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Cyprinus carpio

(common carp or European carp)

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By *Matthew Chumchal*

Kingdom: [Animalia](#)
 Phylum: [Chordata](#)
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 Class: [Actinopterygii](#)
 Order: [Cypriniformes](#)
 Family: [Cyprinidae](#)
 Genus: [Cyprinus](#)
 Species: ***Cyprinus carpio***

Geographic Range

Common carp are native to Europe but have been widely introduced and are now found worldwide except for the poles and northern Asia. (Nelson, 1984; Froese and Pauly, 2002).

Biogeographic Regions: [nearctic](#) (introduced); [paelearctic](#) (native); [oriental](#) (introduced); [ethiopian](#) (introduced); [neotropical](#) (introduced); [australian](#) (introduced).

Habitat

Carp exploit large and small manmade and natural reservoirs, and pools in slow or fast moving streams. They prefer larger, slower-moving bodies of water with soft sediments but they are tolerant and hardy fish that thrive in a wide variety of aquatic habitats. (Page and Burr; 1991; Froese and Pauly, 2002)

These animals are found in the following types of habitat: [freshwater](#).

Aquatic Biomes: [benthic](#); lakes and ponds; rivers and streams.

Wetlands: [marsh](#).

Physical Description

Carp often grow 30 to 60 cm in length and weigh 0.5 to 4 kg (Tomelleri and Eberle 1990); it is not uncommon for common carp to reach 15 to 20 kg (McCrimmon 1968). Males are usually distinguished from females by the larger ventral fin. Carp are characterized by their deep body and serrated dorsal spine (Nelson 1984). The mouth is terminal on the adult and subterminal on the young (Page and Burr 1991). Color and proportions are extremely variable, but scales are always large and thick. Three sub-species with slightly different scale patterns are recognized. *C. carpio communis* (scale carp) has regular concentric scales, *C. carpio specularis* (mirror carp) large scales running along the side of the body in several rows with the rest of the body naked, and *C. carpio coiaceus* (leather carp) with few or no scales on the back and a thick skin (McCrimmon 1968).

Some key physical features: bilateral symmetry 

Sexual dimorphism:  sexes alike.

Reproduction

Breeding/spawning season **Breeding season**

spring and early summer; year round in tropical areas

Number of offspring

1000000 (high); avg. 300000

Time to hatching **Gestation period**

4 days (high)






Age at sexual or reproductive maturity (female)

3 to 5 years

Age at sexual or reproductive maturity (male)

3 to 5 years

Carp generally spawn in the spring and early summer depending upon the climate. They segregate into groups in the shallows to spawn. Carp prefer shallow waters with dense macrophyte cover. Males externally fertilize eggs, which the females scatter over macrophytes in a very active manner. The eggs stick to the substrate upon which they are scattered. A typical female (about 45 cm) may produce 300,000 eggs, with some estimates as high as one million over the breeding season. Incubation is related to water temperature and has been documented at three days at temperatures of 25 to 32C. Fry average 5 to 5.5 mm in total length. Temperature, stocking density, and availability of food influence individual growth. By the time the fish reach 8mm the yolk has disappeared and they begin to actively feed. Males typically become sexually mature at 3 to 5 years and females at 4 to 5 years (McCrimmon, 1968; Froese and Pauly, 2002).

Key reproductive features: seasonal breeding ; year-round breeding ; sexual ; fertilization  (external ); oviparous .

Females facilitate attachment of fertilized eggs to the substrate. There is no further parental care.

Parental investment: no parental involvement.

Lifespan/Longevity

Longest known lifespan in wild

13 to 20 years

Longest known lifespan in captivity

47 years (high)

There is a report of a common carp living an astounding 47 years, probably in captivity. Other reports of 17 to 20 years are probably more typical (Froese and Pauly, 2002).



Behavior

Carp can typically be found in small schools, although larger carp often lead a solitary existence (Smith, 1991).

Key behaviors: natatorial ; motile ; solitary ; social .

Food Habits

Carp are primarily selective benthic omnivores that specialize on invertebrates that live in the sediments (Lammens and Hoogenboezem 1991). Newly hatched carp initially feed on zooplankton; specifically rotifers, copepods, and algae (McCrimmon 1968). Young of year carp feed on a variety of macroinvertebrates including chironomids, caddis flies, mollusks, ostracods, and crustaceans (McCrimmon 1968). Adult carp are known to eat a wide variety of organisms including, insects, crustaceans, annelids, mollusks, fish eggs, fish remains, and plant tubers and seeds (McCrimmon 1968, Lammens and Hoogenboezem, 1991). Carp feed by sucking up mud from the bottom ejecting it and then selectively consuming items while they are suspended (McCrimmon 1968). The feeding galleries of carp are easily recognized in shallow waters as depressions in the sediment (Cahn 1929).

Primary Diet: carnivore  (eats non-insect arthropods); omnivore .

Predation

Known predators

- northern pike
- muskellunge
- largemouth bass
- great blue heron
- humans

Predators on young carp include large fish such as northern pike, muskellunge, walleye, and largemouth bass. (Froese and Pauly, 2002; Baltry, 2000) Birds such as great blue herons probably also eat them. Adults have no predators other than people. (Baldry, 2000)

Economic Importance for Humans: Negative

Common carp are an introduced species throughout most of the world and are generally considered a nuisance (Smith 1991).

Economic Importance for Humans: Positive

Carp are an important food fish throughout most of the world except for in Australia and North America where the fish is considered unpalatable (McCrimmon 1968; Banarescu and Coad 1991). The world catch rate of carp per year exceeds 200,000 tons (Banarescu and Coad 1991). The more colorful carp, called Koi, are bred in captivity and sold as ornamental pond fish.

Ways that people benefit from these animals: food .

Conservation Status

Common carp are common throughout much of the world.

Other Comments

These fish often overwhelm any ecosystem where they are introduced, so people have tried to get rid of them. The most successful method involves killing all fish in the lake with a poison, and then re-stocking the desirable species.

Contributors

Matthew Chumchal (author), Southwestern University: April, 2002.
Stephanie Fabritius (editor), Southwestern University: April, 2002.

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