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The Behavioural Requirements Necessary for Guide Dogs for the Blind in the United Kingdom

By J. R. Baillie, Kirriemuir, Angus

Since the formation of the Guide Dogs for the Blind Association in 1931 the scope for the use of trained dogs has greatly increased owing to the demand from blind people for integration into and mobility in the community. So far no better method has been devised. Originally the Alsatian was the breed of choice but in recent years the Labrador Retriever has a strong numerical lead over all other breeds. There are now four Training Centres in the United Kingdom, serving it, and Eire by agreement, with approximately 1450 working Guide Dogs. Dogs must be 50 cm at the shoulder and bitches are much more acceptable than dogs. Early introduction of pups to domestic situation is essential and after rearing to one year old training commences. The main assessment is based on behaviour towards other dogs. Various aggression patterns are recognizable and some can be trained out while other cannot. Dogs are trained to ignore other dogs and other species as far as possible—basically the making of a good Guide Dog is one of developing its natural self-preservation instinct, linked to an Owner. Undue fear of strange adults or children singly or in groups is undesirable and the dogs must travel without travel sickness. Careful matching of prospective Owner and Dog is necessary before introduction. All Owner/Dog working units are a balance between efficiency and safety and the Owner's ability to control or ignore undesirable traits in the dog such as coprophagia and/or persistent scavenging for food. The dogs must also have adequate work as well as free running time otherwise they become bored and their work deteriorates. All Dogs are now neutered before final training and this greatly reduces the sniffing pattern of the male and also the attractiveness of the bitch to strange dogs apart from eliminating mesalliance and/or pyometra in the female.

Auto-Induced "Fly-Catching" in the King Charles Spaniel

By J. G. Lane and R. J. Holmes, University of Bristol

Fly-catching is an anthropomorphic description of a behavioural pattern exhibited by a dog in which the patient responds as if placed in an insect-infested environment and yet where no such stimuli are detectable by humans.

The authors examined two dogs with the condition in detail and have received personal communications about five others. In all seven cases the subject was a King Charles Cavalier Spaniel aged between eight and eighteen months at the time of onset; no sex incidence was noted.

The clinical and post-mortem examinations were described and the absence of significant findings noted.

A film of the condition was shown and the spectrum of the fly-catching activity was analysed as follows:—

(1) Visual attention at various heights.
(2) Rapid movement of eyes, head and body towards the areas of attention.
(3) Head shaking.
(4) Snapping at various heights with and without phonation.
(5) Hip licking before and after the snap.
(6) Salivation.
(7) Tactile attention at the flank.

The aetiology of the condition was subject to considerable conjecture and it was decided that further investigation particularly with radiotelemetric electroencephalography was indicated.

Vaginal Cytology and Reproductive Behaviour in the Bitch

By A. L. Frankland, University of Edinburgh

Oestrus behaviour is very much dependent upon the presence of oestrogens. Oestrogens also cause proliferation of the vaginal epithelium. By means of vaginal smears a cellular picture can be obtained throughout the oestrous cycle and generally speaking this picture reflects the functional changes in the ovary and the clinical symptoms of oestrus.

Anoestral vaginal smears reveal relatively undifferentiated, basophilic, epithelial cells with vesicular nuclei and the occasional polymorph. During proestrus the epithelial cells become more and more differentiated and by the end of proestrus and throughout most of oestrus the majority of cells are large, polygonal, cornified cells with eosinophilic staining. Many are anuclear or have pycnotic nuclei.

Erythrocytes that are present in proestrus may or may not be present during oestrus. Polymorphs which are very often absent in later proestrus and early oestrus begin to reappear 24–36 hours after ovulation.

The metoestrus cellular picture occurs abruptly. It is characterized by the copious influx of polymorphs, the return, over the period of a day or two, of basophilic, vesicular nucleated, epithelial cells, and the appearance of metoestrum cells.

Vagrancy, increased frequency of urination, licking at the vulva are signs that can herald impending proestrus. Bitches are attractive to male dogs and may play with them, whereas other bitches do not show interest in the male until later in proestrus. There may be teasing of males but mating is not usually permitted. Some bitches may be hostile towards male dogs that attempt coitus, particularly in early and mid proestrus.

Oestrus (oestrus being derived from "oistros" meaning mad desire) is the period of receptivity and usually commences when there is maximal oestrogen production at the beginning of the phase of ovulation. (Schutte (1967) related

the time of ovulation to the peak of the Eosinophilic Index, as 90 per cent of bitches served at this time conceived.) The postural invitation to coitus is unmistakable and handling over the loins and in front of the tail may cause adoption of the stance of mating.

The end of the period of receptivity usually denotes the commencement of metoestrus. After the first 5–7 days of metoestrus the bitch ceases to attract the male.

Trichophagia in Breeding Mice

By T. Graham-Marr, University of Edinburgh, Centre for Laboratory Animals

In a specific-pathogen-free colony of inbred C57 Blace mice a randomly mated production sub-colony was established to provide a steady supply of weaned mice. The production breeding females have 4–5 litters, the males may mate up to 12 females. Their offspring are not used for breeding.

In this sub-colony sporadic cases of hair loss have been noted in the male mice. The hair loss is not associated with inflammation of the skin and neither mange mites nor fungal infections have been demonstrated. Microscopic examination of the skin shows that the hair follicles are intact and that the hair is broken off just above the skin surface. Affected males rapidly return to normal when the female is removed.

In pairs where the condition is occurring the females have been seen to nibble the hair of the males during the mutual grooming which takes place among mice. The distribution of the hair loss depends to some extent on the positions the mice customarily adopt when they lie together. Some lie head to tail, in which case the rump of the male is affected; others lie facing the same way, when the neck and shoulders are affected. Hair loss usually occurs on both sides of the mid line. Sometimes the top of the head is involved.

The hair eating habit has more often started at third, fourth or fifth matings than earlier but the numbers are too small to be definite. Once the habit is acquired the female usually continues it with her next partner. Trichophagous females seem to be as fecund and as good mothers as normal mice and have not so far shown any tendency to eat the coats of their offspring or to indulge in cannibalism.

Trichophagia has not occurred among the monogamous pairs in the primary colony, nor among groups of males kept together. It has occurred twice in non-breeding females in groups which were kept together for over 6 months. In neither case did the habit become widespread in the group.

The diet for the breeding mice is heat-treated. Autoclaved and pasteurized diets have been fed and trichophagia has occurred on both of them. One of the affected non-breeding female groups was on an untreated diet. It therefore seems unlikely that a dietary deficiency is involved.

The litter used for the mice is peat-moss and some of the breeding mice have been put onto a granulated clay litter to see if this makes any difference.

The mice are kept at a temperature of about 22°C. The relative humidity was 70 per cent; this was reduced to 60 per cent but sporadic cases of trichophagia have continued.

Positional Reflexes from the Labyrinth and Neck in the Cat

By T. D. M. Roberts, Institute of Physiology, University of Glasgow

The scheme of reflexes set out by Magnus & de Kleijn (1912) appears to have been accepted without question for many years. It is, however, difficult to see how such a scheme can be reconciled with the notion that the labyrinth is concerned in stabilizing the position of the head. Magnus always insisted that the labyrinthine reflexes affect all four limbs in identical fashion, in contrast to the neck reflexes which produce reciprocal effects in forelimbs and hindlimbs or reciprocal effects in the limbs of opposite sides of the body according to the displacements occurring in the neck. For stabilization, what is needed is an increase in antigravity tone in the "downhill" limbs when the skull is tilted out of the horizontal in any direction.

The positional reflexes have now been re-examined by two separate techniques. The first depends on direct observation of the limb positions adopted spontaneously by intact animals. To distinguish the influence of the labyrinth from that of the neck, photographs of lateral profiles were selected in which either the skull position or the attitude of the neck closely resembled that in the symmetrical "normal" pose, and conclusions were then drawn about the influence of the other factor (Roberts, 1967).

In the second, tests were carried out on decerebrate cats after denervating the first two intervertebral joints on each side. Stretch reflex sensitivities in extensor limb muscles were studied by a method involving rhythmic pulls (Roberts, 1958, 1963). The axis vertebra was supported in a clamp so that neck movements and skull movements could be independently controlled (Roberts, 1970).

Both procedures reveal a system of labyrinthine reflexes that is in sharp contrast to the scheme given by Magnus & de Kleijn. Sidedown tilting gives ipsilateral extension in forelimb and hindlimb, with contralateral flexion. Nose-down tilting gives bilateral forelimb extension and hindlimb flexion. Nose-up tilting gives bilateral forelimb flexion and hindlimb extension. These reflex responses are just what is needed for stabilization of the position of the skull.

It should be noted that the unopposed effects of the neck reflexes would in each of these cases be in the opposite sense to those from the labyrinth. Where both sets of reflexes are active, the conflict is resolved centrally, so that the animal can move its head without reflex restraint.

The responses to lateral tilting of the head alone were demonstrated with a short film.

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