

***Polistichus connexus* (GEOFFROY, 1785) - a species of ground beetles
(Coleoptera, Carabidae) new for Ukraine**

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ABSTRACT. The study provides first information on the occurrence of *Polistichus connexus* (GEOFFROY, 1785) (Coleoptera, Carabidae) in Ukraine. The localities are situated in south-western part of the country. New data fills a gap in the knowledge on the species' distribution in Europe.

KEY WORDS: *Polistichus connexus* (GEOFFROY, 1785), Coleoptera, Carabidae, West Ukraine, new records, faunistic, zoogeography, ground beetles.

INTRODUCTION

The genus *Polistichus* BON. includes two species: *P. connexus* (GEOFF.) (Fig. 1) and *P. fasciolatus* (ROSSI). Sometimes the latter is considered a subspecies of the former (GUÉORGUIEV & GUÉORGUIEV 1995, HŮRKA 1996, LÖBL & SMETANA 2003, KRYZHANOVSKIJ 1983). *P. connexus* occurs in Europe, the Azores and North Africa. To the east it reaches the Caucasus, Kazakhstan to Central Asia (MÜLLER-Motzfeld 2004, KRYZHANOVSKIJ 1983). In Europe it has been reported from Albania, Austria, , Bulgaria, Croatia, the Czech Republic, France, Great Britain, Germany, Hungary, Italy, Montenegro, Poland, Portugal, Romania, Russia (European part), Switzerland, Serbia, Slovakia, Spain, (GUÉORGUIEV 2007, LÖBL & SMETANA 2003). It has not yet been reported from Ukraine (LÖBL & SMETANA 2003, KRYZHANOVSKIJ et al 1995). Based on museum data and the author's research conducted in the south of Ukraine *Polistichus connexus* was found to occur in the country.



Fig. 1. Habitus of *Polistichus connexus* (GEOFF.) caught in Ukraine (Photo by A. MAĐRA).

MATERIAL AND METHODS

Information on *P. connexus* in Ukraine was obtained from two sources: the data of basically historical nature (before WWII) were taken from the collection of S. STOBIECKI in PAS Institute of Systematics and Evolution of Animals in Cracow. Modern material was collected by the author in light traps which operated throughout the season (spring to autumn) in 2009.

A list of *P. connexus* localities in Ukraine (Fig. 2):

a) localities from S. STOBIECKI'S collection *(numbers in brackets refer to the collection at ISEA PAS / ISiEZ PAN, Cracow):

– „Krzywcze ad Kołodrobka pow. Borszczów” [Krivche ad Kolodrobka district Borszhchiv] (Ternopils'ka oblast), 15-27 VI 1936, 1 ex. leg. S. TOLL (nr 2824)

– „Babińce nad Dniestrem, pow. Borszczów” [Babintsi by Dniestr, district Borszhchiv] (Ternopils'ka oblast), 11 VI – 25 VII 1936, 31 exx. ad lucem; 9-28 VI 1937, 5 exx. ad lu-

cem; 4-10 VII 1937, 6 exx. ad lucem; 29 VI 1938, 12 exx. in light trap; 25 VII 1938, 3 exx. ad lucem, leg. S. TOLL (nr 2826, 2862, 2863, 2941, 2945)

– „Zaleszczyki-Dobrowlany” [Zalishchiki – Dobrivlyani] (Ternopils'ka oblast), 18 VIII 1939, 5 exx., leg. S. TOLL (nr 2991)

b) localities indicated by the author:

- Dovge ad Khust (Zakarpacie), 2 VII 2009, 2 exx. ad lucem, leg. P. SIENKIEWICZ

- Chorna Gora ad Vinogradiv (Zakarpacie), 2 VII 2009, 1 ex. ad lucem, leg. P. SIENKIEWICZ

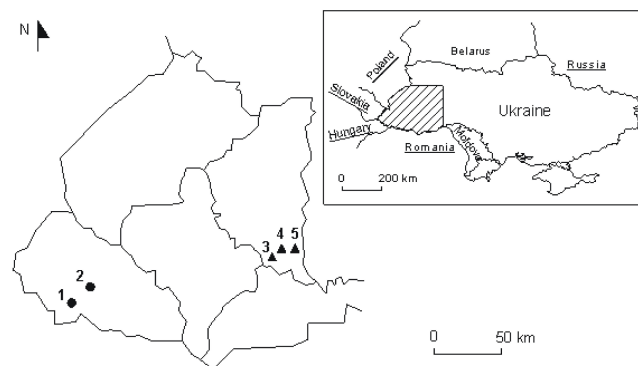


Fig. 2. Distribution of *Polistichus connexus* (GEOFF.) in Ukraine (▲ – localities based on museum materials; ● – contemporary localities; localities ad: 1 – Vinogradiv ; 2 – Dovge; 3 – Zalishchiki - Dobrivlyani; 4 – Babintsi; 5 – Krivche).

DISCUSSION

As a xerothermophilous and halophilous species, *Polistichus connexus* (GEOFF.) has its habitats mostly in the south of Europe, where it may be considered a frequent species (PAWŁOWSKI 2004, HŮRKA 1996, MARGGI 1992). In central and northern Europe it is rarer. In many countries in the region it has been placed on red lists and red books of endangered species (PAWŁOWSKI 2004, PAWŁOWSKI, KUBISZ, MAZUR 2002, MARGGI 1992, LUKA et al 2009, BLAB et al 1985). *P. connexus* has already been reported from countries bordering with Ukraine (Fig. 2), so new localities in Ukraine fill in a gap in the knowledge on the species' distribution. Like elsewhere, *P. connexus* was caught in river valleys (the Dniestr and Tisa) and in the areas with a dense network of small streams (ad Dovge) (MARGGI 1992, LUKA et al 2009). Due to scarce material the knowledge on *P. connexus* phenology

is insufficient. The most data on its occurrence come from June and the beginning of July. It should be supposed that those months are the period when it occurs in Ukraine most intensively. In Switzerland the maximum occurrence falls much earlier, already in April (LUKA et al 2009), while in Bulgaria the beetles were caught from March to August (GUÉORGUIEV & GUÉORGUIEV 1995).

Contemporary and historical data on *P. connexus* occurrence in Ukraine come from studies conducted with light traps. Traditional collecting with use of Barber traps did not yield any specimens of the species in the habitat. The areas abundant in saline habitats in the south of Europe are an exception. In central and northern Europe such habitats are usually ephemeral and take up small areas (PAWŁOWSKI 2004). For this reason *P. connexus*, a good flyer, is most easily caught in light traps. However, this method is too rarely used in research on *Carabidae* distribution.

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REFERENCES

- BLAB J., NOWAK E., TRAUTMANN W., SUKOPP H. 1985. Rote Liste der gefährdeten Tiere und Pflanzen in der Bundesrepublik Deutschland. Kilda-Verlag, 245 pp.
- GUÉORGUIEV B.V. 2007. Carabid Beetles of Albania (Coleoptera: Carabidae). Pensoft, 243 pp.
- GUÉORGUIEV V.B., GUÉORGUIEV B.V. 1995. Catalogue of the ground-beetles of Bulgaria (Coleoptera, Carabidae). Pensoft Pub., 279 pp.
- HŮRKA K. 1996. Carabidae of the Czech and Slovak Republics. Kabourek, 565 pp.
- KRYZHANOVSKIJ O.L. 1983. Zhestkokrylye (Rhysodidae, Trachypachidae, Carabidae) T. I, v. 2, Fauna SSSR 128. Nauka Leningrad, 341 pp.
- KRYZHANOVSKIJ O.L., BELOUSOV I.A., KABAK I.I., KATAEV B.M., MAKAROV K.V., SHILENKOV V.G. 1995. A checklist of ground-beetles of Russland and adjanced lands (Insecta, Coleoptera, Carabidae). Pensoft. 271 pp.
- LÖBL I., SMETANA A. 2003. Catalogue of Palaearctic Coleoptera. Volume 1. Archostemata – Myxophaga – Adephaga. Apollo Books, 819 pp.
- LUKA H., MARGGI W., HUBER C., GONSETH Y., Nagel P. 2009. Carabidae. Ecology – Atlas. Fauna Helvetica, 24: 1-678.
- MARGGI W.A. 1992. Faunistic der Sandlaufkäfer und Laufkäfer der Schweiz (Cicindelidae & Carabidae) Coleoptera. Teil 1. Documenta Faunistica Helvetiae, 13: 1-477;
- MÜLLER-MOTZFELD G. 2004. Die Käfer Mitteleuropas. Adephaga 1. Carabidae (Laufkäfer). Band 2, Spektrum, 521 pp.

- PAWŁOWSKI J. 2004: *Polistichus connexus* (GEOFFROY, 1785). [in:] Polish red data books of animals. Z. GŁOWACIŃSKI, J. NOWACKI (eds). Instytut Ochrony Przyrody PAN – Akademia Rolnicza im. A. Cieszkowskiego, 98-99.
- PAWŁOWSKI J., KUBISZ D., MAZUR M., 2002. Coleoptera – Chrząszcze. [in:] Czerwona Lista Zwierząt Ginących i Zagrożonych w Polsce. Z. GŁOWACIŃSKI (ed.). PAN i IOP Kraków, 88-110.

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