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## A NEW *CRYPTOTIS* FROM COSTA RICA

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General comparison of Museum material in connection with work in progress has revealed the existence of a hitherto unrecognized species of short-tailed shrew from Volcan Irazu in the United States National Museum collection. For the privilege of describing this species I am indebted to Dr. Remington Kellogg. I am indebted for the loan of material to the United States National Museum, Chicago Natural History Museum, Museum of Comparative Zoölogy, and the Museum of Zoology, University of Michigan.

### *Cryptotis jacksoni*, new species

#### JACKSON SHORT-TAILED SHREW

TYPE: U.S.N.M. (Biol. Survey Collection) No. 116649, female adult, collected at Volcan Irazu by M. Cary, February 27, 1902. The type is a skin and skull in good condition and the only known specimen.

GENERAL CHARACTERS: A medium-sized, uniformly colored, dusky shrew, similar in general appearance to *C. gracilis* from Talmanca, Costa Rica, but somewhat browner, with shorter pelage, and a noticeably broader skull.

DESCRIPTION: Entire animal dark mummy brown, color of underparts barely differentiated from back, the fur dark smoke gray heavily overlain with mummy brown, tail about the color of the back, scales on feet dusky but space between annulations white. Skull slender, the superior outline depressed behind the orbits, posterior border of anteorbital foramina over space between  $m^1$  and  $m^2$ ; braincase broad, the lateral angles well indicated when viewed from above. Dentition: upper unicuspid teeth not crowded, inner tubercles moderately developed, the first three with a well-developed heel which,

when viewed from the side, rises almost to the line of the pigmentation on the main cusp; second unicuspid slightly larger than the first, third unicuspid smaller than first, fourth very small but in line with the tooththrow; the large upper premolar sharply reduced anteriorly, its posterior border about equal in length to the outer border;  $m^3$  relatively large with distinct metacone and third commissure. Mandible with no special peculiarities of form.

MEASUREMENTS: Total length, 110 mm.; tail vertebrae, 34.5; hind foot, 14.5 (dry, 13.5); skull: condylobasal length, 19.4; zygomatic breadth, 6; distance between zygomatic root and gnathion, 8.2; breadth of braincase, 10; breadth across  $m^2$ - $m^2$ , 5.5; length of mandible, 11; length of mandible, entire, 12.9; maxillary tooththrow, entire, 9; mandible tooththrow, entire, 8.2.

REMARKS: With the exception of the type of *C. gracilis*, I have seen all the Costa Rican specimens of *Cryptotis* in American collections, a total of 17 specimens. Four species can now be recognized:

*C. nigrescens* from San Isidro, a small black shrew with small feet and a large head. The skull of *nigrescens* is as large as either that of *gracilis* or *jacksoni*, but the dentition is decidedly heavier and more crowded; the upper unicuspid teeth, viewed laterally, are simple without any indication of a posterior heel, and the small fourth unicuspid is crowded inward from the tooththrow, the large upper premolar is exceptionally broad;  $m^3$  is reduced, with mesostyle, metacone, and their third commissures barely indicated.

*C. orophila* from the Irazu Range is a small species, similar to *C. micrura* from Guatemala but smaller with underparts paler in color than back. The skull is

about one-third smaller than that of *nigrescens*, with crowded dentition of a similar general pattern but much smaller, weaker, and breadth of the large upper premolar noticeably less.

*C. gracilis* is nearer in cranial characters to *jacksoni* than either *nigrescens* or *orophila*, but the width of the skull throughout is considerably less than in the new species. This peculiarity is equally appreciable in the braincase, interorbital region, rostrum, and palate. The upper cheek teeth of *gracilis* also share in the general reduction of the width of entire skull, especially noticeable in the large premolar, the posterior border of which is decidedly shorter than the outer, while in *jacksoni* they are about equal.

A large female from Las Vueltas, 8000 feet elevation, in the University of Michigan collection, needs comparison with the type of *C. gracilis*. It apparently has

a similar elongated skull, narrow rostrum and palate, small braincase, and the large upper premolar is noticeably longer than broad. It is, however, considerably larger than the type in both external and cranial measurements and appears to carry the elongation of the skull to the extreme.

Miller, when he described *gracilis*, used the type of *C. jacksoni* for comparison, assuming it to be a topotype of *C. orophila*. The label on the type of the latter, which is a poor specimen with a fragmentary skull, reads Irazu Range instead of Volcan Irazu as given in Allen's description. Material now available indicates that the type of *orophila* probably came from nearer the foothills than the upper slopes of Volcan Irazu and is an entirely different species.

The shrew *Cryptotis jacksoni* is named in recognition of Hartley H. T. Jackson's valuable work on the American shrews.