

Bait-fishing by dolphins: a documented anecdote

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Summary

An unusual behaviour of bottlenosed dolphins successfully using dead fish or pieces of fish as fishing-bait, is reported.

Introduction

Tool using is defined by biologists as the use of an external object as a functional extension of the body, to obtain an immediate goal (Harre & Lamb, 1986). Beck (1980) in his book 'Animal Tool Behavior' and Griffin (1984) in the book 'Animal Thinking', reviewed the literature on the use of tools by animals. Although tool-using animal species are a small minority, a variety of animals, including several invertebrates, birds and mammals who use tools, were mentioned, e.g.: worker ants of the genus *Aphaenogaster* use bits of leaf to transport food to their nest (Fellers & Fellers, 1976). Hermit crabs occupy the empty shells of dead snails and even place anemones on their shells to gain protection (Ross, 1971). Egyptian vultures use stones to hammer on and break the hard shell of ostrich eggs in order to eat the inside (Van Lawick-Goodall, 1970). The Galapagos Islands' finches use cactus spines to scratch out insects of holes (Lack, 1947). Green-backed herons use various items such as pieces of bread, leaves, twigs or feathers as bait to attract fish (Lovell, 1958; Higuchi, 1985). Polar bears throw pieces of ice at resting seals in order to kill or injure them (Beck, 1980). Sea otters use small stones to detach and open shellfish (Kenyon, 1969). Chimpanzees use several tools such as sticks to pull termites out of a mound and leaves to clean their body (Van Lawick-Goodall, 1970).

In this paper we report dolphins using dead fish, or fish pieces as a tool to catch live fish.

Observations

During the year 1991 a captive adult female bottlenosed dolphin (*Tursiops truncatus*) was repeatedly

observed laying relaxed in the sea on its dorsal side or in a half-sided position. The animal kept its mouth open, gently holding a small dead fish or pieces of fish in its mouth waiting patiently until some fish were attracted to this bait. Then the live fish were captured and swallowed quickly. On the following days we observed 2 additional adult dolphins and a 1-year-old male born in captivity performing the same series of actions. This unusual behaviour was also observed occasionally during a training session.

All the above animals were captive, healthy and fed *ad libitum* with a variety of 4 species of whole fish: whiting (*Micronesistius poutessou*), sprat (*Spratus spratus*), Atlantic herring (*Clupea harengus*), and mackerel (*Scomber scombrus*). Diets were also supplemented with multivitamins.

Discussion

Much can be learned from animals' behaviours, such as from the diligent hard-working ants which transport food by means of leaves (Fellers & Fellers, 1976), as mentioned already in the Holy Scriptures: 'Go to the ant, thou sluggard, consider her ways, and be wise: Which having no guide, overseer, or ruler, provides her meat in the summer and gathereth her food in the harvest' (Proverbs VI, 6-8).

Griffin (1984) stated that animals use tools only when it is important to them, usually when food can be obtained only with aid of some implement. We cannot agree with this statement as our dolphins were not motivated by hunger and could obtain their food without any effort from their trainers.

Griffin (1984) mentioned also, that if an animal manages to obtain food by a complex series of actions that it has never performed before, intentional thinking seems plausible. We believe that our dolphins while using the above mentioned tool for fishing, were certainly thinking as well as having fun.

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