

Myocastor coypus



Taxon	Family / Order / Class / Phylum
<i>Myocastor coypus</i> Molina, 1782	Myocastoridae / Rodentia / Mammalia / Chordata

COMMON NAMES (English only)

Coypu
Nutria

SYNONYMS

Mus coypus Molina, 1782
Myocastor coypus Kerr, 1792
Myopotamus bonariensis Geoffroy St.-Hilaire, 1805
Mastomys popelairi Wesmael, 1841

SHORT DESCRIPTION

Large semi-aquatic rodent that lives along rivers, lakes, and marshes. The weight is often between 2-4 kg but adult males can reach 7-8 kg. Superficially it is rat-like, with short legs and a long cylindrical tail, the first four digits of the hind feet are webbed; the pelage is brown. It is herbivorous except for occasional feeding on mussels.

BIOLOGY/ECOLOGY

Dispersal mechanisms

Coypus are good swimmers and fast colonizers, able to rapidly occupy suitable vacant habitats using freshwater as a pathway.

Reproduction

Coypus can breed throughout the year. The age of first parturition is 3-8 mo. Prenatal embryo losses (up to 50-60%) and abortion of litters could influence productivity. Mean litter size at birth is 4.5-5.4 (Italy, England). In good habitats females may have 2.7 litters/year with a mean of 15 young/year.

Known predators/herbivores

Alligators, canids and large felids are the main predators in America and Russia. In Europe predation by foxes, dogs, and marsh harriers is probably more limited. Young are more vulnerable and taken more by predators than adults.

Resistant stages (seeds, spores etc.)

None.

HABITAT

Native (EUNIS code)

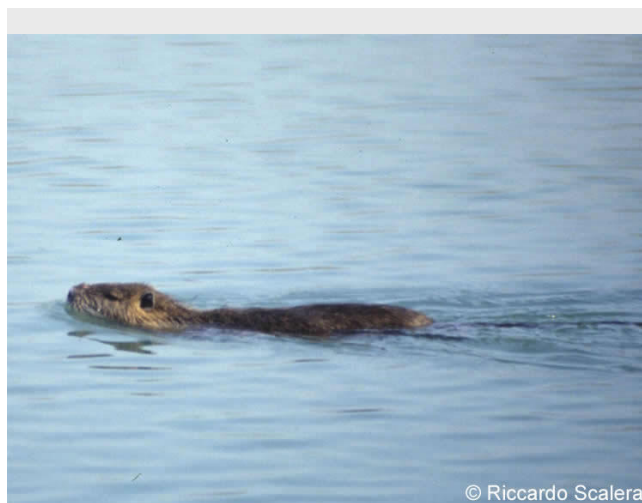
Aquatic habitats.

Habitat occupied in invaded range (EUNIS code)

C1: Inland surface water habitats, D1: Mire, bog and fen habitats.

Habitat requirements

It can adapt to a wide variety of aquatic habitats, from freshwaters and lakes to drainage canals. They usually live in the lowlands, but can reach 1,200 m in the Andes. Cold winter reduces breeding success and influences population dynamics.



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***Myocastor coypus* is a South American rodent strictly linked to freshwater habitat.**

Photo: Riccardo Scalera

DISTRIBUTION

Native Range

The coypu is native to the Patagonian subregion of South America and occurs in the northern part of Argentina, Bolivia, Paraguay, Uruguay, southern Brazil, and Chile

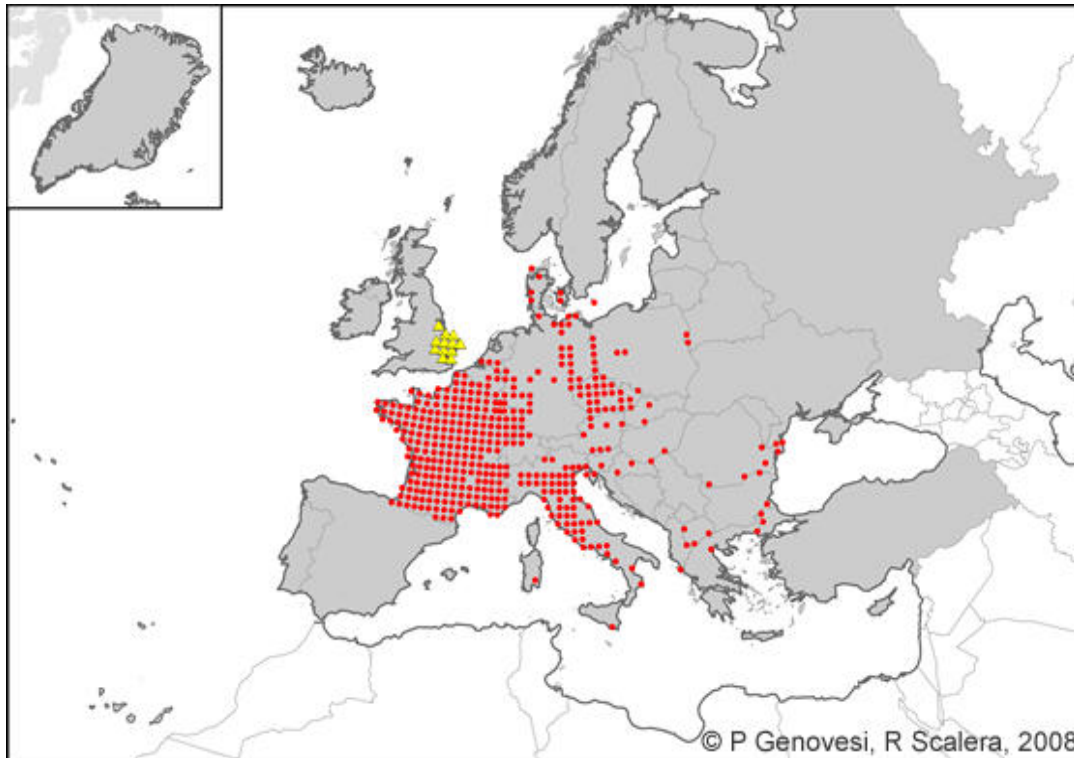
Known Introduced Range

Naturalized populations occur in North America, Europe, central and northern Asia, Japan, East Africa and the Middle East. In East Anglia (England) the species was eradicated after an 11-years removal campaign.







Trend

Despite that in America and Europe there are many control programs to reduce spreading and population densities, distribution ranges and population densities are increasing in many countries.

MAP (European distribution)



Legend

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

INTRODUCTION PATHWAY

Often naturalized after escapes or releases from fur farms. In other cases animals were intentionally released into the wild with the aim of harvesting their furs. Spreading populations could invade other countries (e.g. in Spain coypus are entering from France).

IMPACT

Ecosystem Impact

The impact on wetlands through feeding on aquatic vegetation could be severe. Selective feeding by coypu caused massive reduction in reedswamp areas, and eliminated plants of *Rumex* spp. and *Nuphar lutea* over large areas. It destroys nests and preys on eggs of several aquatic birds, including some endangered species.

Health and Social Impact

It has been hypothesized that the species has a role in the epidemiology of leptospirosis, although its role is probably less important for the spread of the bacteria in the environment compared to rats.

Economic Impact

The species is considered a pest for its feeding on crops, such as sugar beets and maize, and for its burrowing activity that disrupts riverbanks and dikes. In Italy during 1995-2000, despite control activities involving the

removal of 220,688 coypus with a cost of 2,614,408 €, damage to the riverbanks exceeded 10 million € and impact on agriculture reached 935,138 €.

MANAGEMENT

Prevention

Where farming is still active, fences and security should be verified and improved. In some small areas, buried or partially buried fences have been used to avoid burrowing by animals to protect crops.

Mechanical

Shooting is effective for population control when environmental conditions force the animals into the open, while cage trapping has also been used in the English eradication program.

Chemical

In some countries like France and United States, baits with toxicants are used. North Americans use zinc phosphide on carrots or sweet potatoes.

Biological

Unknown.

REFERENCES

- Carter J, Leonard BP (2002) A review of the literature on the worldwide distribution, spread of, and efforts to eradicate the coypu (*Myocastor coypus*). *Wildl Soc Bull* 30 (1):162-175
- Gosling LM Baker SJ, Clarke CN (1988) An attempt to remove coypus (*Myocastor coypus*) from a wetland habitat in East Anglia. *Journal of Applied Ecology* 25:49-62
- Woods CA, Contreras L, Willner-Chapman G, Whidden HP (1992) *Myocastor coypus*. *Mammalian Species* No. 398, The American Society of Mammalogists, pp 1-8

OTHER REFERENCES

- Bertolino S, Perrone A, Gola L (2005) Effectiveness of coypu control in small Italian wetland areas. *Wildlife Society Bulletin* 33 (2):714-720
- Boorman LA, Fuller RM (1981) The changing status of reed swamp in the Norfolk broads. *J. Appl Ecol* 18: 241-269
- Brown LN (1975) Ecological relationship and breeding biology of the nutria (*Myocastor coypus*) in the Tampa, Florida, area. *Journal of Mammalogy* 56:928-930
- Carter J, Foote AL, Johnson-Randall LA (1999) Modelling the effects of coypu (*Myocastor coypus*) on wetland loss. *Wetlands* 19:209-219
- Doncaster CP, Micol T (1989) Annual cycle of a coypu (*Myocastor coypus*) population: male and female strategies. *Journal of Zoology* 217:227-240
- Doncaster CP, Micol T (1990) Response by coypus to catastrophic events of cold and flooding. *Holarctic Ecology* 13:98-104
- Foote AL, Johnson LA (1993) Plant stand development in Louisiana coastal wetlands: coypu grazing effects on plant biomass. In: Proceedings of the 13th Annual Conference of the Society of Wetland Scientists, New Orleans, Louisiana. Society of Wetland Scientists, Utica, Mississippi, USA, pp 265-271
- Gosling LM (1989) Extinction to order. *New Scientist* 4 March 1989:44-51
- Gosling LM (1981) Climatic determinants of spring littering by feral coypus *Myocastor coypus*. *Journal of Zoology* London 195:281-288
- Gosling LM (1989) Extinction to order. *New Scientist* 4 March 1989:44-51
- Gosling LM, Baker SJ (1987) Planning and monitoring an attempt to eradicate coypus from Britain. *Symposium of the Zoological Society of London* 58:99-113
- Panzacchi M, Bertolino S, Cocchi R, Genovesi P (in press) Cost/benefit analysis of two opposite approaches to pest species management: permanent control of *Myocastor coypus* in Italy versus eradication in East Anglia (UK). *Wildlife Biology*
- Reggiani G, Boitani L, D'Antoni S, De Stefano R (1993) Biology and control of the Coypu in the Mediterranean area. In: Spagnesi M, Randi E (eds) *Atti VII Convegno dell'Associazione Alessandro Ghigi per la Biologia e la Conservazione dei Vertebrati*. *Suppl Ric Biol Selvaggina* XXI:67-100
- Reggiani G, Boitani L, De Stefano R (1995) Population dynamics and regulation in the coypu *Myocastor coypus* in central Italy. *Ecography*, 18:138-146
- Shaffer GP, Charles ES, Gosselink JG, Rejmanek M (1992) Vegetation dynamics in the emerging Atchafalaya Delta, Louisiana, USA. *Journal of Ecology* 80:677-687

Willner GR, Chapman JA, Pursley D (1979) Reproduction, physiological responses, food habits and abundance of nutria on Maryland marshes. *Wildl. Monogr.* 65:1-43

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