

Catalogue of American Amphibians and Reptiles.

STORM, ROBERT M., AND EDMUND D. BRODIE, JR. 1970. *Plethodon dunnii*.

Plethodon dunnii Bishop
Dunn's salamander

Plethodon dunnii Bishop, 1934:169. Type-locality, "just outside the city limits of Portland, Oregon, in Clackamas County." Holotype, U. S. Nat. Mus. 95196, adult female collected 13 January 1934, by Stanley G. Jewett, Jr.

• CONTENT. No subspecies are recognized.

• DEFINITION AND DIAGNOSIS. A moderately large (to 150 mm in total length) *Plethodon* with two phalanges in the fifth hind toe, a modal number of 16 trunk vertebrae, and a greenish dorsal stripe. The dorsal stripe is composed of greenish-yellow chromatophores, which may be more or less invaded by melanophores. Lighter chromatophores occur as numerous small irregular flecks on the sides, contrasting with the dark brown or black ground color. The slate-colored venter exhibits scattered yellowish iridophores, and the iris is dark brown with some brassy flecking. The largest individual measured is 75 mm in length from snout to vent; the smallest, 17 mm snout-vent and 26 mm total length (snout-vent measurements to posterior margin of vent). The toes are unwebbed. Costal grooves number 14 to 16, usually 15. There are 8 to 21 vomerine teeth; parasphenoid tooth patches are separate. Two and one-half to four (usually three) folds separate the adpressed limbs. Sexual maturity is reached at a snout to vent length of 50–55 mm. Males possess a more pointed lower jaw, short rounded free flaps at the posterior end of vent (Stebbins, 1951) and a posteriorly concave mental gland (Brodie, 1968). Females have a pleated vent margin (Stebbins, 1951). The dorsal stripe of juveniles is brighter and more even edged than in adults. *Plethodon dunnii* is distinguished from congeneric sympatric species by the following characteristics of those species: *P. elongatus*, faint red-brown dorsal stripe, 17–20 costal grooves; *P. larselli*, short 5th toe, no mental gland (Brodie, 1968), red-orange venter; *P. vandykei*, yellowish dorsal stripe, usually 14 costal grooves, webbed toes, shape of mental gland (Brodie, 1968); *P. vehiculum*, even-edged dorsal stripe extending to end of tail, usually 16 costal grooves, shape of mental gland (Brodie, 1968).

• DESCRIPTIONS. Published descriptions are those of Bishop (1934, 1943), Gordon (1939), Highton (1962), and Stebbins (1951). Those of Bishop and Stebbins are the most detailed. Eggs laid in the laboratory are described by Stebbins (1951); Dumas (1955) described a cluster of 9 eggs found in nature. In neither case were hatchlings obtained, but Dumas kept one egg that contained an embryo 16 mm in snout to vent length, near hatching. He estimated the incubation period as 70 days, at about 13° C. Wake (1966) includes *P. dunnii* in a general discussion of osteology and evolution of plethodontid salamanders.

• ILLUSTRATIONS. Photographs of adults are shown by Bishop (1934, 1943). Stebbins (1951, 1954, 1966) presented illustrations of the adult (colored in 1966). None of the above show the invasion of the band edge by ground color so we include a figure (drawn by Dianne Brodie) which shows this. Brodie (1968) includes a photograph and drawing of the mental gland. The skull is figured by Wake (1963), and the distri-

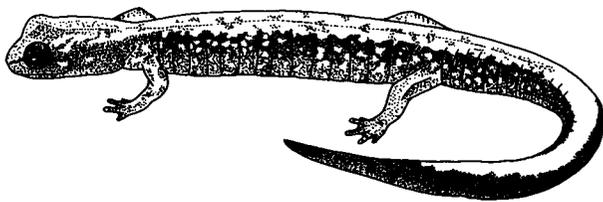


FIGURE. Drawing of *Plethodon dunnii*, showing encroachment of band edge by ground color.

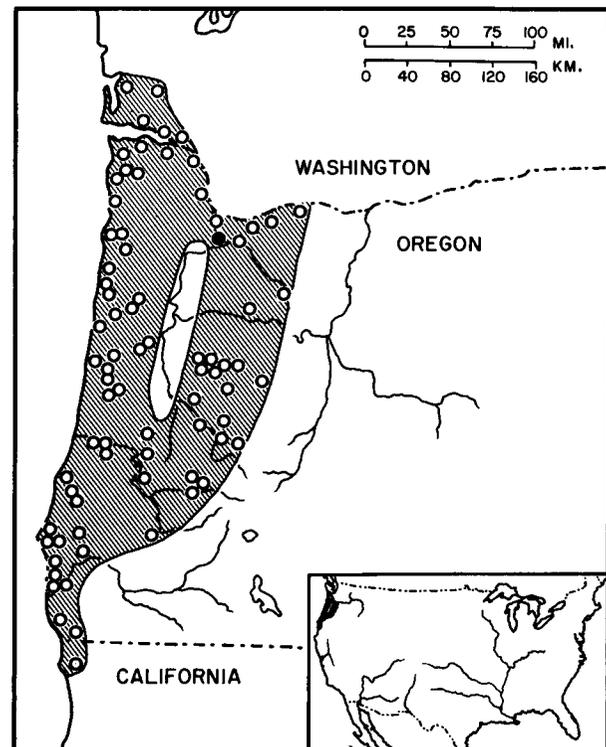
bution of the teeth by Gordon (1939). Stebbins (1951) presents a drawing of the egg with its jelly layers.

• DISTRIBUTION. The species occurs from Pacific County, Washington, southward through western Oregon to northern Del Norte County, California. The Pacific County records are 5 mi S South Bend, 7 mi SW South Bend (Storm, 1955), and 4 mi ENE Frances. The eastern-most record in Washington (Cowlitz County) is 2 mi E Stella. The record for Del Norte County has not previously been published and is based on a specimen collected at Fort Smith. At the western edge of the range the species reaches the Pacific Ocean, where it has been collected just above the high tide line (Ferguson, 1956). Eastward, *P. dunnii* penetrates the Columbia River Gorge, at least to 6 miles west of Hood River, Hood River County, Oregon. Along the west flank of the Cascades it occurs in favorable habitat to about 2500 feet in elevation southward to southern Lane County. South of this point, it is increasingly restricted coastward (see map), presumably by the hot dry summers of the Siskiyou Mountain area. *Plethodon dunnii* occurs to nearly 2500 feet in the Coast Range, but is absent from most of the Willamette Valley (see map), probably due to the absence of suitable rocky substrates.

Ecologically, this species is almost invariably associated with rocks. In the Coast Range, *dunnii* occurs in outcrops of fine-grained sandstone or shale near streams, springs, and seepages (Dumas, 1956). In the Cascades it inhabits stabilized basaltic talus, again near water. Dumas (1956) collected animals at sites with temperatures between 4° C and 17° C (mean = 10.4° C).

• FOSSIL RECORD. None.

• PERTINENT LITERATURE. The most complete account of this species is that of Stebbins (1951). Highton (1962) diagnoses and describes the species, compares it with other western plethodonts and includes remarks on phylogeny and zoogeography. Thurow (1968) suggests that *P. dunnii* is similar to a primitive ancestor to eastern species. Dumas (1956) analyzes several ecological parameters for *P. dunnii* where it is in sympatry with *P. vehiculum*. Brattstrom (1963) gives information



MAP. A solid spot marks the type-locality; open circles indicate other localities.

on body temperatures, temperature preferences, and critical thermal maxima. Ray (1958) provided information on rate of desiccation in a single individual of this species. In addition to references cited elsewhere in this account brief natural history or distributional notes on *P. dunnii* are provided by Burns (1954, 1962), Graf, Jewett and Gordon (1939), Pickwell (1947) and Slater (1939, 1955, 1964a, 1964b). The Literature Cited is thought to contain all scientifically pertinent literature on this species.

• **ETYMOLOGY.** The species is named in honor of Emmett Reid Dunn, noted herpetologist and student of the Plethodontidae.

• **REMARKS.** A melanistic variant of this species occurs in a limited part of its range, extending southwestward from western Benton County into Lincoln County and northern Lane County. This is described in some detail by Stebbins (1951) and mentioned by Highton (1962). These animals lack the dorsal stripe as adults and are dark brown dorsally with up to 20-25 scattered flesh-colored areas about 0.5 mm in diameter. Morphologically, they seem identical with normal individuals. Precise quantitative data have not been compiled, but the frequency of the variant in collections of *P. dunnii* from areas where this form may occur is less than ten per cent.

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