

## TOWNSEND'S MOLE

*SCAPANUS TOWNSENDII* (BACHMAN, 1839)

NATURAL HISTORY SUMMARY BY MAYA BAMBA

### Classification

**Kingdom:** Animalia

**Phylum:** Chordata

**Class:** Mammalia

**Order:** Eulipotyphyla

**Family:** Talpidae

**Genus:** *Scapanus*

**Species:** *townsendii*

### Description

Townsend's Mole (*Scapanus townsendii*), generally larger than other mole species, has adapted many features that allow it to live a fossorial (underground) lifestyle. It grows to 19-23 cm in length and 87-142 g in weight. The square-like (width and length is the same) front paws are very large and act as shovels, helping Townsend's Mole dig more efficiently. The long digits and the long and sturdy claws of the forelimbs are effective for loosening and moving dirt. The entire pectoral girdle can rotate ventrally, allowing for better mobility in these burrows. The very small back feet and claws are not nearly as large as in the front, so they do not help as much with locomotion. Both sets of paws, the long snout, and short tail are usually pale pink to almost white in color while the fur can be gray, brown, or black with an almost metallic sheen to it. The body is cylindrical in shape and both the eyes and ears are greatly reduced. (Timmer 2004)

### Distribution

Townsend's Mole has a relatively small geographic range along North America's Pacific Northwest. It has a very small range in the extreme southwestern British Columbia, Canada. In the United States, it extends west, through Washington's Olympic Mountains and Coast Range into western Oregon, to the Redwood forests of northeastern California. The species can be found near sea level and up to at least 1677 m above sea level (asl) in the Cascade Mountains and 1615 m asl in the Olympic

mountains (Carraway et al. 1993; Verts and Carraway 1998). *Scapanus townsendii*'s [range map](#) is available at Cassola 2016.

## **Diet**

Townsend's Mole eats large amounts of earthworms (up to 70% of its diet) because this is what it encounters most often in its tunnels. However, Townsend's Mole is somewhat opportunistic. Examined stomach contents have also shown that it eats lots of insects, millipedes (Diplopoda), slugs (Gastropoda), and snails (shelled Gastropoda) (Timmer 2004).

Townsend's Mole is the only western mole to have plant material found in its stomach contents. It tends to feed on plant roots and other underground vegetable matter, making it a significant problem for crop owners. This species has also been found to eat more than half of its body weight, sometimes 1.5 times its weight, in a single day (Pederson 1963).

## **Habitat and Ecology**

Townsend's Mole can be found in moist lowland areas, in deep soils of meadows, pastures, lawns, prairies, and forests. Juveniles can sometimes be found on the surface, but adults are exclusively fossorial, living in elaborate tunnel systems that they construct. Because of their lifestyle, these moles are not commonly eaten by other organisms. They are most threatened by humans using traps or chemicals to get rid of them in crops or lawns. However, in a few cases, hawks (Accipitridae), owls (Strigiformes), and small weasels (*Mustela*) have been found to eat moles (Timmer 2004).

Townsend's Moles tend to live among other moles such as the Coast Mole (*Scapanus orarius*) and the American Shrew Mole (*Neurotrichus gibbsii*). Since all three species are mostly fossorial and very territorial, they inhabit different soil depths, though some tunnels have been found to have multiple species running through them at times. Because of this, food competition is also reduced so all of the species can coexist (Carraway et al. 1993).

## **Reproduction and Lifecycle**

Since Townsend's Mole is a fossorial species, research on reproduction (especially mating behavior research) has been difficult. However, researchers have found that males mate with many females that they find in special reproduction tunnels used specifically for finding mates. Males have been found with swollen testes during the breeding season (between November and February).

Females build elaborate nests for their young. The nests are tunnels, much like the ones they inhabit, but closer to the surface to prevent flooding. Large mounds of dirt can be found around these nests, but this does not happen all the time. Females also gather moss, grass, and leaves with which to line the nest. A large drop within the nesting tunnels is presumed to serve as an exit tunnel for the female.

Litters are usually small, with about 3 offspring. The young are usually born in the spring (around March and April), with soft claws and without fur or recognizable eyes. However, at birth, the young's forelimbs are very large. After about a month, their hair grows in, the young leave the nest and disperse. They do not seem to have any repeated contact with their parents. Fathers show no parental care. After about a year the young moles become sexually mature and can mate during the next season (Timmer 2004; Pederson 1963).

### **Conservation Status**

Though humans take significant measures to get rid of moles in crops and lawns, because it is relatively widespread, common, adaptable and there are no major threats, the International Union for Conservation of Nature (IUCN) Red List of Threatened Species' most recent (2016) listing for *S. townsendii* is: "Least Concern" (Cassola 2016). However, since it occupies such a small area in Canada and because agriculture in this area is growing, the Committee on the Conservation of Wildlife in Canada (COSEWIC) has considered it an endangered species since 2003. Its habitat is being protected and maintained (Environment and Climate Change Canada 2016).

### **Cultural Significance**

Townsend's Moles do not seem to have very much cultural significance today, but in the past their velvety fur was sold commercially. Mole skins were very popular throughout

the 17<sup>th</sup>-19<sup>th</sup> centuries as they could be used to make capes, trimmings, purses, and tobacco pouches. After the 1930s the mole skin market was no longer very significant (Timmer 2004).

### **Specimen Specific Detail**

The *S. townsendii* specimen from the Burton Ostenson Museum of Natural History at Pacific Lutheran University is an adult male collected by J. K. Knudsen on November 18, 1950. It was found locally. This specimen is 200 mm long, with a tail length of 15 mm and a foot length of 10 mm. The front paws used for digging, the long snout, and the velvety fur can all be seen very clearly. There was no significant mole research being done at this time, so the specimen could have been collected for general observation.

### **Literature Cited**

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