



# AMPHIBIANS

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**AMPHIBIANS.** Twenty species occur in Iran: six salamanders in three genera in two families and fourteen frogs and toads in four genera in four families. The amphibian fauna is most diverse in the northwestern provinces, which have the greatest rainfall and running water throughout the year. Almost every geographic region has one or more species. Most restricted in distribution are the salamanders, which do not extend into the arid steppe and desert regions of the southern and eastern provinces. All of the species belong to families and genera that are widely distributed in the northern hemisphere. While some populations are distributional relicts of a moister period, the most widely distributed species are those with broad ecological tolerances.

Summary List of Iranian Amphibians (repeated in [Table 1](#)):

A. Salamanders (Order Urodela)

1. Family Hynobiidae

*Batrachuperus gorganensis*

*Batrachuperus persicus*

2. Family Salamandridae

*Neurergus crocatus*

*Neurergus kaiseri*



*Neurergus microspilotus*

*Triturus cristatus karelini*

B. Frogs and Toads (Order Anura)

1. Family Pelobatidae

*Pelobates syriacus syriacus*

2. Family Bufonidae

*Bufo bufo* ssp.

*Bufo kavirensis*

*Bufo latastii oblongus*

*Bufo luristanicus*

*Bufo olivaceus*

*Bufo stomaticus*

*Bufo surdus surdus*

*Bufo surdus annulatus*

*Bufo viridis viridis*

*Bufo viridis arabicus*

*Bufo viridis kermanensis*

3. Family Hylidae

*Hyla savignyi*

4. Family Ranidae

*Rana camerani*

*Rana cyanophlyctis cyanophlyctis*



*Rana macrocnemis pseudodalmatina*

*Rana ridibunda ridibunda*

*Salamanders.* The four species of salamanders known from Iran belong to two families, the Hynobiidae with two species and the Salamandridae with four species. The Hynobiidae is the only salamander family confined to the Asian continent (with one species just entering Europe). Two representatives of this family occur in northern Iran, the southwesternmost outpost of the hynobiids. The Persian brook salamander (*Batrachuperus persicus*) occurs in the Tāleš and Alborz mountains. The larvae live in cold, clear mountain brooks and in the small pools through which they flow in the thick Hyrcanian forests of the mountains west and south of the Caspian sea. Larvae have been found at about 800-1200 m elevation; nothing is yet known about the natural history of the adults (J. Eiselt and H. M. Steiner, "Erstfund eines hynobiiden Molches in Iran," *Annalen d. Naturhistorischen Museums* [Vienna] 74, 1970, pp. 77-90; J. J. and J. F. Schmidler, "Eine Salamander-Novität in Persien, *Batrachuperus Persicus*," *Aquarien Magazin* 5, 1971, pp. 443-45; H. M. Steiner, "Beiträge zur Kenntnis von Verbreitung, Ökologie und Bionomie von *Batrachuperus persicus*," *Salamandra* 9, 1973, pp. 1-6). The Persian cave salamander (*Batrachuperus gorganensis*) is known from a single example found in a cave in the Alborz mountains between Gorgān and 'Alīābād (M. Clergue-Gazeau and R. Thorn, "Une nouvelle espèce de salamandre du genre *Batrachuperus*, en provenance de l'Iran septentrional," *Bull. Soc. Hist. Nat. Toulouse* 114, 1979, pp. 455-60).

The salamandrids (family Salamandridae) or newts are distributed throughout the temperate northern hemisphere. *Salamandrasalamandrasemenovi* has not yet been found in Iran, though it occurs close to the Iranian border in Iraqi Kurdistan and in eastern Turkey. The little-known mountain newts of the genus *Neurergus* occur only in western Iran, northeastern Iraq, and southern Turkey. They have distinctive yellow or orange-red spots or stripes on a dark brown ground color and a compressed tail; the similarly colored fire salamanders have a tail that lacks a fin or crest and is oval in cross-section. The Azarbaijan mountain newt, *Neurergus crocatus*, lives in the mountains west of lake Urmia (Režā'īya) and in northern Kurdistan, in both Iran and Iraq. Its mountain stream habitat is in the remnant deciduous forest areas at elevations of 500 to 1,700 m and water temperatures from 10 to 13°C. The Kurdistan mountain newt, *Neurergus microspilotus*, is known only along the Iran-Iraq border near Pāva and at Avroman Dāg, Iraq; the habitat is similar to



that of the Azarbaijan mountain newt and lies between 1,300 and 1,400 m elevation. The Lorestān mountain newt, *Neurerguskaiseri*, is known only from the vicinity of Šāhbāzān, at elevations of 500 to 1,300 m; its habitat is in and around small brooks and springs in the sparsely vegetated oak zone of the western foothills of the Zagros mountains. Almost nothing is known about the ecology and natural history of the mountain newts; the morphology of the larvae suggests that they grow up in calm pools (K. P. Schmidt, "Amphibians and Reptiles from Iran," *Videnskabelige Meddelelser fra Dansk Naturhistorisk Forening* 117, 1955, pp. 193-207; J. J. and J. F. Schmidtler, "Untersuchungen an westpersischen Bergbachmolchen der Gattung *Neurergus*," *Salamandra* 11, 1975, pp. 84-98).

Newts of the genus *Triturus* occur primarily in Europe, although two species extend into Asia; *Triturus cristatus karelini*, the southern crested newt, represents the genus in northern Iran. This newt can be distinguished from the other Iranian salamanders by its brownish to greenish coloration. Its habitat is often within deciduous forest or areas formerly forested, where there are ponds or weedy pools. It apparently has a considerable elevation range, from lowlands near sea level to hilly and mountainous terrain over 2,100 m. Little is known of its habits or ecology in Iran. This subspecies occurs from the eastern Balkan Peninsula through the Crimea, Turkey, and the Caucasus to northwestern Iran. Within Iran it probably occurs in west and east Azarbaijan eastward along the northern flanks of the Alborz mountains through Gīlān and into Māzandarān; all of the well-documented Iranian records appear to be from Māzandarān (W. T. Blanford, *Eastern Persia: An Account of the Journeys of the Persian Boundary Commission 1870-1872* II, *The Zoology and Geology*, London, 1876; R. G. Tuck, "Some Amphibians and Reptiles from Iran," *Bulletin of the Maryland Herpetological Society* 10, 1974, pp. 59-65).

*Frogs and toads.* The frogs and toads of Iran are in general representative of the Palearctic anuran (tailless) fauna and belong to four families, all of which occur throughout the north temperate regions of both Old and New Worlds. Frogs are most numerous, both in numbers of species and population sizes, in the north and west of Iran, although each geographic region has at least one species of frog or toad.

A single genus and species of spadefoots, *Pelobates syriacus syriacus*, extends into northwestern Iran. The Southwest Asian spadefoot is readily distinguished from other Iranian frogs by the vertical pupils of its eyes, lack of



the large parotoid glands on the back of the head characteristic of toads, and the presence of a spade-like digging tubercle on the underside of the hind foot. It is found in light, loose soils in the lowlands and spends the day burrowed into the soil, emerging at night to feed on insects and other small invertebrates. In northern Iran, the southeastern extent of its distribution, it is known only from Urmia basin (west and east Azarbaijan) and the Gilān and Māzandarān coasts of the Caspian sea (R. G. Tuck, "Amphibians and Reptiles from Iran in the United States Collection," *Bulletin of the Maryland Herpetological Society* 7, 1971, pp. 48-86; J. Eiselt and J. F. Schmidtler, "Froschlurche aus dem Iran unter Berücksichtigung ausseriranischer Populationsgruppen," *Annalen d. Naturhistorischen Museums [Vienna]* 77, 1973, pp. 181-243; S. C. Anderson, "Geographic Distribution: *Pelobates syriacus syriacus*," *Society for the Study of Amphibians and Reptiles Herpetological Review* 9, 1978, p. 21).

The common toad, *Bufo bufo*, is widely distributed through the Palearctic and just enters Southwest Asia in Turkey and northern Iran, where, in spite of its European vernacular name, it is by no means common. It has been found in Iran only along the coast of the Caspian sea in Gilān and Māzandarān provinces. Little is known about its habitat since few specimens have been collected, all in pastures invaded by shrubs along the Caspian coast. It is not yet known with certainty to what subspecies the Iranian common toads belong, but they may be *Bufo bufo verucosissima*, which occurs in the Caucasus.

The green toad, *Bufo viridis*, is the most common, most conspicuous, and most widely distributed toad in Iran. Females are light, dull brown, or olive-green, with large, conspicuous green blotches. These blotches are not so pronounced in males, which consequently are more uniform in color. This toad's broad ecological tolerance enables it to live in most provinces of Iran where annual rainfall is dependable enough to produce breeding sites most years. Three subspecies of the green toad are now recognized within Iran (Eiselt and Schmidtler, "Froschlurche"; H. Hemmer, J. F. Schmidtler, V. Böhme, "Zur Systematik zentralasiatischer Grünkröten [*Bufo viridis*-Komplex]," *Zool. Abh. Staatl. Mus. Tierk. Dresden* 34, 1978, pp. 349-84); *B. v. viridis* in northwestern Iran, *B. v. arabicus* in southwestern Iran, and *B. v. kermanensis* in the mountains of Kermān. *Bufo latastii oblongus* replaces the green toad in the mountains in Khorasan, Sīstān and Balūčestān, while the recently described *Bufo kavirensis* has been found in the Kavīr desert south of Tehran (C. Andrén and G. Nilson, "A New Species of Toad [Amphibia, Anura, Bufonidae] from the



Kavir Desert, Iran,” *Jour. Herp.* 13, 1979, pp. 93-100).

Three small toads related to the green toad are found in scattered localities in southern Iran. The earless toad, *Bufo surdus surdus*, from Kermān and Balūčestān provinces has been found from near sea level at Bandar-e Langa to 2,150 m at the summit of Kūhhā-ye Genū. It extends eastward to Quetta in Pakistan. *Bufo surdus annulatus*, the ring-spotted earless toad, is known from a single individual collected at Mehkūh in Fārs province (J. J. and J. F. Schmidtler, “Über *Bufo surdus*,” *Salamandra* 5, 1969, pp. 113-23). It has small olive-green ring-shaped spots on the back. Its small tympanum (ear drum) is hidden beneath the skin of the head, so that externally it appears to lack an ear. The Lorestān toad, *Bufo luristanicus*, is considered by some authors to be a subspecies of *B. surdus* (Eiselt and Schmidtler, “Froschlurche”), even though it has a small but distinct external tympanum. It is known from a very few localities, all in the western foothills of the Zagros mountains in Lorestān and Kūzestān provinces.

In the lowland southeastern regions where *Bufo viridis* is lacking, two toads representative of the Indian sub-region of the Oriental fauna occur. The Balūčestān coastal toad, *Bufo livaceus*, has been found only in scattered oases in the Makrān and near the coast from southern Kermān and Balūčestān to western Pakistan where irrigation in date culture and gardens provides a suitably moist habitat; it ranges up to 1,000 m elevation. The range of a related species, the Indo-Gangetic toad, *Bufo stomaticus*, extends from the Indo-Gangetic plains to 2,000 m in the Himalayas and scattered locations in Afghanistan, western Pakistan, and eastern Iran. Nothing is known of its ecology in Iran, where it seems to be of rare and isolated occurrence, but it is found in areas where rainfall is less reliable than in the coastal regions and in areas that are colder in the winter. It is known from northern Khorasan, Sīstān and Balūčestān.

While the Iranian species of tree frog, *Hylasavignyi*, does not climb trees, it does cling to grasses, hedges, rushes, and other low vegetation along the margins of streams and ponds. These frogs are either bright green or light tan to gray and have a black stripe through the eye on the side of the head. They are the smallest frogs in Iran, but they have the loudest voices, and whenever a frog chorus fills the night air, one can be sure it is this tree frog. Because these frogs require reliable annual rainfall and moist retreats they are restricted to the northern and western provinces; they extend from the northwestern corner of Iran east through Gīlān and Māzandarān and south



through Kurdistan, Lorestān, Kūzestān and Fārs provinces.

The four Iranian species of true frogs (family Ranidae) belong to three major species-groups. By far the most common and widely distributed species is *Ranaridibundaridibunda*, whose distribution in Iran closely parallels that of the green toad, namely every province except Sīstān and Balūčestān. Related to the pond and grass frogs of the Holarctic, these frogs vary in color from dirty brown to bright green and have dark blotches on the back and limbs; they have no dark stripe along the side of the head. Their most familiar survival strategy is to sit perfectly still as a potential predator approaches, and then to escape into the water with an explosive leap. In northwestern Iran, *Ranacamerani* is found along streams and around lakes in now deforested areas from the Turkish border to the western flanks of the Ṭāleš mountains and south into Kurdistan. Like other species of brown frogs, it has a dark stripe on the side of the head behind the eye. Its back and limbs are brownish or olive green, usually with dark blotches, and the undersurfaces of the hind limbs are red. *Ranamacrocnemispseudodalmatina*, a handsome, rich brown frog lives in especially damp places, often many meters from the nearest stream, on the floor of the Caspian forest of Gīlān and Māzandarān. In the lowlands of southeastern Iran, beyond the ecological range of *Ranaridibunda*, the skittering frog, *Ranacyanophlyctiscyanophlyctis*, a member of the Oriental fauna, occurs where irrigation provides near-permanent water in oasis situations; Balūčestān, southern Kermān, and Sīstān from the western edge of its wide distribution through southern Asia.

## BIBLIOGRAPHY

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Given in the text.