***Pelophylax ridibundus*** **System:** Freshwater_terrestrial

| Kingdom | Phylum | Class | Order | Family |
|---|---|---|---|---|
| Animalia | Chordata | Amphibia | Anura | Ranidae |

**Common name**

**Synonym**

**Similar species**

**Summary**

The Marsh frog (Pelophylax ridibundus) is native to Central and Southern Europe. The Marsh frog is mostly green with dark spots with a green vertebral stripe on its back. The Marsh frog adapts to a wide range of water habitats. It feeds on invertebrates and occasionally on small fish. Outside of their natural range the Marsh frog hybridizes with native species of the same genus. It is spreading to Asia and Northern Europe. Currently no effective management of this invasive species has been applied.

view this species on IUCN Red List

**Species Description**

The Marsh fog (Pelophylax ridibundus) is the largest native Europen frog. The species has a wide distribution in Central and Southern Europe and Western Asia (Erısmıs, 2011). The dorsal surface is green with dark spots. Occasionally the Marsh frog can have a green vertebral stripe on its back. Females are larger then males and can reach up to 13cm (www.herpetofauna.co.uk, 22.02.2018). The average size of adults is 60mm (Zhelev et al., 2013). The species is listed in the Red List of Threated Species in the category Least Concern (IUCN, 2018).

**Notes**

The species is very resistant to environmental pollution (IUCN Red List, 2018). Pelophylax ridibundus is listed on Annex V of the EU Natural Habitats Directive and on Appendix III of the Berne Convention.

**Lifecycle Stages**

Herniation occurs for two months in time of cooler periods of the year (September to October in Northern regions). The metamorphosis is mostly completed after two years (https://amphibiaweb.org/species/5137, 26.02.2019).

**Uses**

The species is used for research and food trade in eastern Asia and on the Balkan. Populations in Turkey are threatened by intensive frog leg meat trade (IUCN Red List, 2018). In many native areas the abundance of the species has declined due to anthropogenic activities. The commercial collection of the species led to significant changes in age and bodz size (Erısmıs, 2011).

**Habitat Description**
The species' natural habitats are riparian ecosystems, where it is always to find close to a water body (Balint et al., 2010). It occurs up to 2,500m above sea level. The water habitats can vary from artificial water bodies in highly fragmented urban landscapes, shallow ponds to large lakes and rivers. The species has also been observed in saline water and at 1m distance to marine water habitats (IUCN Red List, 2018). The species can survive in the conditions of anthropogenic pollution. In log term the species adapts to anthropogenic pollutions, which result in increase in the number of erythrocytes, leukocytes and amount of haemoglobin (Zhelev et al., 2013).

**Reproduction**
The Marsh Frog reaches sexual maturity at 2 years of age in male and at 3 years in female. The breeding starts with the males forming loud choruses starts in spring. The number of laid eggs per year varies from 1255 to 2610 eggs, depending on the age of the female (Erısmıs, 2011).

**Nutrition**
Tadpoles feed on detritus, algae, and higher plants in addition to invertebrates (https://amphibiaweb.org/species/5137, 26.02.2019). The adult Marsh Frog prays on many different taxonomic groups. It mostly feeds on invertebrates, especially on terrestrial adult arthropods. The most frequently observed groups of pray are Heteropteans, Coleopterans, Araneida, Carabida followed by Lepidopterans larvae. Although the species is mostly aquatic, the majority of the preys had a terrestrial origin. Plants can be ingested accidentally during foraging, but are not a food source for the Marsh frog (Zhelev et al., 2013).

**General Impacts**
Outside of their natural range the Marsh frog hybridizes with native species of the same genus. Genetic interactions were observed between the invasive P. ridibundus and the native P. lessonae and P. esculentus in Western Europe (Leuenberger et al., 2014).

**Management Info**
The species can be captured by hand or using nets with handle, at daylight (Balint et al., 2010). Futher the species can be captured at night with an electrical torch in the water and along a river bank (Zhelev et al., 2013).

**Pathway**
Natural dispersal. Mikulíček, P., & Pišút, P. (2012).Leuenberger et al., (2014).

**Principal source:** Frost, D.R. 2017. Amphibian Species of the World: an Online Reference. Version 6.0. American Museum of Natural History, New York, USA Available at: http://research.amnh.org/herpetology/amphibia/index.html. Orrell T. (custodian) (2018). ITIS Global: The Integrated Taxonomic Information System (version Jun 2017). In: Roskov Y., Abucay L., Orrell T., Nicolson D., Bailly N., Kirk P.M., Bourgoin T., DeWalt R.E., Decock W., De Wever A., Nieukerken E. van, Zarucchi J., Penev L., eds. (2018). Species 2000 & ITIS Catalogue of Life, 30th January 2018. Digital resource at www.catalogueoflife.org/col. Species 2000: Naturalis, Leiden, the Netherlands. ISSN 2405-8858. AmphibiaWeb 2007 Pelophylax ridibundus: Marsh Frog  University of California, Berkeley, CA, USA. Accessed Feb 20, 2018. Leuenberger, J., Gander, A., Schmidt, B.R. & Perrin, R. 2014. Are invasive marsh frogs (Pelophylax ridibundus) replacing the native P. lessonae/P. esculentus hybridogenetic complex in Western Europe? Genetic evidence from a field study. Conservation Genetics Erısmıs, U. C. (2011). Abundance, demography and population structure of Pelophylax ridibundus (Anura: Ranidae) in 26-August National Park (Turkey). North-Western Journal of Zoology, 7(1).

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**Review:**

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## ALIEN RANGE

**[1]** BELGIUM
**[1]** RUSSIAN FEDERATION
**[1]** SWITZERLAND
**[1]** WESTERN EUROPE
**[1]** CENTRAL EUROPE
**[1]** SWEDEN
**[1]** UNITED KINGDOM

## Red List assessed species 1: LC = 1;

Pelophylax lessonae **LC**

## BIBLIOGRAPHY

**28** references found for **Pelophylax ridibundus**

**Managment information**

Dubey, S., Leuenberger, J., & Perrin, N. (2014). Multiple origins of invasive and 'native'water frogs (Pelophylax spp.) in Switzerland. Biological journal of the Linnean Society, 112(3), 442-449.

Holsbeek, G., Mergeay, J., Hotz, H., Plötner, J., Volckaert, F. A. M., & De Meester, L. (2008). A cryptic invasion within an invasion and widespread introgression in the European water frog complex: consequences of uncontrolled commercial trade and weak international legislation. Molecular Ecology, 17(23), 5023-5035.

Sciberras, A. (2008). A contribution to the knowledge of Odonata in the Maltese Islands. The Central Mediterranean Naturalist, 4(4), 275-288.

**General information**

AmphibiaWeb 2009 Pelophylax bedriagae: Levant Green Frog University of California, Berkeley, CA, USA. Accessed Jan 23, 2018.

CABI, 2018. Pelophylax cf. bedriagae. In: Invasive Species Compendium. Wallingford, UK: CAB International. www.cabi.org/isc.

Çakici, Ö. (2014). Carbaryl-induced histopathologic alterations in the digestive tract of the Levantine frog, Pelophylax bedriagae (Anura: Ranidae). Toxicologic pathology, 42(6), 1032-1040.

Çiçek, K., & İsmail, İ. B. (2017). Levanten su kurbağası, Pelophylax bedriagae'nin (Camerano, 1882)(Anura: Ranidae) Sülüklü Göl'deki (Manisa) popülasyon büyüklüğü, yaş yapısı ve yaşam döngüsü. Su Ürünleri Dergisi, 34(2), 169-177.

Çiçek, K., Kumaş, M., Ayaz, D., Mermer, A., & Engin, Ş. D. (2011). Age structure of Levant water frog, Pelophylax bedriagae, in Lake Sülüklü (Western Anatolia, Turkey). Basic and Applied Herpetology, 25, 73-80.

Demır, S., Yakar, O., Yildirimhan, H. S., & Bırlık, S. (2015). Helminth parasites of the levantine frog (Pelophylax bedriagae Camerano, 1882) from the western part of Turkey. Helminthologia, 52(1), 71-76.

Frost, D.R. 2013. Amphibian Species of the World: an Online Reference. Version 5.6 (9 January 2013). Electronic Database. American Museum of Natural History, New York, USA. Available at: http://research.amnh.org/herpetology/amphibia/index.html.

https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=775178#null

http://www.maltawildplants.com/!faunafungi/maltawildlife.php?species=Pelophylax%20bedriagae

http://www.turkherptil.org/TurListe.asp?IcerikKatId=19

Michaels, C. J., & Preziosi, R. F. (2013). Basking behaviour and ultraviolet B radiation exposure in a wild population of Pelophylax lessonae in northern Italy. Herpetological Bulletin, 124, 1-8.

Orrell T. (custodian) (2018). ITIS Global: The Integrated Taxonomic Information System (version Jun 2017). In: Roskov Y., Abucay L., Orrell T., Nicolson D., Bailly N., Kirk P.M., Bourgoin T., DeWalt R.E., Decock W., De Wever A., Nieukerken E. van, Zarucchi J., Penev L., eds. (2018). Species 2000 & ITIS Catalogue of Life, 20th December 2017. Digital resource at www.catalogueoflife.org/col. Species 2000: Naturalis, Leiden, the Netherlands. ISSN 2405-8858.

Papenfuss, T., Kuzmin, S., Disi, A.M., Degani, G., Ugurtas, I.H., Sparreboom, M., Anderson, S., Sadek, R., Hraoui-Bloquet, S., Gasith, A., Elron, E., Gafny, S., Lymberakis, P., Böhme, W. & Baha El Din, S. 2009. Pelophylax bedriagae (errata version published in 2016). The IUCN Red List of Threatened Species 2009: e.T58559A86622844. http://dx.doi.org/10.2305/IUCN.UK.2009.RLTS.T58559A11803274.en. Downloaded on 23 January 2018.

Simic, S., Tallósi, B., & Popovic, E. (1992). Seasonal Changes in Feeding of Rana ridibunda Pallas,(Amphibia Anura) from Backwater Tisza. Tiscia, 26, 5-7.

www.akvaryum.com, 2018

Yilmaz, Z.C., Kutrup B. (2006): Seasonal changes in the diet of Rana ridibunda Pallas, 1771 (Anura: Ranidae) from the Gorele River, Giresun, Turkey. Proceedings of the 13th Congress of the Societas Europaea Herpetologica: 201-204.

Badner et al., (2012). Herpetological Trip to Jordan, April/May 2012.

https://www.herpetofauna.at/index.php/reiseberichte/15-berichte/80-jordan-trip-report-2012

Başkale, E., & Kaya, U. (2012). Decline of the Levantine Frog, Pelophylax bedriagae Camerano, 1882, in the western Aegean Region of Turkey changes in population size and implications for conservation: (Amphibia: Ranidae). Zoology in the Middle East, 57(1), 69-76.

DAISIE (Delivering Alien Invasive Species Inventories for Europe), 2018.

http://www.europe-aliens.org/speciesFactsheet.do?speciesId=50028#

Heatwole, H., & Wilkinson, J. W. (2015). Amphibian Biology, Volume 11, Part 4: Status of Conservation and Decline of Amphibians: Eastern Hemisphere: Southern Europe & Turkey(Vol. 11). Pelagic Publishing Ltd.

https://www.herpetofauna.at/index.php/reiseberichte/15-berichte/80-jordan-trip-report-2012
Ibrahim, A. A. S. A. (2011). First record of Pelophylax bedriagae (Amphibia; Ranidae) in the Suez Canal region, Egypt. Herpetol. Notes, 4, 331-332.
Lymberakis, P., & Poulakakis, N. (2010). Three continents claiming an archipelago: the evolution of Aegean's herpetofaunal diversity. Diversity, 2(2), 233-255.
Perl, R. & Gafny, Sarig & Malka, Yoram & Renan, Sharon & Woodhams, Douglas & Rollins-Smith, Louise & Pask, James & Bletz, Molly & Geffen, Eli & Vences, Miguel. (2017). Natural history and conservation of the rediscovered Hula painted frog, Latonia nigriventer. Contributions to zoology Bijdragen tot de dierkunde. 86. 11-37. 10.1163/18759866-08601002.
Salman, I., Salsaa, M., & Qumsiyeh, M. B. (2014). Distribution and cytogenetics of amphibians from the occupied Palestinian territories (West Bank of Jordan). Jordan Journal of Natural History, 1, 116-130.