



## Red Hills Salamander

Photos provided by Alabama  
Natural Heritage Program

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**SPECIES:** *Phaeognathus hubrichti*

**HISTORY:** We have just past the 40<sup>th</sup> anniversary of the Red Hills salamander's discovery to science! The first documentation of this animal was by a well-known snail expert and naturalist by the name of Leslie Hubricht. On June 18, 1960, Hubricht was engaged in fieldwork along the forested ravines just beyond the south banks of Persimmon Creek in Butler County when he picked up a handful of leaves and there it was! A strange looking salamander that was over 8 inches long.

Hubricht sent the specimen to the U. S. National Museum, and the following year it was named and described by Richard Highton. This "new" salamander was so different from other members of its family (Plethodontidae) that Highton ascribed a new genus to the single specimen: *Phaeognathus* (meaning "dark jaw"). This was the first new salamander genus to be named and described in the U.S. since 1939. Following Highton's published description, the hunt was on to find more specimens and to learn more about this remarkable animal.

**DESCRIPTION:** The Red Hills salamander is one of the largest terrestrial salamanders obtaining an average total length of 8 - 10 inches. Its legs are relatively short and its color is a dark brown to dark gray with hues of purple. It is a fossorial (a burrowing animal that lives underground) salamander that spends a significant amount of time within the confines of its burrow, therefore it has rarely been seen outside of its burrow, making its discovery even more remarkable. From intensive studies over the years, it was found that salamander burrows have an intricate network of side tunnels that typically follow solution channels, fissures, and root tracings within a siltstone substratum.

**REPRODUCTION:** Natural nests or Red Hills salamander eggs have never been found after 40 years of research and juveniles are rarely found. Data suggests that nesting occurs in the springtime but females with enlarged ova have been found in the fall also.

**HABITAT:** The occurrence of the Red Hills salamander is solely dependent upon its habitat. This species is primarily restricted to deep, moist ravines that are heavily shaded by a variety of hardwood trees. The burrows of this animal have been found in greater abundance on steep, wooded slopes that have slope angles from 27 to over 50 degrees. (Although, burrows have also been found on lower slopes but in lower numbers.) The natural community that provides suitable conditions for *Phaeognathus* is highly diverse with mature beech, bigleaf magnolia, tuliptree, various hickories and oaks, southern magnolia, and a rich herbaceous ground layer of ferns, wild ginger, bloodroot, trilliums, violets, mosses, and liverworts.

**DIET:** The plants coupled with heavy shade along the ravines of the Red Hills support a rich diversity of the salamander's prey base; ground dwelling invertebrates. Studies have shown that *Phaeognathus* relies heavily on invertebrates that occur or pass within close proximity of the species' burrows. The Red Hills salamander is a highly opportunistic predator, literally striking at almost anything and everything that passes before their eyes. They are known to eat snails, millipedes, mites, beetles, ants, roaches, flies, larval insects, spiders, and earthworms.

**STATUS:** The Red Hills Salamander was designated as a threatened species in 1976 and is federally protected under the Endangered Species Act. The species was given protection because of its highly restricted range, specialized life-history, and rapidly disappearing habitat to deforestation. This species is only found in a five county area in south-central Alabama. It occurs nowhere else in the world! The range of the species extends east-west from the Conecuh River to the Alabama River and encompasses a very narrow band in northern portions of Covington, Conecuh, and Monroe counties and southern portions of Crenshaw and Butler counties.

Information for the WILD FILE was derived from the following:

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