Tips of seal flippers of appropriately immature animals are not easy to find, but an examination has been made of the fore flippers of as many phocid seals as possible. Only in the Leopard Seal (*Hydrurga leptonyx*) are there comparable epiphyses, although they are relatively not so big as in the Ross Seal.

On the terminal phalanges of the hind flippers of *Ommatophoca* (Fig. 1b) similar large square or rectangular epiphyses are present, that on the first digit being most spectacular with a length of 33 mm, the rest of the phalanx being 44 mm long. Large but less peculiar epiphyses are present in *Hydrurga*. There is some evidence that there are unusually large epiphyses on the terminal phalanx of the first digit of the hind flippers in such northern phocids as *Pagophilus* and *Cystophora*.

The elongation of these epiphyses, particularly that of the terminal phalanx of the first digit, which involves elongation of the digit as a whole, probably has some bearing on the animal's superior powers of aquatic locomotion. It may be significant that the fore flipper of *Ommatophoca*, the most specialized phocid, exhibits a character usually found (and to a much lesser degree of development) only in the hind flippers of less-adapted phocids. Some other characters, to be reported later, have a similar distribution.

JUDITH E. KING

Department of Zoology,
British Museum (Natural History),
Cromwell Road, London, S.W.7.

Early European Description of an Australian Mammal

In the account of an early description of an Australian mammal given by Dr. Wilma George¹ several suggestions were made as to the possible identity of this animal. No definite conclusion was reached and *Thylogale stigmatica*, *Hypsiprymnodon moschatus* and *Uromys carolinaculatus* were all offered as possible species which might satisfy the original description.

One particular group of marsupials which does not appear to have been considered in this problem is the genus *Phalanger* containing the cuscuses. Seven features were tabulated which were derived from the original description by Prado and then each species was scored for closeness of fit. A maximum of 5 points out of a possible 7 was scored by both *Thylogale stigmatica* and *Hypsiprymnodon moschatus*.

If similar scoring is applied to species of *Phalanger*, a better result is obtained.

Cuscuses are widely distributed in south-east New Guinea², they have a strong musky odour from which the name castor could be derived and they have a naked scaly prehensile tail. They feed mainly on leaves and are eaten extensively by the native people of New Guinea³. The descriptions of the testicles given by Prado which "hung from a nerve like a thin cord" would fit the cuscuses as well as any other marsupial. This feature alone in the description would seem likely to preclude any group of Australian mammals other than the marsupials, which are characterized by a typically pendulous scrotum. The description of "an animal which is in the shape of a dog, smaller than a greyhound" could be distorted to fit many small or medium sized mammals and would be as equally applicable to a cuscus as to any of the other species listed.

Even if this latter feature were scored zero, some species of *Phalanger* would still rate 6 points out of a possible 7.

Some features in the description are of greater diagnostic value than the remainder and could be given greater emphasis without risk of subjective distortion. These include the scaly tail, pendulous testes and distribution in south-east New Guinea. Only the genus *Phalanger* possesses all these characteristics since *Thylogale* does not

have a scaly tail and *Hypsiprymnodon* is confined to Queensland.

It is therefore probable that the animal described by Prado in 1606 was actually a cuscus, *Phalanger* sp.

B. J. MARLOW

The Australian Museum,
Sydney.

¹ George, W., *Nature*, 202, 1130 (1964).

² Tate, G. H. H., "The Marsupial Genus *Phalanger*", *Amer. Mus. Novitates*, 1283, 1 (1945).

³ Waterhouse, G. R., *Natural History of the Mammalia*, 1, Marsupiala, 277 (Baillière, London, 1940).

DR. WILMA GEORGE has recently brought to scientific notice what is apparently the earliest known description of an Australo-Papuan mammal and discusses its possible identity¹. Briefly, in 1606 Don Diego de Prado y Tovar sailed along the southern coast of New Guinea and through Torres Strait, and in his *Relación* described how on the south-eastern coast of New Guinea his party killed an animal "in the shape of a dog smaller than a greyhound, with a bare and scaly tail like that of the snake, and his testicles hang from a nerve like a thin cord; they say that it was a castor, we ate it and it was like venison, its stomach was full of ginger leaves and for that reason we ate it".

George gives equal weight to all the characters listed by Prado and tests the results against a series of Australian and Papuan mammals, the information about them being obtained from standard works. She concludes that the description best fits the musky rat-kangaroo (*Hypsiprymnodon*), but that a wallaby (*Thylogale*) and a rat (*Uromys*) are strong contenders. None of the works listed, however, has the kind of detail necessary for a good analysis of Prado's description. As George remarks there is no reason to doubt the accuracy of the description, and for that and other reasons I cannot appreciate her view that weighting of the various points would lead to difficulties.

A key character is the description of the testes, which George interprets to mean merely 'prominent' or 'evident'. Anyone familiar with living marsupials must be struck by the aptness of Prado's lay description of the suspended pre-penile scrotum of most male marsupials. This is particularly obvious in the Macropodidae. In adult kangaroos of the larger species, the large roughly spherical scrotum hangs several inches below the body by a thin scrotal pedicle. Movement of the scrotum is apparently under conscious control and it is drawn up against the body during such activities as hopping, fighting, and copulating. In death it hangs freely in the extended position. I believe that this part of Prado's description diagnoses his animal as marsupial and removes any of the eutherian rats, such as *Uromys*, from consideration.

Large marsupials with scaly tails which could have been encountered by Prado on the south-eastern coast of New Guinea are two wallabies, *Dorcopsis veterum* (= *muelleri*) and *Thylogale brunii*, and one or two species of cuscuses (genus *Phalanger*). The last-named genus was not considered by George. The distal inch or so of the tail of *Dorcopsis* is scaly and bare of hair but the rest of the tail is well furred. In *Thylogale brunii* and other species of that genus the greater part of the tail is scaly with sparse hair on the sides and somewhat more hair on the upper and lower surfaces. In some specimens of *Thylogale* the hair on the tail is very sparse indeed, perhaps depending on stage of moult or age. The scaly nature and sparseness of hair on the tail of *Thylogale brunii* is well shown by Alston's illustration of this species (under the name of *Macropus lugens*)². The tails of *Phalanger* spp. are naked for two-thirds or more of their length on the ventral surface and approximately half on the dorsal surface and there are large scales on a considerable part of the ventral surface.