AERSG initiates new analysis of Elephant data

The report on the ivory trade in 1979 by Ian Parker was significant for its demonstration of the potential of ivory trade statistics for detecting trends in the status of elephants in Africa. Parker himself, however, pointed out the tentative nature of many of his conclusions and recommended follow-up studies to examine and expand his results.

Parker's recommendations have since been implemented in a variety of ways, such as by increased monitoring of trade in ivory, but only limited work has been done to elaborate the relationship between tusk statistics and the status of the elephant populations from which the tusks come. A new two-stage project is directed at just this area of research.

The first stage will examine the extent to which information about individual elephants can be derived from individual tusk measurements. The most important kinds of information for our purpose are sex and age which as Parker has amply demonstrated can be discerned from tusk measurements with some accuracy.

The Animal Research and Conservation Center computer facility in Nairobi will extend his study examining a variety of mathematical models to describe the relationships between sex and age and such tusk measurements as length, circumference, and weight. These models will be checked both statistically and biologically. Measures of statistical confidence will be used to determine the reliability with which generalizations can be made. In addition, general theoretical problems in the use of this type of model will be examined using the latest biological information from the field, in particular, from studies of known-age elephants.

The second stage will use the models developed for individual elephants as a basis for deriving information about elephant populations from tusk populations. Parker demonstrated that tusks can be used to determine some aspects of mortality patterns and it should be possible through various types of mathematical modelling to make assumptions as to what sort of population structure and mortality patterns acting together would be needed to produce the ivory in international trade.

The models of population structure should provide information on the health of the elephant population and the sustainability of the ivory trade in its present form. The results will doubtless be tentative, but it should be possible to make predictions which would help determine their practical validity. The models will be designed to reduce the complexity and to improve the reliability of conclusions reached from long-term ivory trade monitoring, while using that information as a constant check against their validity.

Tom Pilgram

North Yemen bans the importation of Rhino horn

From 1972 to 1978 the merchants in North Yemen imported about 40% of all the rhinoceros horn which came onto the world market. This horn was used for the making of dagger handles and some of the chippings were re-exported to Eastern Asia where they were used for medicine.

In an attempt to stop this trade, the African Wildlife Foundation under President Robert Smith initiated in 1982 a public mail campaign to the Prime Minister of North Yemen. Hundreds of Americans signed cards complaining about the importation of rhino horn into North Yemen. Within a few months the North Yemen government acted and in August 1982 banned all imports of rhino horn. Mr. Robert Smith and the African Wildlife Foundation are to be congratulated for their efforts.

Although making the importation of rhino horn into North Yemen illegal is an important conservation measure, steps must now be implemented to make sure that the law is enforced. The passing of legislation is one thing, the enforcement of it is another.

If North Yemen does indeed stop this trade, then the demand will be sharply reduced for rhino horn, taking off some of the pressure on the wild rhino populations in Africa.

Esmond Bradley Martin

Figure 7. Most North Yemeni men wear daggers everyday, some of which have handles made of rhino horn