

Catalogue of American Amphibians and Reptiles.

BRODIE, EDMUND D., JR. AND ROBERT M. STORM. 1971.
Plethodon elongatus.

***Plethodon elongatus* Van Denburgh**
Del Norte salamander

Plethodon elongatus Van Denburgh, 1916:216. Type-locality, Requa, Del Norte County, California. Holotype, California Acad. Sci. 29096, collected by J. R. Slevin on 22-26 May 1911.

• CONTENT. No subspecies have been described.

• DEFINITION AND DIAGNOSIS. The most slender and attenuate western salamander of the genus *Plethodon*, *P. elongatus* is characterized by a modal number of 18 costal grooves (19 trunk vertebrae), a reddish dorsal stripe, and usually 6.5 to 7.5 costal folds between adpressed limbs in adults. The ground color is dark brown or black and the even-edged dorsal stripe, when not obscured with melanophores, usually extends to the tip of the tail. The venter is dark gray and the lighter gular region is often mottled. Small flecks of stripe color are present along the sides and occasionally on the venter.

White and yellow iridophores are most concentrated along the sides, dorsal surfaces of the limbs and in the gular region. Sparser concentrations are present on the venter and dorsal surface of the head. A few iridophores may rarely be present on the dorsal body surface. The dark brown eyes usually lack iridophores but some specimens have a few flecks on the iris.

The toes are short and slightly webbed. There are 17-20, usually 18, costal grooves and 18-21, usually 19, trunk vertebrae. The normal adult range in total number of vomerine teeth is 6-16. Sexual maturity is reached at about 55 mm snout-vent length. Sexual dimorphism is present in the number of maxillary plus premaxillary teeth (males average 42.3, females 47.6). Males have a mental gland and sometimes poorly developed vent lobes.

The smallest hatched specimens examined were 18 mm snout-vent length; ten prehatching embryos (Livezey, 1959) averaged 12 mm snout-vent length. The largest specimen examined was 73 mm in snout-vent length.

Plethodon elongatus may be distinguished from other sympatric or adjacent western *Plethodon* by the following characteristics of those species: *P. dunnii* has an irregular green dorsal stripe and a shorter (usually 15 costal grooves), stockier body with longer limbs (1-4 costal folds between adpressed limbs); *P. vehiculum* is smaller than *elongatus* and usually has 16 costal grooves and 3.5-4.5 costal folds between adpressed limbs (both *P. dunnii* and *P. vehiculum* have longer, unwebbed toes and heavy gold iridophore flecking on the iris of the eye); *P. stormi* usually has 17 costal grooves, 4-5.5 costal folds between adpressed limbs, a broader head, more teeth and olive-tan or yellowish-tan dorsal color.

• DESCRIPTIONS. Published descriptions are by Bishop (1943), Brodie (1969, 1970), Dunn (1926), Gordon (1939), Grinnell and Camp (1917), Highton (1962), Slevin (1928), Stebbins (1951, 1954, 1966), Storer (1925), and Van Denburgh (1916); those by Stebbins (1951) and Brodie (1969, 1970) are the most complete. Brodie (1968) described the mental gland and Livezey (1959) described the eggs and embryos. A clutch of eggs reported by Wood (1934) are abnormal or of some other animal (Livezey, 1959).

• ILLUSTRATIONS. Photographs of adults were presented by Bishop (1943) and Slevin (1928). Drawings were provided by Stebbins (1951, 1954, and 1966, in color). Livezey (1959) presented a photograph of an embryo.

• DISTRIBUTION. *Plethodon elongatus* is found in southwestern Oregon and northwestern California. Inland populations in Oregon may not be continuous with coastal Cali-

fornia populations. The population in northern Siskiyou County, California was recently discovered by R. Bruce Bury and is close geographically to the known range of *P. stormi* (see Comment).

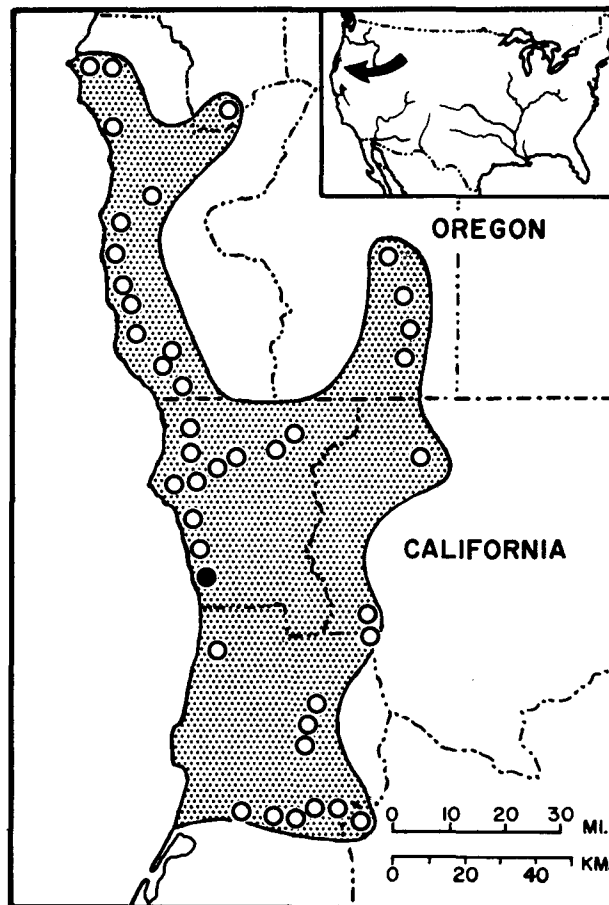
P. elongatus is known to be sympatric with only one other *Plethodon*, *P. dunnii* in coastal Oregon and extreme northern Del Norte County, California. It occupies ranges adjacent to *P. vehiculum* in Coos County, Oregon, and to *P. stormi* in Josephine County, Oregon, and Siskiyou County, California. *P. stormi* and *P. vehiculum* occupy habitats similar to those of *P. elongatus*, which may account for the lack of sympatry. When the distributions are more fully studied these species will probably be found sympatric with *P. elongatus* in narrow zones.

• FOSSIL RECORD. None.

• PERTINENT LITERATURE. Systematics and relationships were discussed by Brodie (1969, 1970), Highton (1962), Highton and Brame (1965), and Thurow (1968). Brodie also discussed geographic variation. Bury and Johnson (1965) studied food habits; Fitch (1936) and Stebbins and Reynolds (1947) considered distribution and habitat. Wake (1963, 1966) discussed some aspects of osteology. Highton and Brame (1965) also provided information on hemoglobins and plasma proteins.

The papers cited here and elsewhere in this account are thought to represent all the scientifically pertinent literature on this species.

• ETYMOLOGY. The specific name is based on the Latin *elongatus*, which means prolonged.



MAP. The solid spot marks the type locality. Open circles mark other localities.

• COMMENT. Duméril and Bibron (1854:84) published the manuscript name *Salamandra elongata* which Dunn (1926:137) placed in synonymy with *P. glutinosus*. However *elongata* was never validly proposed according to the International Code of Zoological Nomenclature and can remain the valid name of the Del Norte salamander (Highton, 1962).

A newly discovered population from 9 miles west of Seiad Valley, Siskiyou County, California, is quite different from other known populations. Although resembling *P. stormi* in certain features, the diagnostic characters of head shape and pigmentation indicate that it is *P. elongatus* and not an intergrade population (Brodie, in prep.).

Plethodon elongatus is found in stabilized talus slopes, under surface objects, and occasionally in decaying logs. This species is not commonly found in seepages or very moist areas.

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