveticus TOURNIER, 1868: 567 (syn. by ALONSO-ZARAZAGA 2011).

MATERIAL EXAMINED

- Eastern Beskidy Mts.: PK Pogórza Przemyskiego, ca. 1 km S of village Makowa (FV29), sloping meadow (49.6403N/22.6718E), 22 VI 2011, 1 ex. swept near a ditch, MW. The specimen is showed in fig. 1.

According to DIECKMANN (1963) *D. chevrieri* lives on *Lythrum salicaria* L., like several other species on Nanophyidae in Europe, frequently altogether collected from the same plants. In Makowa it was found among several specimens of *Nanophyes brevis* (see below) and much more abundant *N. marmoratus* (GOEZE).

The species is new for the Polish fauna, widely distributed in Mediterranean, south of European part of Russia and on Caucasus, but still not reported from Ukraine and Asia Minor excepting Israel (ALONSO-ZARAZAGA 2011). In Central Europe it has been recorded from most countries, and northern border of its range was known to run through south Germany, the Czech Republic and Slovakia (BÖHME 2005). In the Czech Rep. the weevil is known from Bohemia and south Moravia (SCHÖN 2010). Noteworthy is its northernmost Czech locality in Žamberk. It lies just a dozen kilometers from Polish border, which makes likely the presence of the weevil in Polish Kłodzko Valley. In Slovakia *D. chevrieri* occurs mainly in the south-west, but SCHÖN (2010) suggests easy northward migration of the weevil along Carpathian river valleys. Remaining Slovak sites of *D. chevrieri* also lay in the south (e.g. Slovak Karst), the easternmost being Vinički at Bodrog river, near the junction of Slovak, Hungary and Ukraine borders (BOROVEC & KOŠTÁL 1984). This is the record closest to the new Polish site in Makowa.



1. *Dieckmanniellus chevrieri* (BOH.), the specimen from Poland

Both sites lay only about 100 km from each other in a line, although on opposite sides of the Carpathian range which may constitute a barrier for this apparently warm-loving species associated primarily with open meadows. Considering absence of Ukrainian records, even from well studied Western Podolia, crossing the Carpathians through any of the passes in Beskid Niski/Bieszczady ranges and/or possibly numerous deforested clearings might have been the way of its coming to the Przemyskie Foothills. In our opinion it can be expected that the species will continue spreading over a larger area of Poland, as it recently took place with *Nanophyes brevis* (see below) or some other weevil species, such as apionids *Rhopalapion longirostre* (OLIVIER) and *Protapion gracilipes* (DIETRICH). Particularly the latter species' migration to Poland may turn out an analogous example. Like *D. chevrieri*, it is a species associated with open meadows and grassland margins, discovered for the first time in Beskid Niski Mts (PETRYSZAK & BILIŃSKI 1978) and soon after found on the Przemyskie Foothills (WANAT 1985). After thirty years *P. gracilipes* is widespread in the south-east quarter part of Poland (WANAT & GOSIK 2003, WANAT 2007).

D. chevrieri, formerly known as *D. helveticus*, was included together with its most similar congener, *D. nitidulus* (GYLLENHAL), in the key for identification of Polish weevils by SMRECZYŃSKI (1976) and in modern keys covering Central European fauna of this weevil group (DIECKMANN 1963, LOHSE 1983, TEMPÈRE & PERICART 1989). Thus we find unnecessary providing a further key to all Polish or Central European species of Nanophyidae. Instead we present a key to genera occurring in Central Europe, modified from ALONSO-ZARAZAGA's (1989) re-classification of all Palaearctic supraspecific taxa.

Nanophyes brevis BOHEMAN, 1845

Nanophyes brevis BOHEMAN, 1845: 195.

MATERIAL EXAMINED

- Podlasie: Mielnik ad Siemiatycze (FD30), meadows in river Bug valley, 4 exs, MW.

- Wielkopolska-Kujawy Lowland: Strugi ad Antonin, forest districts 71 and 72 (XT91), 27 VII 2010, 1 ex., MW.

- Małopolska Upland: Gutkowice ad Rawa Mazowiecka (DC33), near river Rawka, 11 X 2008, 1 ex. in a hole after sand exploration, JB.

- Eastern Beskidy Mts.: PK Pogórza Przemyskiego, ca. 1 km S of village Makowa (FV29), sloping meadow (49.6403N/22.6718E), 22 VI 2011, 3 exs swept near a ditch, MW. Koniusza (FA20), roadside clearing in forest (49.6960N/22.6761E), 24 VI 2011, 24 exs, MW.

First time found in 2007 on several sites in the area between Przedbórz and Świętokrzyskie Mts, which suggested its wide settlement in Poland but said nothing about the source and direction of its migration into Poland (WANAT & SZYPUŁA 2008). Recently

recorded from Bory Stobrawskie Forest in Lower Silesia (MAZUR 2011). The above new records, first for Podlasie, Wielkopolska-Kujawy Lowland and Eastern Beskidy Mts., confirm vast expansion of this species in all directions. All Polish specimens belong to nominotypic subspecies *N. brevis brevis*.

***Nanophyes globiformis* KIESENWETTER, 1864**

Nanophyes globiformis KIESENWETTER, 1864: 284.

MATERIAL EXAMINED

- Małopolska Upland: Głuchów ad Rawa Mazowiecka (DC33), meadow inside forest, 20 VI 2003, 1 ex., JB. Przedborski PK, Piskorzaniec (DB35), dike and fish ponds, 14 VII 2007, 2 exs, MW.

- Świętokrzyskie Mts: Cisowsko-Orłowski PK, Cisów ad Daleszyce (DB92), peatbog Ługi, 17 VIII 2007, 1 ex., MW.

- Lower Silesia: „Krumml.” [Krummlinde, currently Lipiny, a part of village Raszówka (WS88) situated between Lubin and Legnica], 5 exs; „Seifersd.” [Seifersdorf – several different populated places in Lower Silesia bear this name, most likely the village Rosochata near Kunice (WS97), a few km east of Legnica, should be considered in this case], 6 exs; „Jak. S.” [unresolved abbreviation], 5 exs – coll. W. Kolbe (Museum of Natural History, University of Wrocław). In total 16 exs coming from the beginning of 20th c., all misidentified as color varieties and aberrations of *N. marmoratus* (Goeze) and mixed with specimens of this species in stocks mounted on the same pin (labels with locality names abbreviated as above, dates missing or illegible).

This species was recorded in Poland from several eastern subregions (BURAKOWSKI et al. 1992). It has been practically unknown from western Poland, although HORION (1951) and several subsequent authors including SMRECZYŃSKI (1976) report this weevil generally from Lower Silesia, and in Germany it occurs in the Lower Odra river valley, and so essentially on the border with Poland (DIECKMANN 1963). These are first records for all listed subregions.

KEY TO GENERA OF NANOPHYIDAE OCCURRING IN CENTRAL EUROPE

1. Eighth elytral interval shortly crenulate behind humeral callus, i.e. with a row of 3-7 minute teeth. Profemur with paired spines of different size. 2.
- Eighth elytral interval without crenulation. Profemur unarmed or with one minute spine. 3.
2. Basal half of rostrum dorsally with a complete and distinct median rib. Body markedly elongate, regularly oval or somewhat pyriform (only females of *D. gracilis* REDTENBACHER), elytra about 1.50× as long as wide (ca. 1.35× only in females of *D. gracilis*). Living on Lythraceae *Dieckmanniellus* ALONSO-ZARAZAGA
- Basal half of rostrum dorsally with obsolescent median rib. Body less oblong, more or less rhombic in dorsal outline, elytra 1.3-1.4× as long as wide. Living on Crassulaceae *Pericartiellus* ALONSO-ZARAZAGA

3. Body vestiture sparse and evenly dispersed. Erect sensory setae reduced to one subhumeral on the 9th elytral interval *Microon* ALONSO-ZARAZAGA
- Elytral vestiture denser, partly arranged in spots, disordered. Erect sensory setae numerous, present on pronotum, odd elytral intervals and tibiae. 4.
4. Body size 2.0-2.5 mm. Male pygidium unmodified. Suture between abdominal ventrites IV and V in male present and functional *Nanomimus* ALONSO-ZARAZAGA
- Body size 1.5-1.9 mm. Male pygidium with round median impression. Abdominal ventrites IV and V connate in both sexes, with reduced suture. *Nanophyes* SCHOENHERR

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