

GLOBAL INVASIVE SPECIES DATABASE

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.			
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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

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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).



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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 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 freswater ecosystems. Ocasionally individuals escaped or were relesed 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 ipacts on the larval density and the time to metamorphosis of native the native Califirmia tiger salamanders. Larvae of he Pacific Chorus Frog (Pseudacris regilla) and the California Newt (Taricha torosa) are impacted by ybrid tiger salamander larvae (Ryan et al., 2009).

Management Info

The movement and trade of the species is currently not relegated 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/

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Review:

Pubblication date:

ALIEN RANGE

[1] CANADA[1] UNITED STATES

[1] NORTH AMERICA

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

Ambystoma californiense VU Taricha torosa LC Pseudacris regilla LC



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BIBLIOGRAPHY

24 references found for Ambystoma tigrinum

Managment 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 (Ambyostoma 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.