

WESTERN GRAY SQUIRREL

SCIURUS GRISEUS (ORD, 1818)

NATURAL HISTORY SUMMARY BY TORY RIVERA

Classification

Kingdom: Animalia

Phylum: Chordata

Class: Mammalia

Order: Rodentia

Family: Sciuridae

Genus: *Sciurus*

Species: *S. griseus*

Description

The Western Gray Squirrel (*Sciurus griseus*) is the largest squirrel found in its range. Adult males and females overlap significantly in length and size (between 500-615 mm in length from snout to the tip of the tail). The large, bushy tail ranges from 240 to 309 mm in length, and stays curved upwards in an "S" shape (Carraway et al. 1994). The tail has a shorter layer of dark gray hair and a longer layer of white hair, which gives the effect of a more voluminous, frosted coloration (Washington Department of Wildlife 1993). The body length ranges from 265 to 323 mm in length, making the tail almost as long as the body itself. The Western Gray Squirrel, (also known as the Silver Gray Squirrel), is silvery gray colored on its dorsal side, and light cream colored on its ventral surface (Washington Department of Wildlife 1993). Its back feet are relatively long, at 67 to 83 mm, and its ears are 28 to 29 mm (Carraway and Verts 1994). The back of the ears is often mahogany colored (Washington Department of Wildlife 1993).

Distribution

The Western Gray Squirrel's distribution ranges from Baja California, Mexico up to Washington. This species has been documented from Lake Chelan and Tacoma, Washington, to the south toward the Oregon coast and Nevada (Carraway and Verts 1994). It has also been seen in California's forested and mountainous ranges such as the Cascades, Sierra Nevada, and Santa Rosa (Carraway and Verts 1994). There are

three subspecies of the Western Gray Squirrel: *S. g. griseus* (from Washington through central California), *S. g. anthonyi* (southern California), and *S. g. nigripes* (coastal California) (Washington Department of Wildlife 1993). *Sciurus griseus*' range map is available at Lacher et al. 2016.

Diet

The Western Gray Squirrel's diet depends mainly on what is available in the environment. In the summer and fall, it feeds mainly on nuts, pinecones, and seeds as it must prepare its energy for the winter (Washington Department of Wildlife 1993). Everything else is consumed throughout the year. In Washington, it mainly feeds on acorns and Douglas fir seeds. In Oregon, it feeds on conifers of different pine and fir trees, but also on other foods including berries, seeds, sap, redwood or fir tree bark, fungi, and occasionally, insect larvae (Carraway and Verts 1994). In California, the Western Gray Squirrel consumes acorns, catkins, nuts of various trees, berries, leaves, and aphids (Carraway and Verts 1994). In general, it is an extremely opportunistic eater (makes use of resources that are conveniently available for consumption) (Washington Department of Wildlife 1993).

The Western Gray Squirrel forages the ground for pine cones. It collects and carries the cones to a log, removes the scales from the cones, and consumes them. Pine cones and acorns that are not consumed are buried, detected, and eaten later on (Carraway and Verts 1994).

Habitat and ecology

In general, the Western Gray Squirrel is an arboreal species, requiring enough canopy for covered, arboreal travel. It resides in woody areas with shrubs and plenty of areas for shelter and nesting. In Washington, it lives mainly in garry oak forests as opposed to coniferous forests (Carraway and Verts 1994). In Oregon, it resides in the transition areas on either side of the Cascades, with oaks, maples, yellow pines, and sugar pines. The Western Gray Squirrel lives at both high and low elevations in California, thus finding habitats in both walnut trees and black oak trees (Carraway and Verts 1994). All subspecies prefer to live near permanent bodies of water (Washington Department of Wildlife 1993).

The Western Gray Squirrel has many natural predators including Red-tailed Hawks (*Buteo jamaicensis*), Great-horned Owls (*Bubo virginianus*), eagles (Accipitridae), Bobcats (*Lynx rufus*), Coyotes (*Canis latrans*), Cougars (*Puma concolor*), domestic cats (*Felis catus*) and dogs (*Canis lupus familiaris*) (Carraway et al. 1994). However, natural predation has a minimal effect on controlling the squirrels' population density (Carraway and Verts 1994).

Reproduction and life cycle

The Western Gray Squirrel becomes sexually mature at 10 to 11 months. After about a year, it will start to breed. When it becomes fertile, the female's vulva becomes pink and enlarged, while the male's scrotum changes from pinkish gray to black (Crane 2002). While the breeding season begins in December and extends into July, most of the breeding occurs in the spring and early summer (Washington Department of Wildlife 1993). The Western Gray Squirrel builds breeding nests made of sticks, mosses, and bark (Washington Department of Wildlife 1993). These nests are located about a third of the way up a tree. The gestation period is around 44 days. Offspring are usually born between March and June, with three to five squirrels per litter. At 10 weeks, the squirrels are finally weaned from their parents (Crane 2002).

Conservation status

The International Union for Conservation of Nature (IUCN) Red List of Threatened Species' most recent (2016) listing for *S. griseus* is: "Least Concern", in view of its wide distribution, presumed large population, and because it is unlikely to be declining at nearly the rate required to qualify for listing in a threatened category (Lacher et al. 2016). However, in 1993, it was listed as "Threatened" in Washington by the Washington Fish and Wildlife Commission (Washington Department of Wildlife 1993); Wiles 2016). It is listed as "Sensitive" in Oregon (Lacher, et al. 2016). The Western Gray Squirrel competes with Acorn Woodpeckers (*Melanerpes formicivorus*), California Ground Squirrels (*Otospermophilus beecheyi*), and invasive tree squirrels (Sciuridae) (Lacher et al. 2016). Other concerns for this species include loss of habitat by human logging activity, predation by domestic animals, and becoming traffic mortalities (Lacher

et al. 2016). There is an active recovery plan for the species in the state of Washington (Linders and Stinson 2007).

Cultural significance

There is a lack of cultural significance for this species. However, the Western Gray Squirrel has been known to be one of the main reservoirs for *Borrelia burgdorferi*, the bacteria that causes Lyme disease (Salkeld et al. 2008). Much of the research performed on the Western Gray Squirrel is related to this disease.

Specimen Specific Details

The Western Gray Squirrel, *S. griseus*, specimen from the [Burton Ostenson Museum of Natural History](#) at Pacific Lutheran University does not have a collector or collection site recorded. It was collected on December 22, 1966, around the time of the first successful pancreatic transplant in a human being at the University of Minnesota (Squifflet et al. 2008).

Literature Cited

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