

## Observations of the common wall lizard *Podarcis muralis maculiventris* (Werner, 1891) outside its natural range in Slovenia

### Najdba pegaste pozidne kuščarice *Podarcis muralis maculiventris* (Werner, 1891) zunaj meja njene naravne razširjenosti v Sloveniji

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Common wall lizard (*Podarcis muralis* (Laurenti, 1768)) is a small lacertid lizard with snout-vent length of up to about 75 mm (Arnold et al. 2007). It is distributed throughout most of Europe, ranging from Spain in the southwest, France and Belgium to the north, Greece to the southeast and Slovakia and Romania in the east (Gasc et al. 1997). In Slovenia, the species is widely distributed throughout the country (Krofel et al. 2009). Two subspecies occur in Slovenia according to the published descriptions: *Podarcis muralis maculiventris* (Werner, 1891), which can be found in Slovenian Istria, and *Podarcis muralis muralis* (Laurenti, 1768), which is distributed throughout the rest of the country (Brelj & Džukić 1974, Gruschwitz & Böhme 1986). The subspecies are differentiated by the absence of the orange to brick red colouration of the throat and ventral side, complex speckled dorsal and ventral pattern and higher number of dorsal scales in *P. m. maculiventris* compared to the nominate subspecies (Gruschwitz & Böhme 1986, Vogrin 1999, Corti & Lo Cascio 2002, Arnold & Ovenden 2002) (Fig. 1).

A small population of *P. m. maculiventris* has been observed in the town of Žalec near Celje, approximately 140 km inland from the Slovenian

coastline. First *maculiventris* type animals were observed in 2010 on a railroad embankment near the Feralit foundry (Fig. 1). During later field surveys, conducted from May to September 2011 and from April to September 2012 on different locations around the town of Žalec, we found a large population of individuals with morphological characteristics typical of *P. m. maculiventris* in the southern part of the town. The area with located finds spans approximately 900 m along the railroad embankment and 300 m into the town (Fig. 2). The area is mostly residential with individual houses and gardens, lined with hedges, stone and concrete walls and intersected with paved roads. This kind of habitat is typical of this species, which is often present in urban environment (e.g. Rugiero 2004).

In the area, a total of 103 observations were made of animals that showed at least one of the morphological characteristics and colouration typical of *P. m. maculiventris* (Fig. 1). All determinations were made by observation and photographing from a distance, but six males were also caught and eventually released. These six individuals all exhibited colouration characteristics typical of *P. m. maculiventris*: high contrast speckled pattern on the dorsal and ventral sides and a complete lack of orange or brick red colour on the throat and ventral side. Dorsal scale rows were not counted and no body measurements were taken. Out of all *P. muralis* observed in the area during the survey period, an estimated 30% of the animals were *maculiventris* type. All observations were made based on the morphological characteristics of the animals, but without further DNA analysis the presence of *P. m. maculiventris* cannot be confirmed with utmost certainty.

The presence of observed individuals in this area could most likely be explained with an accidental introduction of cargo delivered to the foundry. Another way of introduction could be their arrival via train wagons. The latter explanation is less likely as no *maculiventris* type was present at the nearby train station (700 m to the east from the site of first observation), where only animals of *muralis* type were observed. Such introductions are not a unique event in *Podarcis muralis*. More and more reports are published about accidental introductions of this species from numerous countries outside its natural range, including Germany, Romania, Great Britain, Canada and

United States of America (Brown et al. 1995, Allan et al. 2006, Schulte 2008, Schulte et al. 2011, Langton et al. 2011).

## References

- Allan M.G., Prelypchan C.J., Gregory P.T. (2006): Population profile of an introduced species, the common wall lizard (*Podarcis muralis*), on Vancouver Island, Canada. *Can. J. Zool.* 84(1): 51-57.
- Arnold E.N., Ovenden D.W. (2002): A field guide to the reptiles and amphibians of Britain and Europe. 2nd edition. Harper Collins Publishers, London, 288 pp.
- Arnold E.N., Arribas O., Carranza S. (2007): Systematics of the Palaearctic and Oriental lizard tribe Lacertini (Squamata: Lacertidae: Lacertinae), with descriptions of eight new genera. *Zootaxa* 1430: 1-86.
- Breljh S., Džukić G. (1974): *Catalogus Faunae Jugoslaviae*. IV/2. Reptilia. Acad. Sci. Art. Slovenia, Ljubljana, 32 pp.
- Brown R.M., Gist D.H., Taylor D.H. (1995): Home range ecology of an introduced population of the European Wall Lizard *Podarcis muralis* (Lacertilia, Lacertidae) in Cincinnati, Ohio. *Am. Midl. Nat.* 133: 344-359.
- Corti C., Lo Cascio P. (2002): The lizards of Italy and adjacent areas. Edition Chimaira, Frankfurt am Main, 165 pp.
- Gasc J.P., Cabela A., Crnobrnja-Isailović J., Dolmen D., Grossenbacher K., Haffner P., Lescure J., Martens H., Martínez Rica J.P., Maurin H., Oliveira M.E., Sofianidou T.S., Veith M., Zuiderwijk A. (Eds.) (1997): Atlas of amphibians and reptiles in Europe. Collection Patrimoines Naturels, 29, Societas Europaea Herpetologica, Muséum National d'Histoire Naturelle & Service du Patrimoine Naturel, Paris, 496 pp.
- Gruschwitz M., Böhme W. (1986): *Podarcis muralis* (Laurenti, 1768) – Mauereidechse. In: Böhme, W. (Ed.), *Handbuch der Amphibien und Reptilien Europas*. Band II/2, Echsen (Sauria) III (Lacertidae III: Podarcis). Aula-Verlag, Wiesbaden, pp. 155–208.
- Krofel M., Cafuta V., Planinc G., Sopotnik M., Šalamun A., Tome S., Vamberger M., Žagar A. (2009): Razširjenost plazilcev v Sloveniji: pregled podatkov, zbranih do leta 2009. *Nat. Slo.* 11(2): 61-99.
- Langton T.E.S., Atkins W., Herbert C. (2011): On the distribution, ecology and management of non-native reptiles and amphibians in the London Area. Part 1. Distribution and predator/prey impacts. *The London Naturalist* 90: 93-156.
- Rugiero L. (2004): Composition of the reptile communities in five urban protected areas of different isolation degrees. *Herpetozoa* 16(3/4): 151-155.
- Schulte U. (2008): Die Mauereidechse - Erfolgreich im Schlepptau des Menschen. *Zeitschrift für Feldherpetologie – Beihefte*, Bielefeld, 160 pp.
- Schulte U., Bidingner K., Deichsel G., Hochkirch A., Thiesmeier B., Veith M. (2011): Verbreitung, geografische Herkunft und naturschutzrechtliche Aspekte allochthoner Vorkommen der Mauereidechse (*Podarcis muralis*) in Deutschland. *Zeitschrift für Feldherpetologie* 18: 161–180.
- Vogrin N. (1999): Preliminarno priopćenje o morfolometrijskim razlikama između dviju populacija *Podarcis muralis muralis* (Laurenti, 1768) i *Podarcis muralis maculiventris* (Werner 1891) u Sloveniji. *Nat. Croat.* 8(3): 325-329.



**Figure 1.** *Podarcis muralis maculiventris*, animal from Dragonja on the left and from Žalec on the right, Slovenia (photo: Tomaž Jagar).

**Slika 1.** *Podarcis muralis maculiventris*, levo osebek iz bližine Dragonje, desno osebek iz Žalca, Slovenija (foto: Tomaž Jagar).



**Figure 2.** Map showing the area where *Podarcis muralis maculiventris* individuals were observed in Žalec, Slovenia (source: [www.geopedia.com](http://www.geopedia.com)). Locality of the first observation is marked with red circle. Borders of the area are lines connecting the outermost localities of observed individuals.

**Slika 2.** Karta območja, kjer so bili opaženi osebki *Podarcis muralis maculiventris* v Žalcu, Slovenija (vir: [www.geopedia.com](http://www.geopedia.com)). Lokacija najdbe prvih osebkov je označena z rdečim krogcem. Meje območja so določene s črtami, ki povezujejo najbolj zunanje najdbe opazovanih osebkov.