

Pelophylax bedriagae

System: Freshwater_terrestrial

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Amphibia	Anura	Ranidae

Common name

Synonym

Similar species

Summary

The Levant Green Frog (*Pelophylax bedriagae*) is native to the the Aegean region. The Levant Green Frog is mostly greenish or brownish back (dorsum) with a narrow, light-yellowish mid-dorsal stripe. The species occurs in humid habitats, such as, ponds, rain pools and along streams. The species was introduced to Northern and Western Europe for ornamental purposes, as a laboratory animal or for food trade. Established individuals hybridize with native frog species. Further the species preys on local insect fauna and competes with native species for food. The species is widespread and difficult to control.



[view this species on IUCN Red List](#)

Species Description

The Levant Green Frog (*Pelophylax bedriagae*) has a highly variable, greenish or brownish back (dorsum) with a narrow, light-yellowish mid-dorsal stripe. Large dark spots sometimes cover the body. Males individuals have an average length of 78.8mm. Female individuals are larger with a length of 92.8mm. The species is diurnal, but occasionally active at night (AmphibiaWeb, 2009). Helminth parasites, such as *Rhabdias bufonis*, *Cosmocerca ornata*, *Oswaldocruzia filiformis* (Nematoda), *Diplodiscus subclavatus*, *Haematoloechus breviansa*, *Gorgoderina vitelliloba* (Digenea); *Acanthocephalus ranae* (Acanthocephala) and *Hirudo medicinalis* (Hirudinea), infect the lungs, intestine, urinary bladder and skin of *P. bedriagae* in their native range (Demir et al., 2015). The species is listed in the Red List of Threatened Species in the category Least Concern (IUCN, 2018).

Notes

Taxonomy: Until the 1980s the species *Pelophylax bedriagae* (synonym: *Rana bedriagae*) was not a distinct species, but considered a subspecies of *Pelophylax ridibunda* (*Rana ridibunda*). Native populations: Within the native range the population of the Levant Water Frog is decreasing. Local extinction was observed in several locations in Turkey. Habitat loss and fragmentation of freshwater ecosystems are the major threats of the Levant Water Frog in its native range. Furthermore, the introduction of alien fish and cray fish species, e.g. *Silurus glanis* and *Astacus leptodactylus*, led to increased predation on larvae of the Levant Water Frog (Başkale & Kaya, 2012).

Lifecycle Stages

Females lay 5000-10000 eggs in a few clutches in open water or among aquatic plants (Cabi, 2018). The eggs hatch after 3 to 6 days. The metamorphosis is completed in 45 to 75 days (Çiçek and İsmail, 2017). Adults can reach the age of 8 years (Çiçek and İsmail, 2017).

Uses

In Turkey the species is traditionally used as food for hunters. The species is widely traded for frog meat or as a pet in Turkey and neighboring regions (www.akvaryum.com, 2018, Michaels & Preziosi, 2013). Further the species *P. bedriagae* is traded as a common laboratory animal (Michaels & Preziosi, 2013). The species has been also introduced to Western Europe for ornamental purposes and sold in pet shops (Holsbeek et al., 2010).

Habitat Description

The species occurs in humid area, up to 1500m above sea level (Pappenfuss et al., 2009). The species' s typical habitats include wetlands, ponds, rain pools, streams, rivers, irrigation channels, reservoirs, marshes and springs, as well as modified habitats (Pappenfuss et al., 2009). In its native range it is affected by habitat loss and pollution.

Reproduction

In the native range the breeding season starts in early March and last up to late April, while in Northern Europe the start of the breeding season was observed to start in May and to last until September (Perl et al. 2017). The seasonal breeding takes place in permanent waterbodies (Pappenfuss et al., 2009).

Nutrition

The adult species preys on terrestrial arthropods and small vertebrates. Tadpoles are herbivores and detritivores (CABI, 2018; Simic, Tallósi, Popovic, 1999).

General Impacts

The introduced species threaten native toad species through hybridization (Holsbeek et al., 2010). Established populations were found in Malta, Belgium, Switzerland and France. The species is often confused with The marsh frog (*Pelophylax ridibundus*). Established populations may compete with native species for food and mating opportunities (Holsbeek et al., 2008).

Management Info

Currently no prevention measures were undertaken. The prohibition of trading is a recommended measure to prevent ongoing imports of the Levant Green Frog (*Pelophylax bedriagae*) (Holsbeek et al., 2008, 2010).

Pathway

P. bedriagae is traded for food (frog meat) in large quantities (Michaels & Preziosi (2013). Populations were observed regularly between 2008 and 2010 on the east bank of the Suez Canal. The species was introduced to garden ponds for ornamental purposes. Holsbeek, 2008. *P. bedriagae* individuals were introduced into the wild of Belgium through commercial trade for ornamental ponds (Holsbeek et al., 2010). The species was introduced to garden ponds for ornamental purposes. Holsbeek, 2008.

Principal source: Orrell T. (custodian), 2018. Başkale & Kaya, 2012. Holsbeek et al., 2008. Holsbeek et al., 2010.

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Review:

Publication date:

ALIEN RANGE

[1] BELGIUM

[1] FRANCE

[1] EGYPT

[1] JORDAN

[1] MALTA

[1] STATE OF PALESTINE

[1] SWITZERLAND

Red List assessed species 6: LC = 6;

[Anax imperator](#) LC

[Crocothemis erythraea](#) LC

[Ischnura genei](#) LC

[Orthetrum trinacria](#) LC

[Pelophylax lessonae](#) LC

[Sympetrum fonscolombii](#) LC

BIBLIOGRAPHY

27 references found for *Pelophylax bedriagae*

Management 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.
- Holsbeek, G., Mergeay, J., Volckaert, F. A. M., & De Meester, L. (2010). Genetic detection of multiple exotic water frog species in Belgium illustrates the need for monitoring and immediate action. *Biological Invasions*, 12(6), 1459-1463.
- Sicberras, 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., 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.
- 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
- Yılmaz, 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-alien.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.