



CEPAEA VINDOBONENSIS (FÉRUSAC, 1821) IN THE PIENINY MTS

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ABSTRACT: *Cepaea vindobonensis* (Fér.), previously thought not to occur in the Polish Carpathians, was found in the valley of Biała Woda (Pieniny Mts.: Małe Pieniny).

Cepaea vindobonensis (Fér.) is a south-eastern European (Pontic) species. Its continuous distribution area extends from the northern Caucasus, Crimea and the Balkan Peninsula to eastern Austria and the Czech Republic; it includes almost all of Slovakia. Its insular localities reach Western Pomerania and the valley of upper Elbe (RIEDEL 1988, WIKTOR 2004).

In Poland it is found in two separate areas (Fig. 1). It is common in uplands in the southern part of the country – Roztocze and Małopolska, Cracow–Częstochowa Upland and the region of Sandomierz, and along the Vistula it reaches the vicinity of Świecie. The other, western part, where the species is less frequent, extends from Nizina Wielkopolska to Ziemia Lubuska and includes the southern part of the Pomeranian lakeland. In 1855 it was introduced near Szczecin; its record from the vicinity of Gdańsk (SCHUMANN 1881, CLESSIN 1884) is uncertain (RIEDEL 1988). Its southernmost occurrences are the foothills of Eastern Beskidy Mts (Strzyżów, Błazowa and Przemyśl), and it was always emphasised that it did not occur in the Polish mountains (RIEDEL 1988, WIKTOR 2004). The only record that could possibly pertain to this part of the country, albeit with no detailed data, was EHRMANN's (1933) "northern Carpathians", but it was later regarded as an error (RIEDEL 1988). On the other hand, the species lives on the southern slopes of the calcareous part of the Carpathians (Rokoś, Murąń; LOŻEK 1955, 1964).

C. vindobonensis is a warm- and rather dry-loving species, found mainly in well-insolated, xeric habitats (RIEDEL 1988, WIKTOR 2004, OŹGO in press), such as sloping, sunny river banks, dry wasteland, or in steppe and woodland-steppe areas (SHILEYKO 1978). It avoids high altitudes but on limestone substratum may reach elevations of 900–1,000 m a.s.l. (LOŻEK 1955, 1964).

In August 2002, during a hike in the valley of Biała Woda in the Pieniny Mts, range of Małe Pieniny (Fig. 1) two of the authors (BMP and RADC) noticed a few individuals of *C. vindobonensis* stuck to a rock, and – not realising that the finding was important – only took a photograph, but did not collect any shells. In April 2004 two of us (TKM and BMP) re-visited the site and collected twenty adult shells.

The population occupies an area of several dozen square metres, on the base and face of a nearly vertical, south-facing rock, with numerous cracks, ledges and some sparse vegetation (Figs 2, 3), partly shaded by young trees. The altitude is c. 600 m a.s.l. Both live specimens in August 2002 and empty shells in April 2004 (live specimens were still hibernating at that time) were numerous. A thorough search in other parts of the valley revealed no other sites.

Because of the isolated character of our population we examined the banding pattern and the biometrical characters and compared them with available materials of the species (Table 1).

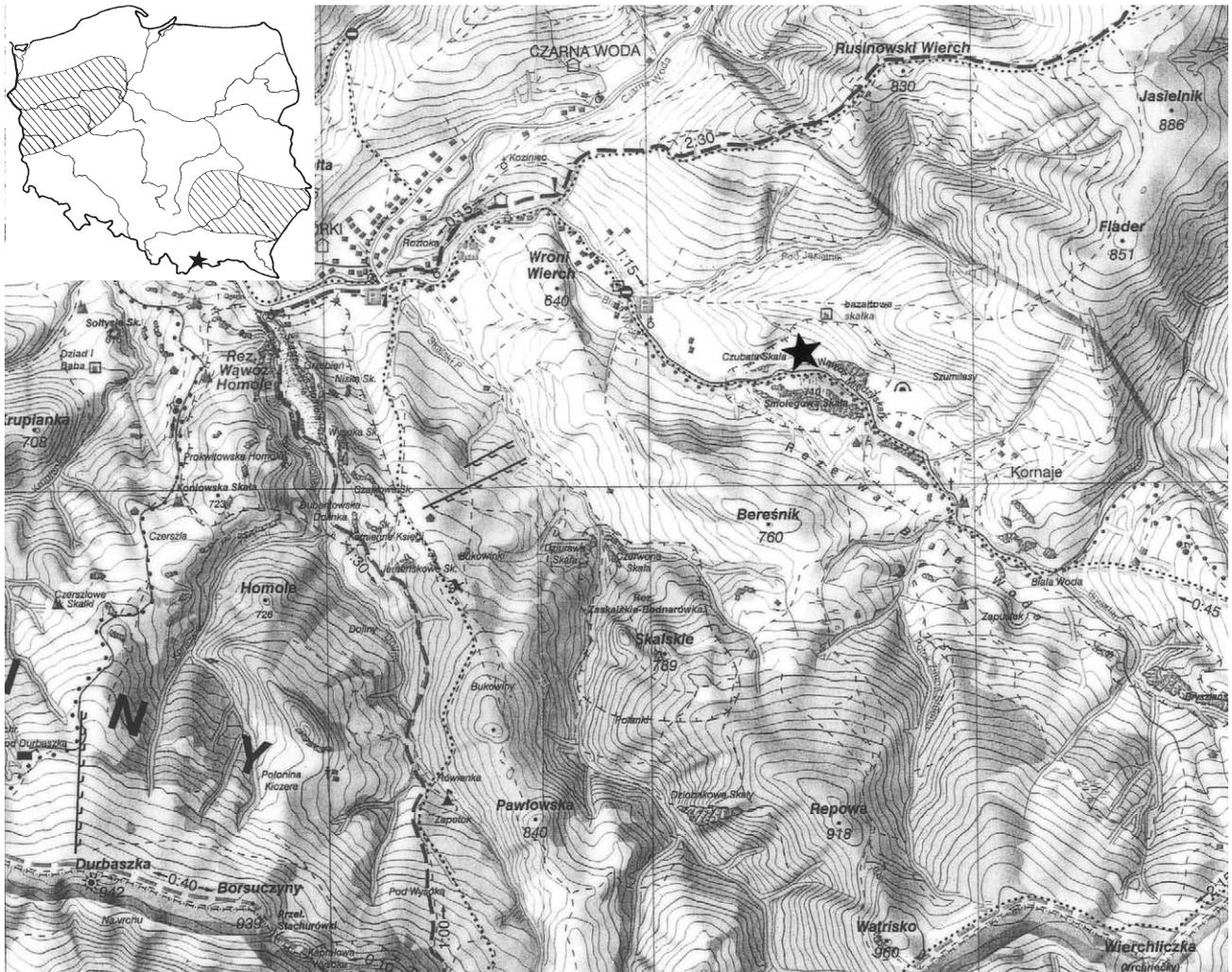


Fig. 1. Map showing the location of the Pieniny Mts (asterisk), the previously known distribution of *C. vindobonensis* in Poland (hatched), and the exact location of the site (asterisk)

Table 1. Comparative material of *C. vindobonensis*: NHMW – Natural History Museum, Wrocław University, Wrocław, Poland; PPA – Pomeranian Pedagogical Academy, Słupsk, Poland

Locality	Number of shells	Date	Collector	Repository
Poland, Bydgoszcz	5	17 July 1952	A. Wiktor	NHMW
Poland, Chęciny	13	11 September 1992	T. K. Maltz	NHMW
Poland, Gogolin	12	No data	No data	NHMW
Poland, Huta Złomy	34	2002	K. Zięba	PPA
Near Lublin, no detailed data	5	No data	No data	NHMW
Ojców	17	25 June–1 July 1956	A. Wiktor	NHMW
Rzeszów	37	1998–2002	Z. Bogucki, M. Ożgo, K. Zięba	PPA
Sandomierz	45	2002	M. Ożgo	PPA
Hungary, no detailed data	5	No data	E. Merkel	NHMW
Slovenia, no detailed data	11	No data	No data	NHMW
Transsylvania	8	No data	H. Scholtz	NHMW
Vienna, Austria	17	No data	No data	NHMW



Fig. 2. *C. vindobonensis* in the valley of Biała Woda. Photo R. A. D. CAMERON

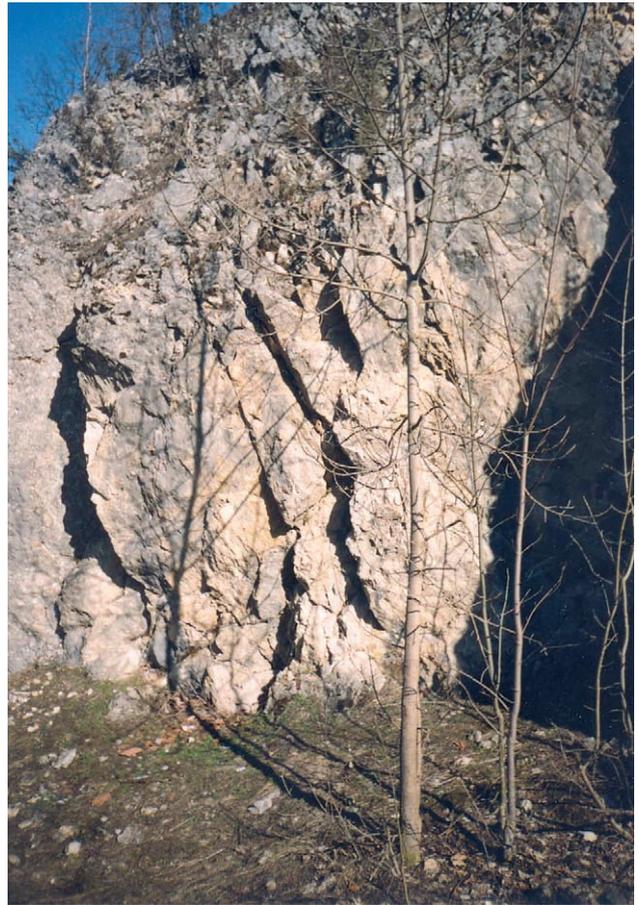
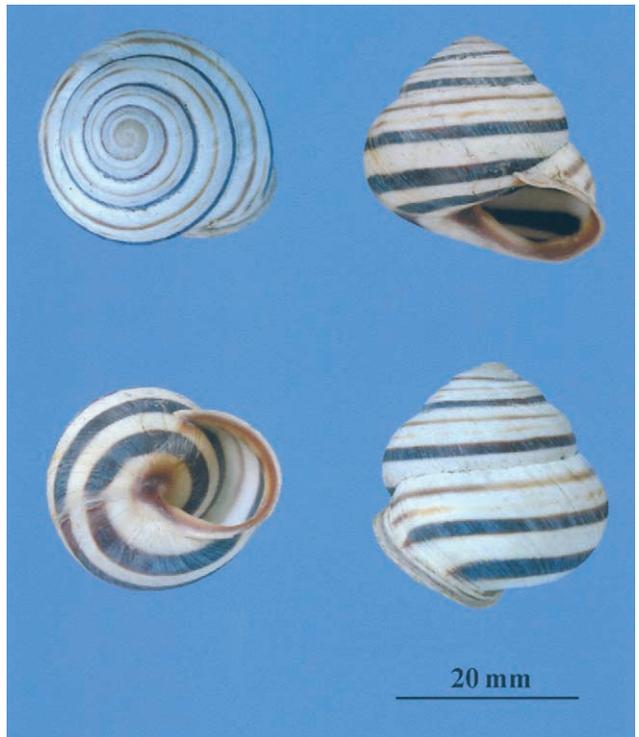
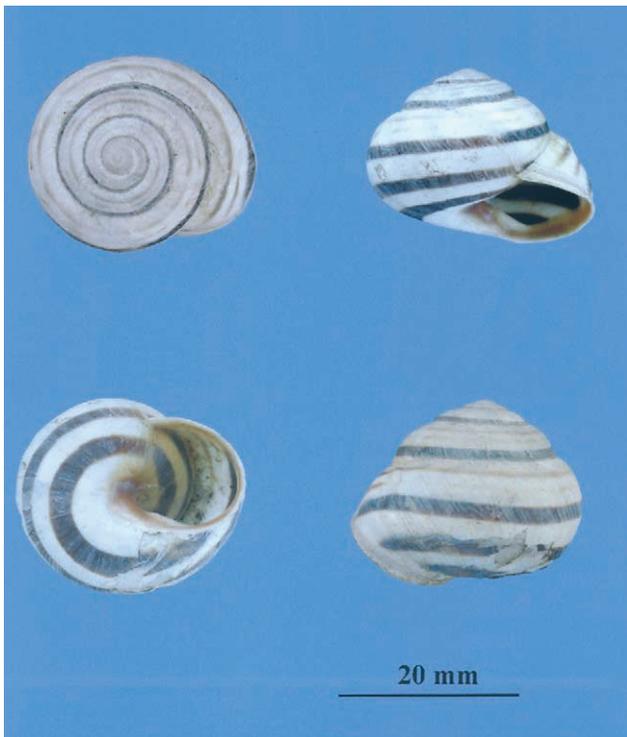


Fig. 3. Habitat of *C. vindobonensis* in the valley of Biała Woda. Photo B. M. POKRYSZKO



Figs 4, 5. Shells of *C. vindobonensis* from the valley of Biała Woda. Photo R. A. D. CAMERON

Though the material was too scanty to allow a proper statistical analysis, some remarks on the variation can be made. Our population differs from all other populations we examined in having much narrower bands 1–3 (numbered from top to bottom) (Figs 4, 5). Band 1 is in some shells broken, like in populations from Ojców and Huta Złomy, band 2 is broken in most shells and absent in some, like in populations from Ojców, Huta Złomy, Vienna and Slovenia, but never fused with band 3. Fusion of neighbouring bands is believed to be a very rare character in *C. vindobonensis* (OŻGO in press and literature cited therein), but we observed it in some shells from Sandomierz, Rzeszów, Huta Złomy and Slovenia. Band 3 in all our shells was dark (light in many shells from e.g. Huta Złomy and Vienna, and in a few from Ojców, Sandomierz and Slovenia) and narrow (wide in some shells from Sandomierz, Rzeszów, Slovenia, Vienna). Bands 4 and 5 in all our specimens were dark (light in some shells from Ojców, Huta Złomy, Vienna, Slovenia). Band 4 in about 50% our shells was narrow, and band 5 mostly wide (both characters like in all other examined populations). The ground colour of our shells was almost pure white, while in most other populations specimens with creamy, grey, beige or brownish ground colour were found.

Morphometrically our population seems to differ slightly from the remaining ones only in two charac-

ters: the shells are somewhat higher than average (18.55–21.31 mm, mean 19.79 mm in our population compared to 16.02–22.18 mm, mean 19.17 mm in other Polish populations and 16.64–21.14 mm, mean 18.48 mm in other European populations), and their apertures are smaller (the respective values of aperture height are: 9.64–12.03 and 10.93 mm, 9.59–14.09 and 11.71 mm, 10.37–12.88 and 11.77 mm). The ratio of aperture height to its width is correspondingly smaller (the respective values: 0.73–1.07 and 0.83, 0.70–1.03 and 0.90, 0.86–0.98 and 0.92). Though the series includes only twenty shells, the range of shape is wide (Figs 4, 5): the height/width ratio ranges from 0.80 to 0.93.

The origin of the population is unclear. The locality may be a part of the natural distribution range, or the species could have been introduced by the Walachians who in the 14th/15th c. immigrated into the Pieniny Mts from Transsylvania and established several villages, among others the now non-existent Biała Woda, the ruins of which are still in the valley.

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