

Fragmenta Theriologica

Stanisław ROZMUS

KEEPING THE MOLE (*TALPA EUROPAEA* LINNAEUS, 1758) IN CAPTIVITY

ZASTOSOWANIE KOMORY TRENINGOWEJ W TRZYMANIU KRETA W NIEWOLI

Two moles (1 male and 1 female) were kept in captivity for 12 and 8 weeks respectively, allowing them access to soil in a box connected with their cages by artificial tunnels. The animals were observed to be in good physical condition, with good coats, throughout the whole period they spent in captivity.

In an effort to keep captive moles in good physical condition a box containing soil was added to their cages, and observations made of the state and condition of experimental animals. Two moles — a male (with initial weight of 89.9 g) and a female (with initial weight of 74.3 g) were kept for respectively 12 and 8 weeks in wooden cages, with runs in the form of artificial tunnels 5 cm in diameter, made of vulcanised wire netting (cf. Skoczzeń 1961). A wooden box measuring 26×27×51 cm filled with soil up to 4/5 of its height was connected to each of the cages by means of an artificial tunnel. The soil in the boxes was pressed down and flattened daily, often several times a day, and changed once a week.

The cages containing moles were kept in a cellar with relatively constant temperatures of 14—16°C and relative atmospheric humidity of 83—89%. The animals were fed *ad libitum* on minced meat (ox hearts and sometimes liver) twice a day, in the morning and evening.

The moles very readily made use of the box containing soil, and tried to transfer soil to the nest box or the nest to the box containing soil. The state of these moles' coats was far better than that of moles kept without the means of contact with soil, and did not differ from the coats of animals caught under field conditions. In addition these animals were not observed to become fat, which is usually the case when moles are kept captive for any length of time (cf. Skoczzeń, 1957). There were relatively slight variations in body weight, which increased in relation to their initial weight by 8 g during the 12-week period (10.8%) in the male and by 9 g (11.2%) during the 8 week period in the female.

The observations made indicate that it is possible to keep moles in captivity with limited access to soil, and that this has a very beneficial effect on their condition and the state of their coat. An important factor in this case is suitable humidity in the place in which they are kept, to ensure that the soil in the boxes does not dry too quickly.

Institute of Applied Zoology, Agricultural Academy, 30-059 Kraków, Al. Mickiewicza 24-26. Accepted, July 18, 1973.

Stanisław SKOCZEŃ & Stanisław ROZMUS

A DEVICE FOR TESTING THE STRENGTH OF MOLES

PRZYRZĄD DO MIERZENIA SIŁY KRETA

A description is given of an apparatus for measuring the strength and work of the mole, consisting of a partitioning door inserted into an artificial tunnel and connected with a dynamometer and recording device. The apparatus makes it possible to record the frequency of digging movements made by the mole's fore legs and to estimate their force. It can also be used for studies on the activity of the mole, the degree of use of their right and left paws and as a means of providing captive animals with exercise.

Studies on the technique used by the mole (*Talpa europaea* Linnaeus, 1758) for digging tunnels showed that this activity requires strength out of proportion to these animals' body weight (Skoczeń, 1958). It was found that the weight of the column of soil pushed up by a mole from its tunnel is frequently 24 times greater than the animal's own body weight. It must be remembered in this connection that such labour, often prolonged (Godfrey, 1955), is carried out under specific habitat conditions such as oxygen deficiency, high CO₂ concentration and a high degree of humidity. It is therefore obvious that these animals must possess a particular capacity for physiological adaptation, as has been shown by the studies made by Quilliam *et al.* (1971).

When moles were kept in captivity they were seen eagerly to make use of any gaps available, which they endeavoured, with enormous effort and persistence, to enlarge in order to achieve a space sufficiently large to admit the body. It not infrequently happened that after prolonged effort the moles made their way through the wire netting of their artificial tunnels, in which the wire was 0.5 mm thick. These observations induced us to insert a movable partitioning door in the artificial tunnel made for the mole (cf. Skoczeń, 1961), and to connect this door with a dynamometer, which was in turn connected with a recording device. The whole appliance makes it possible to record the frequency of the digging movements made by the fore-paws and the value of the force