

SHORT NOTES

A NEW SITE OF OCCURRENCE OF *ARION LUSITANICUS* MABILLE, 1868
(GASTROPODA: PULMONATA: ARIONIDAE) IN POLAND

JAN KOZŁOWSKI

Institute of Plant Protection, Miczurina 20, 60-318 Poznań, Poland
e-mail: j.kozlowski@ior.poznan.pl

Accepted: April 24, 2001

Key words: slug, *A. lusitanicus*, occurrence

Arion lusitanicus Mabille is a slug originating from the Iberian Peninsula. Initially it occurred only in northern Spain and Portugal (Simroth 1891; Altena van Regteren 1971; Chevallier 1972) but during the last 30 years this species has spread over a significant part of Europe (Fig. 1). So far it was recorded in: Andorra, Italy, Liechtenstein (Altena van Regteren 1971), Bulgaria (Altena van Regteren 1971; Wiktor 1983), the Netherlands (de Winter 1989), Belgium (Rish and Backeljau 1989), Switzerland (Altena van Regteren 1971; Frank 1998), Austria (Reischütz 1984), Germany (Schmid 1970), Sweden (von Proschwitz 1992), Norway (von Proschwitz 1994; von Proschwitz and Winge 1994) and on the British Isles (Quick 1952; 1960; Ellis 1965; Davies 1987) and Azores, France (Altena van Regteren 1971; Chevallier 1972).

For the first time *A. lusitanicus* was noticed in Poland in 1993 (Kozłowski 1995; Kozłowski and Kornobis 1994; 1995). It initially occurred patchily, mainly in the region of Albigowa and Markowa near Łañcut (Kozłowski and Kornobis 1995) but the subsequent years it rapidly spreaded over the neighborhood. Detailed studies conducted during 1997–1999 on the area of Podkarpackie province (foothills of the Carpathians) showed the occurrence of that slug in 93 sites located in the UTM squares EA and FA (Kozłowski 2000). The largest number of its sites was found in Albigowa, Łañcut and Wysoka (Fig. 2). *A. lusitanicus* inhabits there very different habitats of horticultural and agricultural crops as well as inarable lands. It abundantly occurs in orchards, parks, cemeteries and shrubberies on the river banks, but most frequently in habits plant crops and adjacent to them trenches, baulks, inarable lands and shrubberies. In Poland, like in many other countries of Central and Western Europe, *A. lusitanicus* is a dangerous pest of many vegetable, agricultural, horticultural and ornamental plant species (Reischütz 1984; Davies 1987; Frank 1998; Briner and Frank 1998; Kozłowski 1995; 1999; Kozłowski and Kozłowska 1998; von Proschwitz 1992; Reischütz 1984).

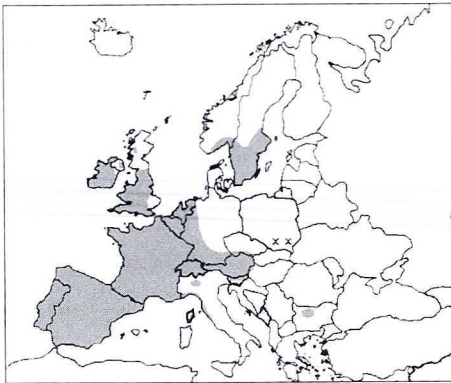


Fig. 1. Distribution of *Arion lusitanicus* Mabilie in Europe

Intensive survey conducted in 2000 in plant crops throughout Poland revealed a new site of occurrence of *A. lusitanicus* (Fig. 2). It is located in Poznachowice Górne village of Raciechowice commune in Małopolskie province (UTM DA 43). The area occupied by the slug is not large, covering a dozen or so hectares of several farms. A predominant part of this area are farmlands under vegetable, agricultural, horticultural and ornamental plant production as well as farm buildings. The Krzywozrzeka river (a branch of the Raba river) is



Fig. 2. Distribution of *Arion lusitanicus* Mabilie in Poland (● – places of the slug occurrence found in 1997–1999; ▲ – the place of occurrence found in 2000)

running from south up north. The river banks are overgrown with thick bushes suitable for slug reproduction and survival. Natural conditions of that habitat and available food (different plant crops) are also favourable to the development of the slug. The intensity of its occurrence amounted to 30 individuals per 1 m². Damages of seedlings and young vegetable plants, such as lettuce, cabbage, beets, carrots, potatoes were noted. Medium to severe damages was also noted on cereal (wheat, maize), oilseed plants (oilseed rape, sunflower) as well as on bush fruits and ornamental plants (perennials, flowers).

The intensity of the slug occurrence indicates that this species being of Mediterranean origin has successfully adapted to the new temperate climate. On account of its high harmfulness it presents a serious threat to cultivated plants.

REFERENCES

1. Altena C.O. van Regteren. 1971. Neue Fundorte von *Arion lusitanicus* Mabilie. Arch. Moll., 101: 183–185.
2. Briner T., Frank T. 1998. The palatability of 78 wildflower strip plants to the slug *Arion lusitanicus*. Ann. appl. Biol., 133: 123–133.
3. Chevallier H. 1972. *Arionidae* (*Mollusca*, *Pulmonata*) des Alpes et du Jura français. Haliotis 2: 7–23.
4. Davies M.J. 1987. *Arion flagellus* Collinge and *A. lusitanicus* Mabilie in the British Isles: A morphological, biological and taxonomic investigation. J. Conch., 32: 339–354.
5. Ellis A.E. 1965. *Arion lusitanicus* Mabilie in Devon. J. Conch., 25: 345–347.
6. Frank T. 1998. Slug damage and numbers of the slug pests, *Arion lusitanicus* and *Deroceras reticulatum* in oilseed rape grown beside sown wildflower strips. Agric. Ecos. Environ., 67: 67–78.
7. Kozłowski J. 1995. Ślimaki *Arion lusitanicus* Mab. i *Arion rufus* (L.) – nowe groźne szkodniki w Polsce południowo-wschodniej. Ochrona Roślin nr 9: 3–4.
8. Kozłowski J. 1999. Ślimaki (*Gastropoda*: *Stylommatophora*) – niedoceniane szkodniki roślin uprawnych w Polsce. Post. Nauk Roln., nr 6: 39–50.
9. Kozłowski J. 2000. Distribution and places of occurrence of the slug *Arion lusitanicus* Mabilie (*Gastropoda*: *Pulmonata*: *Arionidae*). Bull. Pol. Acad. Scien., 38 (4): 309–415.
10. Kozłowski J., Kornobis S. 1994. *Arion* sp. (*Gastropoda*: *Arionidae*) – szkodnik zagrażający roślinom uprawnym w województwie rzeszowskim. Materiały 34. Sesji Nauk. Inst. Ochr. Roślin, cz. 2: 237–240.
11. Kozłowski J., Kornobis S. 1995. *Arion lusitanicus* Mabilie, 1868 (*Gastropoda*: *Arionidae*) w Polsce oraz nowe stanowisko *Arion rufus* (Linnaeus, 1758). Przegl. Zool., 39 (1–2): 79–82.
12. Kozłowski J., Kozłowska M. 1998. Food preferences of the slug *Arion lusitanicus* Mab. (*Gastropoda*: *Stylommatophora*), in south-east part in Poland. J. Plant Protection Res., 38 (1): 81–83.
13. Quick H.E. 1952. Rediscovery of *Arion lusitanicus* Mabilie in Britain. Proc. Malac. Soc. Lond., 29: 93–101.
14. Quick H.E. 1960. British slugs (*Pulmonata*: *Testacellidae*, *Arionidae*, *Limacidae*). Bull. Brit. Mus. (nat. Hist). Zool. Lond., 6: 103–226.
15. Proschwitz T. von. 1992. Spanska skogssnigel – *Arion lusitanicus* Mabilie – en art i snabb spridning med människan i Sverige. Göteborgs Naturhistoriska Museum, Arstryck: 35–42.
16. Proschwitz T. von. 1994. *Oxychillus cellarius* (Müller) and *Oxychillus draparnaudi* (Beck) as predators on egg-clutches of *Arion lusitanicus* Mabilie. J. Conch. Lond., 35: 183–184.
17. Proschwitz T. von, Winge K. 1994. Iberiasnigell – en art po spredning i Norge. Fauna 47: 195–203.
18. Reischutz P.L. 1984. Zum massenhaften Auftreten von *Arion lusitanicus* Mabilie in den Jahren 1982 und 1983. Mitt. Zool. Ges. Braunau 4: 253–254.
19. Rish P., Backeljau T. 1989. On the occurrence of *Arion lusitanicus* Mabilie, 1868 in Belgium (*Mollusca*: *Pulmonata*). Annls Soc. R. Zool. Belg., 118 (1): 25–38.
20. Schmid G. 1970. *Arion lusitanicus* in Deutschland. Arch. Moll., 100: 95–102.
21. Simroth H. 1891. Die Nacktschnecken der portugiesisch-azorischen Fauna. Nova Acta Ksl. Leop. – Carol. dtsh. Akad. Nat. – forsch., 56: 201–424.

22. Wiktor A. 1983. The slugs of Bulgaria (*Arionidae*, *Milacidae*, *Limacidae*, *Agriolimacidae* – *Gastropoda*, *Sylommataphora*). Ann. Zool., 37: 71–206.
23. Winter A.J. de. 1989. *Arion lusitanicus* Mabilie in Nederland (*Gastropoda*, *Pulmonata*, *Arionidae*). Basteria 53: 49–51.

Jan Kozłowski

**NOWE STANOWISKO WYSTĘPOWANIA *ARION LUSITANICUS* MABILLE,
1868 (*GASTROPODA: PULMONATA: ARIONIDAE*) W POLSCE**

STRESZCZENIE

W 2000 roku stwierdzono nowe stanowisko występowania ślimaka *Arion lusitanicus* Mabilie. Było ono zlokalizowane w Poznachowicach Górnych (UTM DA 43) w siedlisku upraw rolniczych. Ślimak bardzo dobrze zaadaptował się w nowym siedlisku i jest groźnym szkodnikiem roślin uprawnych.