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Observations on breeding the Oriental short-clawed otter

Amblonyx cinerea

at Chester Zoo

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Otters are among the most popular exhibits in zoos, but they rarely breed in captivity and we feel our recent success is sufficiently uncommon to warrant recording an account of our observations.

HABITAT

The Oriental short-clawed otter *Amblonyx cinerea* is a sociable animal which inhabits Java, Sumatra,

Malay Peninsula, Siam, Indo-China, Laos, Karimons Islands, Borneo, Palawan, Southern India and southern China. Its status is given by Harris (1968) as probably fairly common locally.

They live in loose family groups of about a dozen individuals. They have evolved a highly social vocabulary of twelve or more calls apart from the basic instinctive cries of alarm, greeting

and mating, and have learnt to use their forepaws as hands. In fact they are the only mammals apart from primates to have almost human dexterity.

Walker (1964) states that *Amblyonyx* seems to be a hill-otter in southern India, but in the East Indies it seems to be equally common in estuaries and along the coast. Like most otters, they are usually noted in groups. Davis (1958) records specimens collected by Harrison on the Kelabit Plateau, Northern Sarawak to be found 'in small shingle and sand streams on flats two miles from village' and 'in stream in jungle'.

During February 1962 I was able to observe from a small boat a group of ten *Amblyonyx* at work on a large sandbank 40 miles above Sibu on the Rajang river, Sarawak. They were digging in the sand and mud at the water's edge, and bringing up shell fish, which they examined briefly before laying them down in the sun and digging out more; in a short while the heat caused the shellfish to open, saving the otters considerable work in crushing the shell. On another occasion, several miles inland between Balikpapan and Samarinda in Indonesian Borneo, I heard the bird-like cries of *Amblyonyx* without actually seeing the animals; this was in quite heavy jungle with numerous small streams and swamp areas.

TRANSPORTATION AND HOUSING

During February 1968 we were offered a group of nine *Amblyonyx cinerea* from the Tomanggong Estate, Sandakan, in Sabah. The group consisted of a female aged about two years and a male aged about three years with their litter of five, which had been born in the second half of 1967, plus a male and female aged about 15 months.

It was decided to accept the group and advise the owner on how to make suitable crates for transportation. As stated by Harris (1968), there are no published specifications for a satisfactory travelling crate for otters; too large a crate can be almost as harmful as one which is too small, as the otters can get thrown about inside during the journey.

We decided the best design would be two crates, each divided into two parts; one part provided with suitable bedding with a small entrance hole making it dark and draught-proof and the other half open to the air on three sides but with a solid floor and roof. A strong water container was secured in the open part of each crate with, as

Harris suggested, a 5 cm (2 in) diameter pipe leading from above into the water container. This protruded through a hole in the roof, so that the container could be filled with fresh water, as and when required, whilst the animals were in transit.

Accommodation for the otters had already been started on the site of our old Reptile House. The overall length of the exhibit is 24.4 × 6.6 m (80 × 20 ft) and there is a walk down the centre of the building so that the otters can be seen on either side.

Two large glass-fronted tanks, each measuring 4.9 × 2.5 × 1.2 m (16 × 8 × 4 ft) had been built so that the otters could be seen under water. They are also provided with a large outdoor enclosure containing slides, a waterfall and large pond.

Our Director (Mottershead, 1969) made sure that the otters had sufficient 'dry-land' - for, as I have said, otters are amphibious rather than aquatic and spend a great deal of time grooming, playing and exploring.

Fresh turf was supplied each week and placed over two-thirds of the dry-land area. Two small sand pits were also built which the otters enjoyed immensely. Several hollow logs were provided for the otters to explore and climb, and four caves were built into the enclosure for sleeping and resting. Two boxes 60 cm (2 ft) square standing about 60 cm (2 ft) from the ground, with logs leading to the entrances, were also provided; into these we placed large quantities of soft hay for bedding and nesting material. The otters spent hours carrying hay from box to box and cave to cave, much to the delight of zoo visitors.

FEEDING

On 25 April 1968, the otters arrived at the zoo in excellent condition; a note accompanying them stated that they eat mainly fresh sea fish cut into chunks 5 cm (2 in) square, crabs and prawns. In addition, they eat quite a lot of cooked rice with either boiled eggs or minced beef (uncooked) well mixed in, as well as plain bread, cake and fresh long beans.

We gradually weaned the otters on to a diet of our own - two or three meals per day, depending on appetite, consisting of raw lean cut and minced beef, with hard boiled eggs and a little boiled rice. To one meal per day is added 2 teaspoons of Bemax; $\frac{1}{2}$ tablet of finely powdered calcium with vitamin D; 1 teaspoonful of bone meal; 1 raw egg

into which is beaten 6 drops of halibut liver oil; and 1 measure of ABIDEC.

As well as the above, we give them one or two small fresh caught rudd *Scardinius erythropthalmus* and roach *Rutilus rutilus* from our waterways in the zoo, two or three times per week; and about twice a week they are given herrings *Clupea harengus* and sprats *Sprattus sprattus*. Any excess of the latter is carefully avoided because of their thiaminase content.

BREEDING

Mating was observed on numerous occasions between the original breeding pair; the female came into oestrus every 28 to 30 days for about 3 days at a time. She was first noticed to be pregnant four weeks before giving birth; four abdominal nipples started to appear and she gradually put on weight. Two weeks before giving birth she built a nest out of soft hay and willow twigs in one of the caves. She appeared to have no help at all from the male or from the other otters. Indeed, she became very quarrelsome and aggressive towards the others, driving them away from the nest at every opportunity.

On 14 September 1968, she gave birth to six cubs, one being found dead outside the nest. This cub weighed about 52 g ($1\frac{3}{4}$ oz), was 14 cm ($5\frac{1}{2}$ in) long, silver-grey in colour, blind, and had no teeth showing. The remaining five died between 19 and 27 September 1968. I feel the litter was probably lost because of interference from the other otters and from inquisitive keepers.

The female was again thought to be pregnant in December 1968 and was removed from the group to be placed in our Mammal House in an enclosure measuring $3 \times 2\frac{3}{4}$ m ($10\frac{1}{2} \times 9$ ft). A small cave and pool made this the ideal location. She became extremely aggressive towards the keeper during nest building; on 15 January 1969, she gave birth to a second litter. Judging from the cries from the nest, we decided that at least four or five cubs had been born. Keepers were instructed to keep away from the nest. Fortunately the

female became so vicious that they would have done this anyway.

After two weeks there was a marked difference in the cries and the curious high pitched bird-like whistles. It became clear that one, or possibly two, cubs still survived. During the seventh week the female was observed suckling a single cub at the entrance of the nest and a few days later she started to bring the cub out to defaecate. Remains of fish and other food were seen in the nest prior to the youngster's emergence.

Gradually the cub came out more and more, until it was spending all day outside the nest. When the cub, a female, was nine weeks old it was given its first swimming lesson. The female went into the water first and coaxed the cub in until just its feet were wet. Each day she took it in a little deeper until by the end of a week it was swimming with confidence. The cub grew very rapidly and, by the end of September, was as large as its mother. Gradually the mother and cub were re-introduced to the colony by putting one otter at a time in with them until all were together. Ultimately it became quite difficult to distinguish the cub from the group, except that it was very immature in its behaviour - squealing when it felt abandoned and making no move to defend itself when the play of the others became too boisterous.

REFERENCES

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DAVIS, DWIGHT D. (1958): *Mammals of the Kelebit Plateau, Northern Sarawak. Fieldiana*, 3 vol. 39: 119-147.
WALKER, E. P. (1964): *Mammals of the world*. Baltimore: Johns Hopkins.
MOTTERSHEAD, G. S. (1969): New buildings at Chester Zoo. *Int. Zoo Yb.* 9: 65-66.

PRODUCTS MENTIONED IN TEXT

- Bemax: manufactured by Vitamins Ltd, Brentford, Middlesex, England.
ABIDEC: manufactured by Parke-Davis Ltd.