

# Regional Size Variation and Sexual Dimorphism of the Leopard

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There have been numerous verbal and literature references to the small size of montane-dwelling leopards, in particular those animals that range the folded mountain belt of Cape Province, South Africa.

Smithers (1975) listed 13 subspecies of leopard for Africa with only one occurring in Southern Africa *Panthera pardus shortridgei* Rosevear (1974) stated that the case for splitting leopard into valid, definable races remained unproven. In spite of this he recognized open country leopard as opposed to forest types of West Africa, the latter apparently a smaller race than the former.

In Southern Africa many hunters assert that the woodland leopard is smaller and darker when compared with its more open-country counterpart. Until adequate material is available regionally it will be difficult to judge the validity of these arguments, but size would seem to have a strong correlation with food type and availability. Leopards range widely and there must be interbreeding at the periphery of these associations. So we suggest that in the Southern African (and probably others) situation, size is a function of the environment.

In order to test this geographical phenomenon we made use of cranial measurements (total skull length x zygomatic width) of 30 male and 14 female leopard from the Cape folded mountains; 10 males and five females from Namibia; 12 males and nine females from East Africa; and five males and six females from central India. Available samples from other areas were too small for comparative purposes.

From the accompanying figure, regional size variation of

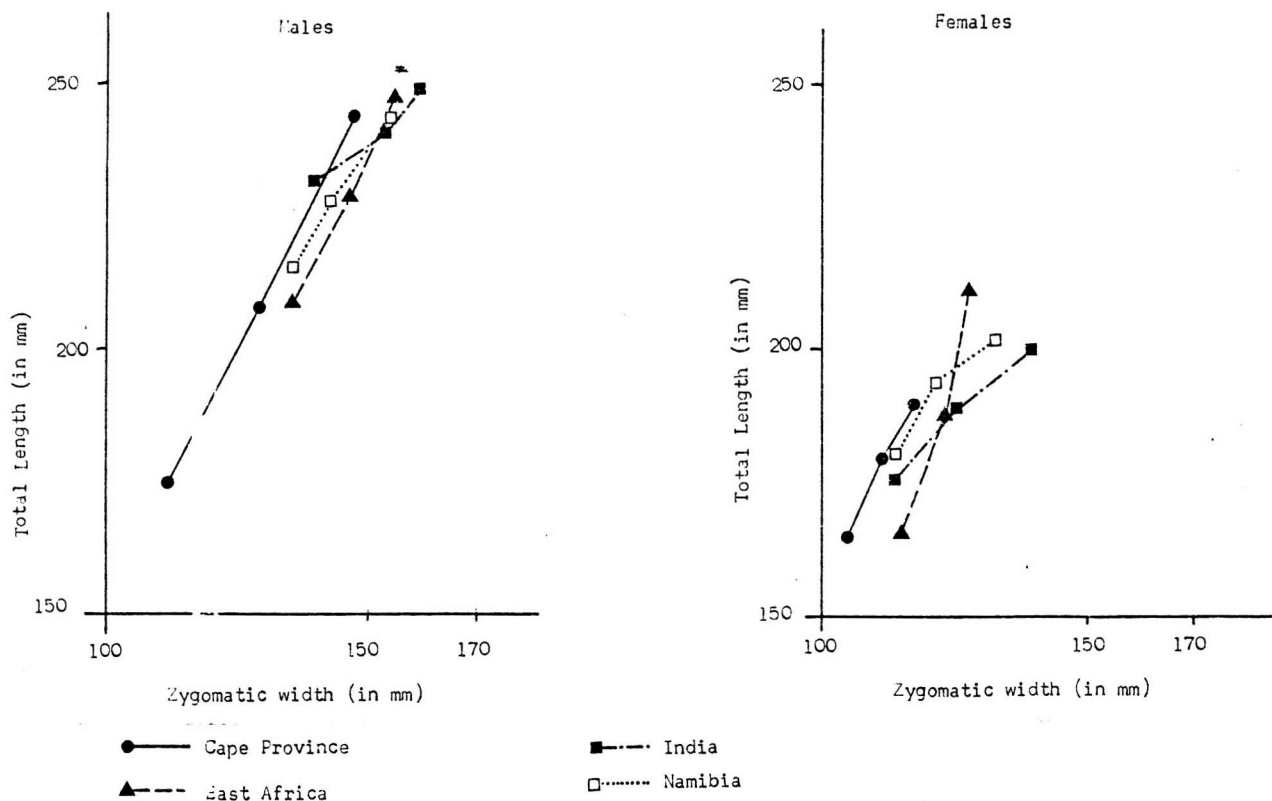
leopard can be seen, as well as distinct sexual dimorphism, as indicated by the two principal skull measurements.

It is of interest to note that the mean for male leopards from the Cape falls well below the means for the other three regions, but with the maximum being similar to the others. For the Cape females, the mean difference is not so pronounced, but nonetheless smaller than for those animals from other regions.

## References

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- Use was also made of a number of unpublished sources. All of the cranial material from Cape animals is lodged in the Kaffrarian Museum, King William's Town.

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Comparison of male and female leopards from four different regions, clearly indicating sexual dimorphism based on total length of skull x zygomatic width, and regional variation. The three points shown for each region are mean, minimum and maximum values.