

A High Elevation Record for the Least Shrew, *Cryptotis parva* (Say)

John F. Pagels, Department of Biology
Virginia Commonwealth University,
Richmond, VA 23284-2012

ABSTRACT

A least shrew (*Cryptotis parva*) was captured at 1524 m on Whitetop Mountain in Grayson County, Virginia. The locality is the highest for the species in Virginia by more than 575 m, and the highest for all of the United States. The habitat is basically a red spruce (*Picea rubens*) forest with scattered northern hardwood species.

A least shrew (*Cryptotis parva*) was captured at 1524 m (5000 ft) on Whitetop Mountain in Grayson county, Virginia, as part of a study to determine small mammal associates of the endangered northern flying squirrel (*Glaucomys sabrinus*). The record is the highest elevation reported for Virginia as well as most of North America. *C. parva* is known from as high as 2713 m (8900 ft) in Mexico (Choate, 1970). Whitaker (1972) noted that the least shrew is unknown above 905 m (2968 ft) in the United States; however, Handley and Patton (1947) reported that in Virginia it occurs somewhat higher, "...from sea-level along the coast up to at least 3100 feet [945 m] elevation in the mountains." Suggestive of its southern affinities and its rarity at high elevations in Virginia, Pagels (unpublished) found *C. parva* at elevations ranging from 6 m to only 473 m (mean 174 m; 572 ft) in a statewide study of Virginia shrews that included 40 sampling sites above 473 m.

Whitaker (1974) summarized reports from throughout the range of the least shrew and noted that it "...inhabits grassy, weedy, and brushy fields, at least in the northern parts of its range..." Handley and Patton (1947) noted that in Virginia's coastal areas *C. parva* is most common in salt marshes. Inland, the least shrew is most common in abandoned fields, but it has also been taken in cultivated fields, thickets, and marshes (Handley and Patton, 1947). Thirty-seven of 38 specimens of *C. parva* taken at 13 localities in Pagels' statewide effort were collected in "old field" (33) or edge (4) habitats; only one forested site yielded a *C. parva*.

The tree assemblage at the Whitetop site reflected the high elevation of the area; however, the forested habitat and the species composition of the forest at the site are highly unusual for *C. parva*. Based on counts of trees with a dbh of 10 cm or greater, the site was basically a red spruce forest (*Picea rubens*, 89.4% of trees counted per ha) with occasional Fraser fir (*Abies fraseri*, 1.4%), and widely scattered hardwoods, that included black locust (*Robinia pseudo-acacia*, 2.8%), American beech (*Fagus grandifolia*, 2.8%), yellow birch (*Betula lutea*, 2.2%), and black birch (*B. lenta*, 1.4%). Moss-covered rocks and boulders up to 1.5 m in diameter were evident at the site. Mean age of 40 trees cored at the site was 106 years. Mean canopy openness at the site was 33.2 % based on 100 measurements.

The moderately open canopy, primarily the result of scattered treefall at the site, was reflected in relatively large numbers of herbs and seedlings of *P. rubens*.

The male specimen, captured in a pitfall trap in the period 2 September to 20 September 1988, was a young of the year based on negligible tooth wear. The testes were moderately enlarged (3.1 by 1.9 mm). The skull and fluid preserved body are deposited in the Virginia Commonwealth University Mammal collection (VCU 5588). Other species of shrews captured at the site in the study were the masked shrew (*Sorex cinereus*), the smoky shrew (*S. fumeus*), and the rock shrew (*S. dispar*).

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