

Sciurus carolinensis



Taxon	Family / Order / Class / Phylum
<i>Sciurus carolinensis</i> , Gmelin, 1788	Sciuridae / Rodentia / Mammalia / Chordata

COMMON NAMES (English only)

Grey squirrel
American grey squirrel
Eastern gray squirrel
Cat squirrel

SYNONYMS

Sciurus Pennsylvanica Ord in Guthrie, 1815:292
Sciurus hiemalis Ord in Guthrie, 1815:292
Sciurus leucotis Gapper, 1830:206
Sciurus fuliginosus Bachman, 1839_97
Sciurus migratorius Audubon and Bachman, 1849:265

SHORT DESCRIPTION

Medium sized tree squirrel, with no sexual dimorphism in size or coloration. Body-head length 380-525 mm; tail 150-250 mm. Adults weigh 480-650 g. Dorsal grey to pale grey, with cinnamon tones. Ears pale grey to white; tail white to pale grey. Melanism common in the native range, not recorded in Europe. Feeds mostly on nuts, flowers, buds, fruits, fungi, some insects and occasionally bird eggs. During low food periods, strips bark to get to inner bast and cambian layers.



Sciurus carolinensis is a medium sized tree squirrel.

Photo: Sandro Bertolino

BIOLOGY/ECOLOGY

Dispersal mechanisms

Dispersal facilitated by wooded corridors. Mean rate of colonization in Great Britain is 18 km²/yr and in Italy 17.2 km²/yr, ranging from 1.1 to 250 km²/yr depending on habitat quality and connectivity.

Reproduction

Most females reproduce at 1.25 yr and usually bear two litters per year (December-February and May-June). Gestation lasts 44 days. Litter size 2-4 (up to 8).

Known predators/herbivores

In the native range they are preyed by minks, weasels, red foxes, bobcats, wolves, lynxes and several birds of prey. In Great Britain red foxes, sparrowhawks and Tawny owls occasionally prey on grey squirrels.

Resistant stages (seeds, spores etc.)

HABITAT

Native (EUNIS code)

G: Woodland and forest habitats and other wooded land

Habitat occupied in invaded range (EUNIS code)

G: Woodland and forest habitats and other wooded land

Habitat requirements

Well adapted to live in broadleaved woods, can colonize conifer and mixed forests. Spends most of its time on the ground.

DISTRIBUTION

Native Range

Eastern part of North America, from Mexican gulf to southern part of Quebec and Ontario.

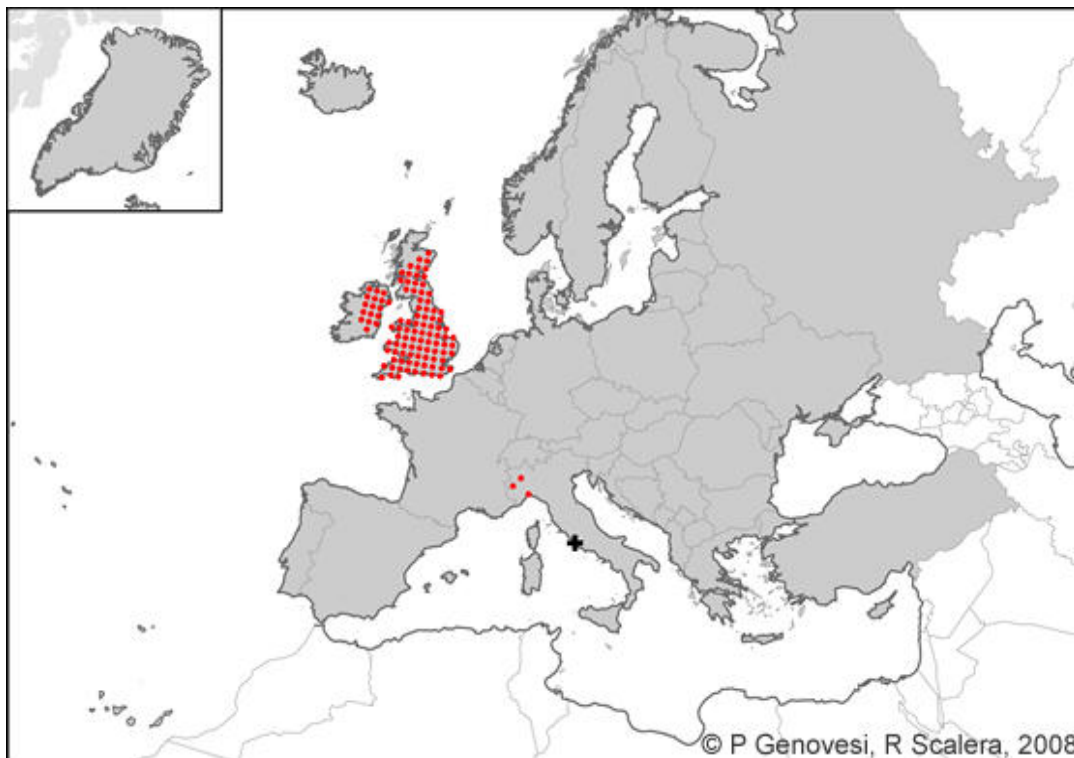
Known Introduced Range

Introduced in many localities of North America, South Africa and Australia (now extinct). In Europe has been introduced in Great Britain and Ireland on different occasions from the end of the 19th to the first half of the 20th century. Introduced in three different localities of Northern Italy from 1948 to 1994, it is established in a large portion of Piedmont, along the Ticino valley and in an urban park of Genova.







Trend

Constantly expanding in the British Isles and in Italy, it is expected to colonize France and Switzerland in the next few decades. Can potentially expand to a large portion of Eurasia in the future. Density is usually below 3 individuals/ha (spring density in England 2.4-2.7), but higher in optimal habitats (18 ind./ha in an urban park in Italy, from 3 to 18 ind./ha according to monitoring in an oak forest in the UK). On several occasions populations originated from the release of very few individuals (<10).

MAP (European distribution)



Legend

	Known in country		Known in CGRS square		Known in sea
	Eradicated		Eradicated		Extinct

INTRODUCTION PATHWAY

Imported as a pet in many countries, then accidentally escaped into the wild or intentionally released for ornamental purposes. Still traded in Europe as a pet.

IMPACT

Ecosystem Impact

In overlap areas, grey squirrel causes the extinction of the red squirrel (*Sciurus vulgaris*) through competitive exclusion. Moreover, host poxvirus, fatal to red squirrels but benign to grey squirrels, appear to increase the rate of replacement. Also cause damage to woodland through bark stripping activity. Potential impact on nesting birds.

Health and Social Impact

Squirrel poxvirus potentially transmissible to humans.

Economic Impact

Severe damage to trees by bark stripping, that exposes the timber to fungal and insect attack, disrupts the flow of nutrients up the tree, and weakens the stem. They cause local damage to fruit orchards and nut growers.

MANAGEMENT

Prevention

Import ban through inclusion of the Grey squirrel in Council Regulation 338/97/EC. A regulation of pet trade and information campaign to traders and owners is necessary.

Mechanical

In Great Britain, intensive control is carried out through nest destruction, shooting and trapping. In Italy, control is exclusively carried out through live-trapping and anaesthesia in order to maximize selectivity and animal welfare. Attempted eradication in Italy failed because of opposition by animal rights movements.

Chemical

Warfarin (anti-coagulant) widely used in Great Britain.

Biological

Research to develop species-specific immunocontraceptive agents is ongoing in Great Britain but not yet available.

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