

Ambystoma tigrinum

System: Freshwater_terrestrial

| Kingdom | Phylum | Class | Order | Family |
|----------|----------|----------|---------|----------------|
| Animalia | Chordata | Amphibia | Caudata | Ambystomatidae |

Common name Tiger Salamander (English), Salamandra tigre (Spanish), Eastern Tiger Salamander (English)

Synonym *Salamandra tigrina* ,Green, 1825
Siren operculata ,Palisot de Beauvois, 1799

Similar species

Summary The Tiger Salamander (*Ambystoma tigrinum* (Green, 1825) is native to North America. It was introduced in central California as a commonly used live bait in the sport fishing industry (Johnson et al. 2010). The natural habitats are forests, grasslands, or marshy areas. In early spring the species reproduces (sexual; oviparous) in ponds. Each female produces anything from 100 to 1000 eggs per season. The life expectancy is 12 to 15 years. The major impacts of the species are hybridization, pathogen pollution and competition.



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

Species Description

The length of an adult is 17 to 33cm. The average mass of an adult is 9.4g. The black skin is covered with yellow spots, which can appear also tan or olive green. The belly is usually yellowish or olive. Adults live almost entirely terrestrial and return only during the breeding season in the aquatic freshwater. The eggs hatch within 20 to 50days. The larvae are yellowish green to olive. First tan spots emerge within few weeks.

Notes

Subspecies are named but not valid: • *Ambystoma tigrinum californiense* Gray, 1853 - invalid • *Ambystoma tigrinum diaboli* Dunn, 1940 - invalid - Gray Tiger Salamander • *Ambystoma tigrinum mavortium* Baird, 1850 - invalid - Barred Tiger Salamander • *Ambystoma tigrinum melanostictum* (Baird in Cooper, 1860) - invalid - Blotched Tiger Salamander • *Ambystoma tigrinum nebulosum* Hallowell, 1853 - invalid - Arizona Tiger Salamander • *Ambystoma tigrinum stebbinsi* Lowe, 1954 - invalid - Sonoran Tiger Salamander • *Ambystoma tigrinum tigrinum* (Green, 1825) - invalid - Eastern Tiger Salamander

Lifecycle Stages

Metamorphosis; The life expectancy is 12 to 15 years.

Uses

Tiger salamanders are common pets hold in aquariums. The larvae are used to feed fish in hatcheries. In the United States larvae are commonly used as live bait to catch freshwater fish, such as largemouth bass (*Micropterus salmoides*), channel catfish (*Ictalurus punctatus*) (Picco & Collins, 2008).



GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: *Ambystoma tigrinum*

Habitat Description

The species is native in eastern North America and in south-central Canada. It occurs up to an elevation of 3,660m (IUCN/SSC, 2015). The terrestrial adults are found in forests, grasslands, or marshy areas. Further habitat requirements are soil humidity. The species need to be able to burrow underground in order to seek the proper humidity levels. During the breeding season and for the metamorphosis access to small standing water bodies is required.

Reproduction

Sexual; oviparous; In late winter or early spring (usually after a warm rain) male and female adults migrate to ponds. Approximately 24-48 hours after the courtship and insemination females lay eggs on the ground of the pond. Each female produces anything from 100 to 1000 eggs per season.

Nutrition

The primary food source for adults consists of worms, snails, insects, and slugs. Larvae begin feeding on small crustaceans, and later on insect larvae. Several indices were found on cannibalism (Ryan et al., 2009).

General Impacts

Pathogen pollution The species is a commonly used bait in the US among anglers in freshwater ecosystems. Occasionally individuals escaped or were released by anglers. Species traded in bait shops outside their natural range were infected with Ranaviruses. Tiger salamander bait trade is a likely source of many pathogen pollutions (Picco & Collins, 2008). **Hybridization** Hybridization threatens native salamander species. *A. tigrinum* has been introduced to central California, where it has been found to hybridize with native *A. californiense* (AmphibiaWeb 2011, Ryan et al., 2009). **Competition** The species impacts on the larval density and the time to metamorphosis of native the native California tiger salamanders. Larvae of the Pacific Chorus Frog (*Pseudacris regilla*) and the California Newt (*Taricha torosa*) are impacted by hybrid tiger salamander larvae (Ryan et al., 2009).

Management Info

The movement and trade of the species is currently not regulated in most countries, where the species is traded (e.g. United States or Canada).

Pathway

Picco & Collins, 2008

Principal source: Wentz, A. 2001. "Ambystoma tigrinum" (On-line), Animal Diversity Web. Accessed January 18, 2018 at http://animaldiversity.org/accounts/Ambystoma_tigrinum/

Compiler:

Review:

Publication date:

ALIEN RANGE

[1] CANADA

[1] NORTH AMERICA

[1] UNITED STATES

Red List assessed species 3: VU = 1; LC = 2;

[Ambystoma californiense](#) **VU**

[Pseudacris regilla](#) **LC**

[Taricha torosa](#) **LC**

BIBLIOGRAPHY

24 references found for *Ambystoma tigrinum*

Management information

Fitzpatrick BM, Johnson JR, Kump DK, Shaffer HB, Smith JJ, Voss SR (2009) Rapid fixation of non-native alleles revealed by genome-wide SNP analysis of hybrid tiger salamanders. *BMC Evolutionary Biology* 9(1): 176.

Fitzpatrick BM & Shaffer HB 2007 Hybrid vigor between native and introduced salamanders raises new challenges for conservation. *PNAS* 104: 15793-15798

Jancovich JK, Davidson EW, Parameswaran N, Mao J, Chinchar VG, Collins JP, Jacobs BL, Storfer A (2005) Evidence for emergence of an amphibian iridoviral disease because of human-enhanced spread. *Molecular Ecology* 14(1): 213-24.

Johnson JR, Fitzpatrick BM, Shaffer HB (2010) Retention of low-fitness genotypes over six decades of admixture between native and introduced tiger salamanders. *BMC Evolutionary Biology* 10(1):147.

Picco AM, Collins JP (2008) Amphibian commerce as a likely source of pathogen pollution. *Conservation Biology* 22(6): 1582-9.

Picco AM & Collins JP 2008 Amphibian commerce as a likely source of pathogen pollution. *Conservation Biology* DOI: 10.1111/j.1523-1739.2008.01025.x

Riley, S. P. D., H. B. Shaffer, S. R. Voss, and B. M. Fitzpatrick. 2003. Hybridization between a rare, native tiger salamander (*Ambystoma californiense*) and its introduced congener. *Ecological Applications* 13:1263-1275

Ryan ME, Johnson JR, Fitzpatrick BM. 2009 Invasive hybrid tiger salamander genotypes impact native amphibians. *PNAS* 106:11166-11171

Storfer A, Mech SG, Reudink MW, Ziemba RE, Warren J, Collins JP (2004) Evidence for introgression in the endangered Sonora tiger salamander, *Ambystoma tigrinum stebbinsi* (Lowe). *Copeia* 2004(4):783-796.

General information

Fitzpatrick BM, Shaffer HB (2004) Environment-dependent admixture dynamics in a tiger salamander hybrid zone. *Evolution* 58(6):1282-1293.

Fitzpatrick BM, Shaffer HB (2007) Introduction history and habitat variation explain the landscape genetics of hybrid tiger salamanders. *Ecological Applications* 17(2): 598-608.

Harding, J. 1997. *Amphibians and Reptiles of the Great Lakes Region*. Ann Arbor, Mi: The University of Michigan Press.

<https://amphibiaweb.org/species/3850>

https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=173592#null

<http://www.catalogueoflife.org/col/details/species/id/d1942621fb78d1eb37c5f791f0633559>

Indiviglio, F. 1997. *Newts and Salamanders*. New York: Barron's Educational Series.

IUCN SSC Amphibian Specialist Group. 2015. *Ambystoma tigrinum* (errata version published in 2016). The IUCN Red List of Threatened Species 2015: e.T83293207A105179324. <http://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T83293207A3076038.en>. Downloaded on 18

Jancovich, J.K., E.W. Davidson, J.F. Morado, B.L. Jacobs, and J.P. Collins. 1997. Isolation of a lethal virus from the endangered tiger salamander *Ambystoma tigrinum stebbinsi*. *Diseases of Aquatic Organisms* 31: 161-167.

Johnson JR, Thomson RC, Micheletti SJ, Shaffer HB. 2011. The origin of tiger salamander (*Ambystoma tigrinum*) populations in California, Oregon, and Nevada: introductions or relicts? *Conserv Genet* 12: 355-370

Petranka, J. 1998. *Salamanders of the United States and Canada*. Washington and London: Smithsonian Institution Press.

Ryan ME, Johnson JR, Fitzpatrick BM, Lowenstine LJ, Picco AM, Shaffer HB (2013) Lethal effects of water quality on threatened California salamanders but not on co-occurring hybrid salamanders. *Conservation Biology* 27(1): 95-102.

Wentz, A. 2001. "*Ambystoma tigrinum*" (On-line), Animal Diversity Web. Accessed January 18, 2018 at

http://animaldiversity.org/accounts/Ambystoma_tigrinum/

Collins, J. P. (1981). Distribution, habitats and life history variation in the tiger salamander, *Ambystoma tigrinum*, in east-central and southeast Arizona. *Copeia*, 666-675.

Fitzpatrick BM, Johnson JR, Kump DK, Smith JJ, Voss SR, Shaffer HB (2010) Rapid spread of invasive genes into a threatened native species. *Proceedings of the National Academy of Sciences* 107(8): 3606-3610.