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Hydromantes Gistel Web-toed salamanders

Geotriton Bonaparte, 1837:unpaged. Type-species, *Geotriton fuscus* Bonaparte, 1837 [= *H. italicus* almost certainly], description with colored figure of a salamander from Italy. Type-species by subsequent designation. No type-specimen exists. Not *Geotriton* Bonaparte, 1832:unpaged (description of *Triton exiguus* [= *Triturus vulgaris meridionalis*] as member of a subgenus *Geotriton*).

Hydromantes Gistel, 1848:11. Replacement name for *Geotriton* Bonaparte, 1837, preoccupied by *Geotriton* Bonaparte, 1832. Type-species, *Geotriton fuscus* Bonaparte, 1837.

Spelerpes Strauch, 1870:78. Transfer of *Geotriton* to *Spelerpes* in a taxonomic revision.

• CONTENT. Five species are recognized: *Hydromantes brunus*, *genei*, *italicus*, *platycephalus*, and *shastae*. Four subspecies are described for *H. italicus*—*italicus*, *ambrosii*, *strinatii*, and *gormanii*.

• DEFINITION. A generalized plethodontid boletoglossine salamander of medium size (maximum total length 135 mm [*H. genei*]), distinguished by having 2 premaxillae, no prefrontal, a prevomer with only slits for the internal nares, and a nonautotomising tail which lacks a basal constriction and is used in walking.

• DESCRIPTIONS. Some of the more extended descriptions of the European species and subspecies are listed here. Unless otherwise noted, descriptions are of adults only and lack illustrations. *Hydromantes genei*: Lanza (1952, notes; 1956, adults and young); Mertens (1923, adults and young, habits); Schlegel (1838). *Hydromantes italicus*: Aellen (1958, *H. i. strinatii*, with figure); Bedriaga (1897, adults and young); Berg (1893, habits, with figures; 1896, young and habits); Bonaparte (1837, *H. italicus* but including some specimens from Sardinia, figure in color almost certainly of *H. italicus*); Cei (1942, young, with figure); Fischer (1887, *H. ?italicus*); Lanza (1946, habits; 1952, *H. i. italicus* and *H. i. gormanii*, with figures; 1955, *H. i. ambrosii*, *H. i. italicus*, *H. i. gormanii*, with figures, some in color; 1959a, development and morphology of mental gland, with figures); Procter (1920, *H. ?italicus*,

young; 1921, *H. ?italicus*, young, and use of tail in walking); Wiedersheim (1875, anatomy).

For descriptions of North American forms refer to the individual species accounts.

• ILLUSTRATIONS. In addition to the figures cited above, these color illustrations of Mediterranean forms are available—*Hydromantes genei*: Anonymous (1960:243-244, one in color). *Hydromantes italicus*: Anonymous (1960:242, *H. i. italicus* and *H. i. gormanii*; also 1960:244); Cochran (1961:pl. 15, *H. i. gormanii*); Lanza (1959b:pl. 69, *H. italicus* and *H. i. gormanii*; 1962: facing 94, *H. i. gormanii*); Mertens (1923, not in color).

For illustrations of North American forms refer to the individual species accounts.

• DISTRIBUTION. Three species occur in the mountains of central and northern California. Two live in the Mediterranean area—*H. italicus* on the French and Italian Maritime Alps and on the Apennines from Liguria to Abruzzi; *H. genei* on Sardinia. For a distribution map for the European species see Lanza (1959b:fig. 136). All species are associated with caves, or cave-like openings in the ground in regions lacking caves.

• FOSSIL RECORD. None.

• PERTINENT LITERATURE. All important references are cited in this and the species accounts.

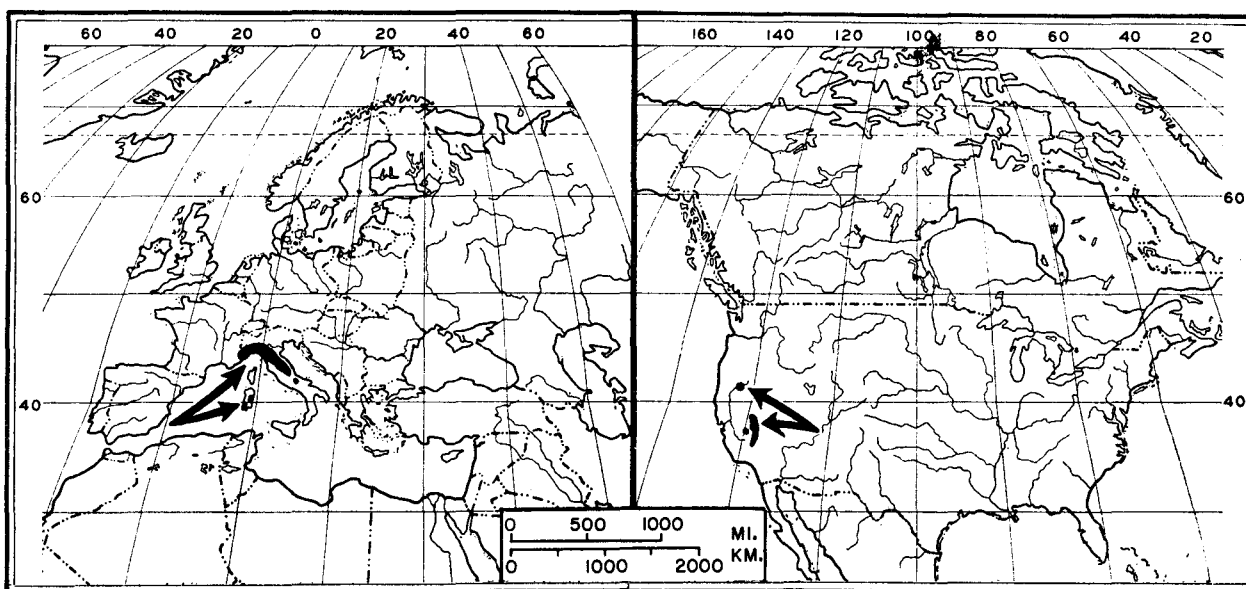
• KEY TO SPECIES (adults only).

1. Back diffusely brown, without pattern; belly cream to tan, rarely with silvery spots.....*H. brunus*
- Back patterned; belly dark with few to many light spots or whitish..... 2
2. Belly diffusely whitish, almost lacking dark pigment, or with a few dark spots.....*H. genei*
- Belly diffusely dark, more or less strongly pigmented..... 3
3. Head and body flattened, supranasal ridge obscure.....*H. platycephalus*
- Head normal, supranasal ridge evident..... 4
4. Shasta County, California.....*H. shastae*
- France and Italy.....*H. italicus*

• REMARKS. The five species are closely related; no detailed study comparing the European and North American forms is published (but see Gorman [MS]).

Reproduction, long thought by many to be "viviparous" (some workers so describe ovoviviparity), is oviparous in *H. shastae* (Gorman, 1956) and is probably so in the other species.

• ETYMOLOGY. *Hydromantes* is from the Greek *hydōr*, "water," and *mantis*, "a soothsayer," and means literally "water prophet."



MAP. After Goode Base Map 201HA, © University of Chicago 1939.

COMMENT

The presence of this genus only in California and the general region of Italy may be explained by postulating the lineal dispersal of a *brunus*-like form from central California northward through Alaska to Asia, south, thence westward to southern Europe. I favor this explanation. An alternate hypothesis is that the two widely separated populations are relicts of a former time when the genus was widely distributed in the Holarctic (Darlington, 1957:163; Dunn 1926:32).

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