

Electric catfish

From Wikipedia, the free encyclopedia

Electric catfish is the common name for the catfish (order Siluriformes) family **Malapteruridae**. This family includes two genera, *Malapterurus* and *Paradoxoglanis* with 19 species.^[1] Several species of this family have the ability to produce an electric shock of up to 350 volts using electroplaques of an electric organ.^[2] Electric catfish are found in tropical Africa and the Nile River.^[3] Electric catfish are usually nocturnal and feed primarily on other fish, incapacitating their prey with electric discharges.^[2] They can grow up to 1 m long.

Description

The Malapteruridae are the only group of catfish with well-developed electrogenic organs; however, electroreceptive systems are widespread in catfishes.^[4] The electrogenic organ is derived from anterior body musculature and lines the body cavity.^[3] Electric catfish do not have dorsal fins or fin spines. They have three pairs of barbels (the nasal pair is absent).^[3] The swim bladder has elongate posterior chambers, two chambers in *Malapterurus* and three in *Paradoxoglanis*.^[3]

Malapterurus is one of the few electric genera to have been conditioned by means of reward to discharge on signal. As reported in the New York Times, April 2, 1967, a researcher, Dr. Frank J. Mandriota of City College, NY, conditioned an *M. electricus* to discharge on a light signal for a reward of live worms delivered automatically. This is the first conditioning that modified neither glandular nor muscular responses.

They can grow as large as 100 cm (39 in) SL and about 20 kg (44 lb) in weight.^{[3][2]} All *Paradoxoglanis* species are much smaller.^[3] Most malapterurids are dwarf species less than 30 cm (12 in) long.

Relationship to humans

The Nile fish was well known to the ancient Egyptians. Stories say the Egyptians used this type of catfish when treating some nervous diseases. They would use only smaller fish, as a large fish may generate an electric shock from 300 to 400 volts. The Egyptians have depicted the fish in their mural paintings and elsewhere; the first known depiction of an electric catfish is on a slate palette of the predynastic Egyptian ruler, Narmer, about 3100 BC.^[4] It was suitably called "angry catfish" in ancient Egyptian.

An account of its electric properties was given by an Arab physician of the 12th century; then as now, the fish was known by the suggestive name of *raad*, *abo el raash*, *el raad* or *raash*, which means "thunder" (literally "trembler" or "shaker").

Though the shock an electric catfish can generate is not known to be fatal to humans,^[2] the catfish does use its electricity as a weapon to ward off predators or to kill its prey.

Electric catfish



Malapterurus electricus

Scientific classification

Kingdom:	Animalia
Phylum:	Chordata
Class:	Actinopterygii
Order:	Siluriformes
Family:	Malapteruridae
	Bleeker, 1858

Genera

Malapterurus
Paradoxoglanis

References

This article incorporates text from a publication now in the public domain: Chisholm, Hugh, ed. (1911). *Encyclopædia Britannica* (11th ed.). Cambridge University Press.

- Ferraris, Carl J., Jr. (2007). "Checklist of catfishes, recent and fossil (Osteichthyes: Siluriformes), and catalogue of siluriform primary types" (http://silurus.acnatsci.org/ACSI/library/biblios/2007_Ferraris_Catfish_Checklist.pdf) (PDF). *Zootaxa* **1418**: 1–628. Retrieved 2009-06-24.
- Ng, Heok Hee (2000). "*Malapterurus electricus*" (http://animaldiversity.ummz.umich.edu/site/accounts/information/Malapterurus_electricus.html). Animal Diversity Web. Retrieved 2007-07-28.
- Nelson, Joseph S. (2006). *Fishes of the World*. John Wiley & Sons, Inc. ISBN 0-471-25031-7.
- Howes, George J. (1985). "The phylogenetic relationships of the electric catfish family Malapteruridae (Teleostei: Siluroidei)". *Journal of Natural History* **19**: 37–67. doi:10.1080/00222938500770031 (<https://dx.doi.org/10.1080%2F00222938500770031>).



Wikimedia Commons has media related to ***Malapterurus electricus***.

Retrieved from "http://en.wikipedia.org/w/index.php?title=Electric_catfish&oldid=640559206"

Categories: Malapteruridae | Fish of Africa | Strongly electric fish

-
- This page was last modified on 1 January 2015, at 21:02.
 - Text is available under the Creative Commons Attribution-ShareAlike License; additional terms may apply. By using this site, you agree to the Terms of Use and Privacy Policy. Wikipedia® is a registered trademark of the Wikimedia Foundation, Inc., a non-profit organization.