

NEW RECORDS OF *EUCOBRESIA DIAPHANA* (DRAPARNAUD, 1805) IN WESTERN POLAND

ZOFIA KSIĄŻKIEWICZ-PARULSKA^{1*}, BARTŁOMIEJ GOŁDYN^{1,2}

¹ Department of General Zoology, Faculty of Biology, Adam Mickiewicz University, Umultowska 89, 61-614 Poznań, Poland (e-mail: zofia.ksiazkiewicz@gmail.com)

² Laboratorio de Ecología Natural y Aplicada de Invertebrados, Universidad Estatal Amazónica, Puyo, Ecuador

* corresponding author

ABSTRACT: *Eucobresia diaphana* (Draparnaud) is a European land snail which is distributed from France in the west to Bulgaria in the south-east. It is listed in the Red List of Threatened Species in Poland where it occurs in the Sudetes; its range is mainly limited to Lower Silesia. We found five localities of *E. diaphana* in the Lubuskie province (W. Poland), beyond the known range of this species.

KEY WORDS: terrestrial snails, wetlands, sedge meadows

Eucobresia diaphana (Draparnaud, 1805) is a European terrestrial semi-slug of the family Vitrinidae. Its distribution range extends from France in the west to Bulgaria in the south-east (KERNEY et al. 1983, IRIKOV & ERÖSS 2008, HORSÁK et al. 2013). The species is listed in the Red List of Threatened Species in Poland (WIKTOR & RIEDEL 2002). *E. diaphana* is frequent in the Sudetes in the southwestern part of the country (UMIŃSKI 1980); its occurrence was thought to be limited mainly to Lower Silesia (red-colored, hatched area in Fig. 1; WIKTOR 2004). Typical Polish habitats were described as moist places near creeks and covered with tall herbs, or on moist rocks (WIKTOR 2004).

Besides the above mentioned mountain localities, URBAŃSKI (1958) reported that he found an empty shell of *E. diaphana* in the western, lowland part of Poland – near Łagów, Lubuskie province (square WT29 in Fig. 1). Based on this record, UMIŃSKI (1980) suspected that *E. diaphana* was probably more widespread in the Lubuskie province, but this part of Poland had hardly been explored by malacologists in those days.

Our research was conducted in western Poland in 2011 and included 49 moist habitats such as sedge meadows, tall herbs near rivers or lakes, as well as grasslands. Each chosen site was searched for mol-

luscus by the two authors for 30 minutes (total: 60 minutes). We found the following five new localities of *E. diaphana* in the Lubuskie province (Fig. 1; some of them were preliminarily reported in KSIĄŻKIEWICZ et al. 2015):

Site 1 (51°58'29.2"N, 15°11'21.7"E). A sedge meadow dominated by *Carex acutiformis* and mostly shaded by alders. The habitat is eutrophicated and drying out. One live individual of *E. diaphana* was found there.

Site 2 (51°47'01.4"N, 14°47'57.5"E). A sedge swamp dominated by *C. acutiformis*, near a fish pond. The site is fairly open, however its edges are shaded by alders. Three live individuals of *E. diaphana* were found there.

Site 3 (51°50'14.2"N, 14°41'59.9"E). An open, moderately moist sedge meadow dominated by *C. acutiformis*. The area is partially eutrophicated and surrounded by wasteland with ruderal vegetation. One empty shell and one live individual of *E. diaphana* were found in the site.

Site 4 (51°45'16.2"N, 14°49'22.2"E). A sedge meadow surrounded by alder carr. The area is shaded by trees and dominated by sedges *Carex paniculata* and *C. acutiformis*. Two live individuals of *E. diaphana* were found in the site.

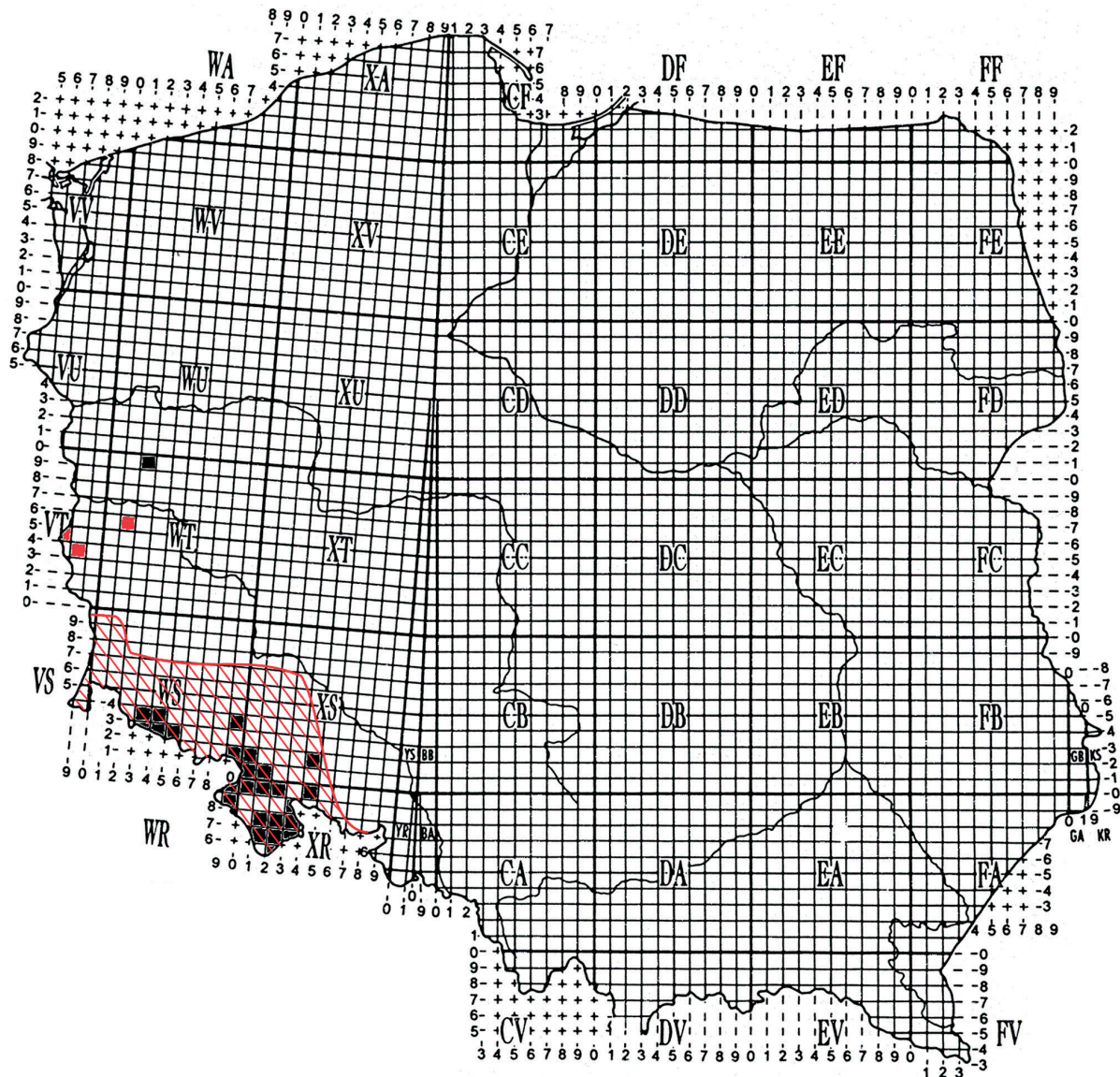


Fig. 1. Distribution of *E. diaphana*: black squares – records presented by UMIŃSKI (1980); red squares – new records where square VT83 contains 3 records of the species; area hatched in red – range of *E. diaphana* according to WIKTOR (2004)

Table 1. List of terrestrial snail species co-occurring with *E. diaphana* in the studied sites

Species	Site					Species	Site				
	1	2	3	4	5		1	2	3	4	5
<i>Carychium minimum</i> O. F. Müller, 1774	+	+	+			<i>Arion subfuscus</i> (Draparnaud, 1805)	+				
<i>Succinea putris</i> (Linnaeus, 1758)	+	+	+	+	+	<i>Arion intermedius</i> Normand, 1852					+
<i>Cochlicopa nitens</i> (Gallenstein, 1848)	+		+		+	<i>Vitrina pellucida</i> (O. F. Müller, 1774)					+
<i>Columella aspera</i> Waldén, 1966				+		<i>Eucobresia diaphana</i> (Draparnaud, 1805)	+	+	+	+	+
<i>Vertigo antiveritigo</i> (Draparnaud, 1801)	+	+				<i>Vitrea crystallina</i> (O. F. Müller, 1774)	+				
<i>Vertigo moulinsiana</i> (Dupuy, 1849)	+	+		+		<i>Nesovitrea hammonis</i> (Strøm, 1765)					+
<i>Vertigo pygmaea</i> (Draparnaud, 1801)					+	<i>Zonitoides nitidus</i> (O. F. Müller, 1774)	+	+	+	+	
<i>Vertigo substriata</i> (Jeffreys, 1833)				+		<i>Deroceras leave</i> (O. F. Müller, 1774)				+	+
<i>Vertigo angustior</i> Jeffreys, 1830			+	+		<i>Euconulus fulvus</i> (O. F. Müller, 1774)			+	+	+
<i>Vallonia pulchella</i> (O. F. Müller, 1774)					+	<i>Perforatella bidentata</i> Gmelin, 1791		+			+
<i>Punctum pygmaeum</i> (Draparnaud, 1801)	+	+	+			<i>Perforatella incarnata</i> (O. F. Müller, 1774)	+				+
<i>Discus rotundatus</i> (O. F. Müller, 1774)				+		<i>Trochulus hispidus</i> (Linnaeus, 1758)			+		
<i>Arion rufus</i> (Linnaeus, 1758)	+					<i>Cepaea hortensis</i> (O. F. Müller, 1774)					+



Site 5 (51°48'20.6"N, 14°44'23.7"E). Moderately moist, fairly open sedge meadow, surrounded by farmland. Five live individuals of *E. diaphana* were found there.

The list of terrestrial gastropods recorded in particular sites is shown in Table 1.

We did not find the species in other localities sampled on the same occasion, despite the presence of habitats described as adequate for the species by WIKTOR (2004), such as moist, tall herbs near rivers. Thus, *E. diaphana* in the Polish lowlands most probably occurs under somewhat different ecological conditions than in the Sudetes.

Our studies indicate that *E. diaphana* is more common in western Poland than it was previously thought (cf. KERNEY et al. 1983, WIKTOR 2004). It is noteworthy that the species was not recorded in similar localities in the Wielkopolska province, ca. 100-200 km to the east (KSIĄŻKIEWICZ et al. 2015). Considering the range of *E. diaphana* according to WELTER-SCHULTES

(2012), it can be suspected that the species' distribution range covers the areas of western Poland, since it commonly occurs across Germany. However, the distributional data of KERNEY et al. (1983) and ZETTLER et al. (2006) indicate that the Polish localities of *E. diaphana* in the Lubuskie province are isolated, since the species was not recorded along the German-Polish border. Nonetheless, *E. diaphana* should be regarded as rare in Poland and, since its habitats are vulnerable and prone to the degradation, it should still be considered a threatened species in the country.

ACKNOWLEDGEMENTS

The senior author is supported by the Prometeo grant of the Secretariat for Higher Education, Science, Technology and Innovation of the Republic of Ecuador.

REFERENCES

- HORSÁK M., JUŘIČKOVÁ L., PICKA J. 2013. Měkkýši České a Slovenské republiky. Kabourek, Zlín.
- IRIKOV A., ERÖSS Z. 2008. An updated and annotated checklist of Bulgarian terrestrial gastropods (Mollusca: Gastropoda). *Folia Malacol.* 16: 197–205. <http://dx.doi.org/10.12657/folmal.016.015>
- KSIĄŻKIEWICZ Z., BIEREŻNOJ-BAZILLE U., KRAJEWSKI Ł., GOŁDYN B. 2015. New records of *Vertigo geyeri* Lindholm, 1925, *Vertigo moulinsiana* (Dupuy, 1849) and *Vertigo angustior* Jeffreys, 1830 in Poland. *Folia Malacol.* 23: 121–136. <http://dx.doi.org/10.12657/folmal.023.006>
- KERNEY M. P., CAMERON R. A. D., JUNGBLUTH J. H. 1983. Die Landschnecken Nord- und Mitteleuropas. Paul Parey, Hamburg & Berlin.
- UMIŃSKI T. 1980. Vitrinidae (Mollusca, Gastropoda) Polski. Rozmieszczenie geograficzne i pionowe. *Fragm. Faun.* 25: 255–282. <http://dx.doi.org/10.3161/00159301FF1980.25.14.255>
- URBAŃSKI J. 1958. Przeźrodka *Eucobresia diaphana* w Łagowie na Ziemi Lubuskiej. *Bad. Fizjogr. Pol. Zach.* 4: 273–275.
- WELTER-SCHULTES F. W. 2012. European non-marine molluscs, a guide for species identification. Planet Poster Editions, Göttingen.
- WIKTOR A. 2004. Ślimaki lądowe Polski. Mantis, Olsztyn.
- WIKTOR A., RIEDEL A. 2002. Gastropoda terrestria, Ślimaki lądowe. In: GŁOWACIŃSKI Z. (ed.). Czerwona lista zwierząt ginących i zagrożonych w Polsce. Instytut Ochrony Przyrody PAN, Kraków, pp. 27–37.
- ZETTLER M. L., JUEG U., MENZEL-HARLOFF H., GÖLLNITZ U., PETRICK S., WEBER E., SEEMANN R. 2006. Die Land- und Süßwassermollusken Mecklenburg-Vorpommerns. Obotritendruck, Schwerin.

Received: June 16th, 2015

Revised: July 7th, 2015

Accepted: July 16th, 2015

Published on-line: August 20th, 2015

