

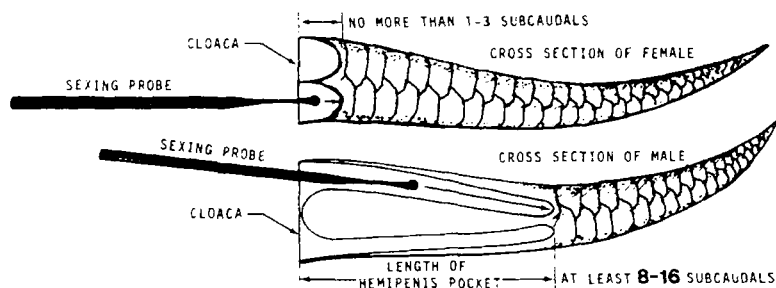
## Probing as a practical method of sex recognition in snakes

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One of the chief reasons for the hitherto paucity of breeding activity amongst cap-

Although as a general rule  $\delta\delta$  have a broader tail base than  $\text{♀♀}$ , sex in snakes is



**Fig. 1.** Furmont reptile probe inserted into  $\text{♀}$  snakes penetrates no more than three subcaudals; in  $\text{♂}$  it penetrates from eight to 16 subcaudals (or more).

tive reptiles has been inadequate sex determination (1). In the relatively few cases where a zoo actually possesses two individuals of a species, their sexes are often not known, and even when the 'pair' is not kept in separate cages (as happens all too frequently), the correct matching of sex and age is left to chance. It is obvious that if reproduction is to become more than a haphazard event in zoo herpetaria, then more attention must be paid to the proper sex determination of each specimen.

Sex recognition in lizards is in most instances fairly simple because of the existence of sexual dimorphism: i.e., the presence or absence of femoral pores, a heavier and thicker tail base in  $\text{♂}$ , or sometimes the presence of a crest or of a colour variation. Similarly,  $\text{♂}$  turtles can usually be distinguished quite easily from  $\text{♀♀}$  of the same size by their longer, thicker tails. In crocodilians, sex is determined by inserting a finger deep into the cloaca and feeling for the conically shaped penis (see also Honegger, this volume).

not so readily established. Male vipers Viperidae and pit-vipers Crotalidae, for example, have longer, broader tails than their  $\text{♀}$  counterparts, and they do not taper quite so abruptly. However, this is not always an easily noticeable characteristic. Where the specimen is more than 46 cm long, the most reliable procedure for determining the sex of a snake is to probe it mechanically. As shown in Fig. 1, the probe is a long, thin, blunt, lubricated rod which is gently inserted into the cloaca toward the tip of the tail. In  $\text{♀♀}$  it will not penetrate more than three subcaudals into the tail. In  $\text{♂}$ , however, it slips easily into a pocket on either side of the tail and penetrates from eight to 16 subcaudals. Extreme caution must be used in the insertion because too great a force can cause injury, especially in  $\text{♀♀}$ . Venomous snakes should be placed in a plastic tube for safe handling (2). The snakes *Calabaria*, *Sanzinia* and *Acrantophis* and the lizards *Heloderma* are more difficult to sex than most reptiles and with these genera (and indeed in any doubtful cases), the injec-

tion method (3) should also be attempted.

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#### PRODUCT MENTIONED IN THE TEXT

**Reptile Sexing Probe:** manufactured by Furmont Reptile Hooks, 1815 Bahama Dr Seabrook, Texas 77586, USA.

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## Snakebite in zoos

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Snakebite is a hazard in any zoo that keeps poisonous snakes in its collection. Snakebites in zoos represent a special situation; several circumstances work in the victim's favour and perhaps a few work against him. The identity of the snake is almost always known. The equipment and medication for first aid are immediately available, and competent assistance is usually at hand. Proper antivenins are in stock or can be obtained promptly. If arrangements for treatment of zoo personnel have already been made with a nearby hospital the victim will probably be seen by a doctor who has at least given some thought to the treatment of snakebite. The victim is likely to be a healthy adult with a realistic attitude toward the danger in which he finds himself; he is less likely to give way to irrational fear or panic than the average person. There is, of course, the chance that he may regard the injury too lightly – perhaps even to the point of not seeking treatment.

There are some negative factors as well. The chances are that the snake that inflicted the bite is a large member of its species, for these are the specimens that zoos prefer to exhibit. In the wild, many bites are given by small individuals sim-

ply because they make up a majority in most natural snake populations. Curators take justifiable pride in acquiring and exhibiting rarities but what if the rarity bites its keeper? What symptoms do you expect when a man is bitten by a Gold's tree cobra, an Ikaheka snake or a Macmahon's viper? And what do you do for him?

Experience indicates that snakebites in zoos are likely to occur when keepers rush their cleaning, feeding and other chores and so neglect elementary safety precautions. Adequate personnel and allocation of time can be helpful. Persons commonly engaged in dangerous activities often develop an 'it can't happen to me' attitude that can lead to extreme carelessness. The most heedless must sometimes be induced to seek other employment for their own protection and that of others. The general layout of the reptile house, construction of cages and routines for handling venomous snakes can be designed or modified in such a way that the chances of attendants being bitten are minimized (1).

According to a survey conducted by the American Association of Zoological Parks and Aquariums in 1965, 42 snakebites occurred in 76 institutions exhibit-