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***Eurycea latitans* Smith and Potter**
Cascade cave salamander

Eurycea latitans Smith and Potter, 1946:105-109.

Type-locality, "The first large pool deep within the recesses of Cascade Cavern, 4.6 miles by road (3½ miles airline) southeast of Boerne, Kendall County, Texas." Holotype, U.S. Natl. Mus. 123594, collected by Floyd E. Potter, Jr. on 15 May 1946.

Eurycea neotenes latitans: Schmidt, 1953:55.

• CONTENT. No subspecies are recognized, but see COMMENT.

• DEFINITION AND DIAGNOSIS. A large (over 100 mm total length) neotenic *Eurycea* with comparatively short and stout legs. The pigmentation is light and sparsely scattered to form well defined pigmentless areas. The head has a peculiar shape with a flattened snout and an abrupt elevation beginning at the eye level. The eye is small with the interorbital distance 3 to 4 times that of the eye diameter. Costal grooves number 15 (sometimes 14) with 4 costal grooves (sometimes 3 or 5) between the adpressed limbs. Premaxillary teeth number 18 and palatopterygoid teeth are 11 in the two specimens reported.

Baker (1961) gave a good diagnosis in his key to the *Eurycea* of Texas. *Eurycea latitans* differs from all the known neotenic *Eurycea* by its relatively stouter body and legs, its head with a flat snout and an abrupt elevation beginning at eye level, and its reticulated pigmentation. It also differs from *E. neotenes* and *E. nana* by having smaller eyes and more premaxillary teeth; from *E. nana* by having fewer total costal grooves, fewer between the adpressed limbs, and no dark rings around the eyes; from *E. troglodytes* in having more total costal grooves, more between the adpressed limbs, fewer premaxillary teeth, and in its eyes not being covered with skin.

• DESCRIPTION. The only detailed description in the literature is that by Smith and Potter (1946). *Eurycea latitans* is a large (up to 105.5 mm total length) neotenic salamander with a snout-vent length up to 52.5 mm. The snout is slightly truncate and abruptly flattened, with the rear part of the head elevated rather sharply at the interorbital region. The eyes are small (3½ times into the interorbital distance) and lidless, but the surface of the orbit that is in direct contact with the skin gives a false impression of lids. The nostrils are separated from each other by a distance equal to

the length of the snout and are nearer the lip than to the uppermost point of the snout. A conspicuous furrow is present from the eye to the corner of the mouth.

The longest of the 3 well-developed gills reaches about ¾ of the distance forward to the eye when adpressed anteriorly. The upper half of each of the gills is lightly pigmented but the lower portion is nearly pigmentless. The gular fold makes a forward angle of about 50 degrees near the middle of the body. The tail fin is conspicuous and gradually becomes slightly elevated posteriorly. Typically 15 (14-15) costal grooves are present with 4 (3-5) between the adpressed limbs. The short but stout, well-developed legs have 4 fingers with the order of increasing length being 1-2-4-3. The slightly larger hind legs have 5 toes with the order of increasing length being 1-5-2-4-3.

In life darker reticulations incompletely enclose light areas that tend to be elongate on the middle of the back and rounded and larger toward the sides. Dorsally these light areas tend to be very light tan but laterally they become translucent. Upon preservation the pigmentation appears somewhat heavier and white flecks visible in the dorsolateral and lateral light areas completely disappear.

The dentition of 2 stained specimens is reported by Smith and Potter (1946): 11-12, 12-12 prevomerine teeth; 8-9, 11-11 pterygoid teeth; 25-24, 24-24 dentary teeth; and 7-?, 10-10 splenial teeth. They also noted the following internal anatomical features: 17 and 18 presacral vertebrae; phalangeal formula for fingers, 2-3-4-3; for the toes, 2-3-4-4-3; ribs and corresponding vertebral processes stout; rib-vertebrae articulation normal except for some fusion in the presacral vertebrae; hyoid arch either ossified or calcified.

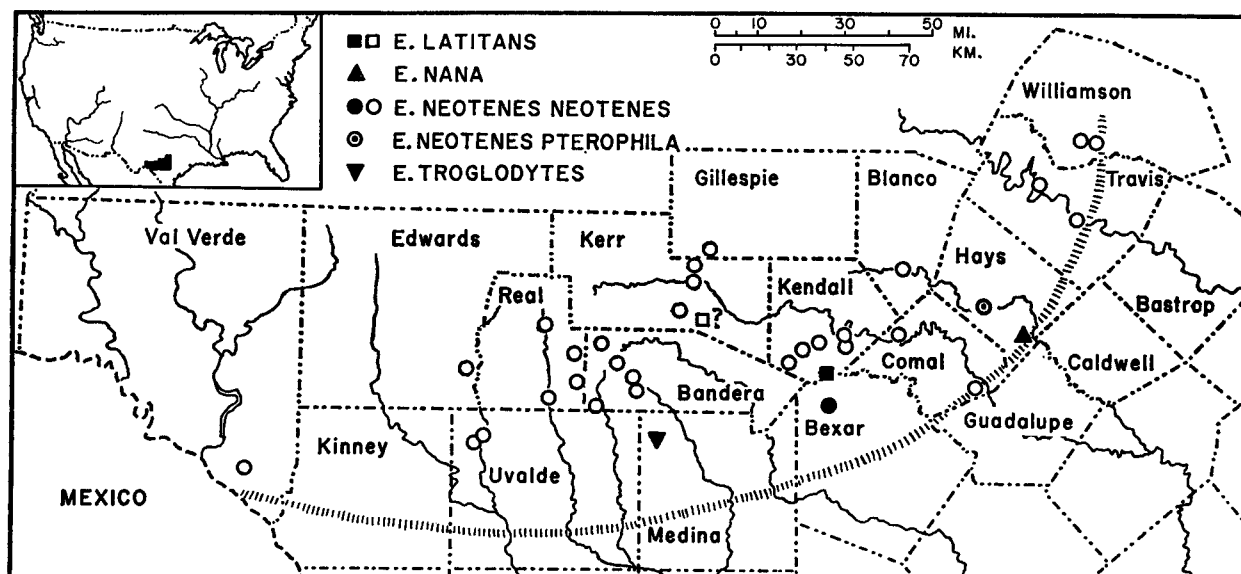
Mature males have a swollen glandular area around the cloaca except for a very narrow area at the posterior end of the opening.

• ILLUSTRATIONS. See Mitchell and Redell (1965:20-21) for line drawings.

• DISTRIBUTION. Found in subterranean water systems in the vicinity of the type locality near Boerne, Kendall County, Texas. Milstead (1951) reported one specimen from a tributary of Turtle Creek in Kerr County, about 38 miles west-northwest of the type locality, but Baker (1961) thought that this specimen probably was not *E. latitans*.

• FOSSIL RECORD. None.

• PERTINENT LITERATURE. Other than the original description (Smith and Potter, 1946) very little has been published on *Eurycea latitans*. Baker gave additional morphological data on this species in his description of *E. troglodytes* (1957)



MAP. Distribution of neotenic species of *Eurycea* on the Edwards Plateau of Texas. Hatching marks the approximate edge of the Plateau. Open symbols indicate localities other than type-localities. *E. latitans* is known only from the vicinity of the type locality and another questionable record.

and in his key to the neotenic *Eurycea* of Texas (1961). Mitchell and Reddell (1965:16-22) reviewed the morphological characters of this species and discussed its relationships with the other neotenic *Eurycea*.

• **ETYMOLOGY.** The specific name *latitans* comes from the Latin *latito* which means to hide or conceal. This refers to the cave habitat of this species.

COMMENT

Schmidt (1953) listed *E. latitans* as a subspecies of *E. neotenes*. In my opinion the numerous differences these two forms exhibit are sufficient to warrant designating them as separate species. In this I concur with Mitchell and Reddell (1965) and with A. P. Blair (1957).

Among the differences are the larger size and body proportions (such as longer limbs), peculiar shape of the head, relatively smaller eyes, distinctive pattern of pigmentation, and fewer premaxillary teeth of *E. latitans*. Moreover, the subterranean stream systems in which these two species occur appear to be isolated so interbreeding with *E. latitans* and other neotenic salamanders does not seem possible.

LITERATURE CITED

Baker, James K. 1957. *Eurycea troglodytes*: a new blind salamander from Texas. *Texas Jour. Sci.*, 9(3):328-336.

- 1961. Distribution of and key to the neotenic *Eurycea* of Texas. *Southwestern Nat.*, 6(1):27-32.
- Blair, A. P. 1957. Amphibians, pp. 211-271. In W. F. Blair *et al.*, *Vertebrates of the United States*. McGraw-Hill Book Co., New York, ix + 819 pp.
- Milstead, William W. 1951. A new locality record for the Texas neotenic salamander, *Eurycea latitans*. *Herpetologica*, 7(2):57-58.
- Mitchell, Robert W., and James R. Reddell. 1965. *Eurycea tridentifera*, a new species of troglobitic salamander from Texas and a reclassification of *Typhlomolge rathbuni*. *Texas Jour. Sci.*, 17(1):12-27.
- Schmidt, Karl P. 1953. A check list of North American amphibians and reptiles. Sixth edition. *Amer. Soc. Ichthyol. and Herpetol.* viii + 280 pp.
- Smith, Hobart M., and Floyd E. Potter, Jr. 1946. A third neotenic salamander of the genus *Eurycea* from Texas. *Herpetologica*, 3(4):105-109.

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