Manis crassicaudata OF MALABAR - ECOLOGY AND STATUS

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Abstract

The ant eaters are represented by two species, *Manis crassicaudata* and *M. pentadactyla* in India. The *M. crassicaudata* is more common in the Indian subcontinent. They are included in the Indian Wildlife (Protection) Act, 1972 and also in the CITES.

The salient external morphological characters, distinguishing features, ecology of its habitat, distribution, food habits, reproduction and behaviour are discussed. Conservation status, causes for depletion like drop in the ground water level, habitat degradation and poaching are highlighted. Status of our present knowledge and recommendations for conservation of the species are also given.

Introduction

The Indian scaly ant-eater *Manis crassicaudata* is included in the schedule I of the Indian Wildlife (Protection) Act, 1972. It is distributed through out India mainly along the western and eastern Ghats, plains, and cultivated lands. There are seven species of pangolins consisting of two geographical groups, 'Asiatic' pangolins and the African pangolins. The Asiatic pangolins are characterised by the presence of a well developed pinnae, hairs at the base of the scales and a median row of scales that continue to the end of the tail. The Asiatic pangolins are represented by the Indian pangolin (*M. crassicaudata*) the Chinese pangolin (*M. pentadactyla*) and the Malayan pangolin *M. javanica*. The Indian pangolins is mostly terrestrial where as the Malayan pangolins are moderately arboreal. Among the African pangolins, *M. tricuspis* is arboreal.

Salient features

The body of the pangolins are covered with scales which are the thickenings of the skin. The edges of the scales are sharp and form a protective covering. The pangolins are well adapted to an ant eating life. The fore limbs are equipped with well developed claws that can be used for opening ant and termite nests. While walking the claws are turned back towards the body and the pangolin appears to be walking on its wrists.

The tongue of the ant-eater is very long and used to lick ants and termites. In some species the tongue and the accessory structures may be longer than the animal. The salivary gland is well developed with copious amount of sticky fluid. The pangolins are toothless and the mastigation of the food takes place in the stomach which is divided into two parts, the proximal crop-like portion and a distal muscular portion.

The ant eaters have many adaptation for an ant-eating life. As a protection from being bitten by ants, the exposed skin of the animal is greatly thickened. The ears and nostrils can be closed to prevent the entry of ants and termites to the auditory and nasal canals.

Ecology

Pangolins are locally known as *enampeechi (in Malayalam)*. They are found in variety of habitats including primary and secondary forests. They are reported from cultivated lands and in hilly coastal tracts. They live in rock crevices, burrows which they make and in sheltered boulders. Their burrows may be as deep as 6 m. They are noctornal and comes out during the night for feeding. Their food consists of eggs and adults of termites and ants. They are very selective in food habits. Usually they do not eat termites found under logs or stones or small red ants found in gardens but feed on large red ants with eggs found in nests on trees and on termites found in anthills. It is reported from Kanniakumari district that it feeds on the soft shelled land molluscs found in gardens and cultivated lands. It is not known how they feed on molluscs, it may be possible that they break the shells by their strong nails as evidenced by the crumbled shells in their habitat.

In captivity they are fed with minced meat, yolk of egg and milk. Recently a standardised diet has been formulated with beef, raw egg, milk powder, oat meal, ant larvae, vitamin and salt known as 'Glukopur' (Reg Hoyet, 1987). Longevity of the ant-eaters in captivity is not encouraging; 67% of them die within one year. Only 1% have lived for about 19 years.

It is reported that most of the adults caught have been pregnant. The gestation period was 65 -70 days. The calving season was between November and March. Captive breeding has been reported from India (Acharjyo and Mohapatra, 1978) but most of the offspring died within a few days.

Conservation

The pangolins are capable of adapting well to modified habitats. But the source of their food supply should not be disturbed. But in many areas anthills or termite nests have disappeared because of lowering of the ground water due to excessive drawing of water by tube wells. In some of the districts the ground water has dropped by 7 m. in the last 15 years. Indiscriminate sinking of the tube wells for irrigation has reduced the availability of ground water which is essential for anthills.

Pangolin meat is considered to be good for nervous weakness. It is relished by the hill tribes. It is noted that the 'Kadars' of the Westerm Ghats kill them for their meat. Well trained dogs are used in Kanniakumari district to trace them. Once they are traced, the hunters easely catch them. The meat of pangolin is also eaten in China, Taiwan, Malaysia though they are protected in these countries.

The scales of pangolins are used as medicine for variety of skin diseases. They are supposed to be antiseptic, effective in reducing high temperature due to septic wounds, stimulating blood circulation (vasodialator). They are also supposed to have cataleptic properties. The scales are also used for scratching the skin. The powder of the scales are said to cure venereal diseases (Harrison & Loh, 1965). The scales are

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also used in India as a charm against rheumatic diseases (Webster, 1977). There are unconfirmed reports that anti-cancer drugs are developed from pangolins. The skin of pangolins are also used for the manufacture of boots and handbags.

It is recorded that about 700 skins of *M. crassicaudata* were exported to the U.S.A. in 1983 compared to 5,023 skin in 1980 -1982. Japan was another country which was importing pangolin skins. But now the import has declined. According to the CITES report 34,595 skins of *M. javanicus* were exported mainly to U.S.A. and Japan in 1985. This number has come down to 57 in 1989. The pangolin export is banned in Thailand, Indonesia and Malayasia. It is reported that about 60 tons of scales of *M. javanicus* were exported during 1958 -1964 from Indonesia. It is equivalent to 50,000 pangolins. However this number has come down after clamping a ban on export of pangolin skin or scales. Cost of one pangolin in the U.S.A. was about 6 US dollars and one kilogram of scales of pangolin values 18 US $.

Most of the countires have enacted measures such as the Indian Wildlife (Protection) Act, 1972 to protect the species.

There is lack of information on the population of pangolins in their range of distribution. Its behaviour (nocturnal) is one of the reasons for it. No census of its population is so far made in its range of distribution.

Status

It is reported from its ranges of distribution that the pangolins have become rare. Tikader (1983) included it in the Indeterminate group of the IUCN Red List categories. In a preliminary survey conducted in the Maruthamalai of Kanniakumari district, during 1992 though a few burrows of the pangolins were found, no live animal was observed. From Assam near Sibsagar, adjacent to Dikhow river two offsprings and a adult were observed in March, 1993. Their number in the zoos also have declined due to the unsuccessful attempts to keep them and due to difficulty in feeding them.

Recommendation

1. Detailed survey of the pangolin should be undertaken especially in the areas where they are reported to be present.
2. Strict implementation of the Wildlife Protection Act 1972 is essential so that poaching can be reduced.
3. An awareness programme highlighting endangered status of the pangolins and casting away the superstition connected with it. Such programmes should be prepared and distributed among the hill tribes. The belief that pangolins are associated with ghost or evil spirit should be removed. The consumption of its meat should be discouraged and the medicinal properties associated with it should be verified.
4. Habitat protection is a very important component of any conservation strategy. The proven habitats should be safeguarded and declared as protected areas or sanctuaries. Areas near Arecode (Malappuram), Wynad, Ramnad district, Kanniakumari district, and north east (Sibsagar, Manipur) are known to have pangolin habitat. More studies should be carried out.
5. Captive breeding and semicaptive rearing should be encouraged.
6. Impact of ground water exploitation in the pangolin habitat should be investigated and th e number of tube wells in the pangolin habitat should be controlled.

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