

human brains occasionally develop a sulcus which is easily mistaken for the simian sulcus.

In the study of individual skeletons there are considerable difficulties due to our inability to eliminate variations due to differences in habits, diet, etc. Even the determination of sex offers difficulties when only skulls are available for study.

PHYSICAL ANTHROPOLOGY OF RACE

There is considerable overlap in racial characters even among primary races owing to the 'reticulate evolution' of Man. Many of the racial characters now adopted are themselves susceptible to environmental influences, which may obscure fundamental similarities. Blood groups are more reliable, but there seems to be no correlation between them and body types. The determination of racial characters of pre-historic peoples from a study of their skeletons is again of uncertain value. The Grimaldi skulls of Europe, for example, were regarded as Negroid, but Elliot Smith was of opinion that they were merely variants of the Mediterranean race. R. A. Fisher has

also shown the greater advantages of the study of the living over that of skeletal material.

THE FUTURE OF PHYSICAL ANTHROPOLOGY

With the handicaps inherent in the material, and with the existing technique, it is doubtful if sensational progress will be made in physical anthropology. But biometry still holds the key to the understanding of the composition of geographical groups of Man. Physical anthropology will have to become more of a field science and study Man as he is today, attacking such problems as the relation of nutrition to physique, effects on physical types of change of environment, the phenomenon of twinning, the relation of bodily types to mental traits, etc. Human genetics will have to be studied by the anthropological method. Various formulae have been devised for assessing the nutritional status, but anthropologists will have to determine what the normal physical type is for a given population.

A. AIYAPPAN

THE COCONUT PALM BEETLE

This familiar coconut pest commonly known as the rhinoceros beetle is one of the most discouraging and distracting features in the cultivation of the coconut tree in many parts of South India where it is more responsible than any other single factor for causing a serious set-back to the young growing tree, leading in the case of neglect to a complete destruction of the tree. It is probably one of the pests regarding which requests for suitable remedies are received most frequently. A considerable amount of study both in respect of its life-history and of remedial methods has been made but it is nevertheless a fact that many lacunae exist in the former while as regards remedies no satisfactory ones are yet known. On both of these aspects and especially in connection with the life-history of the pest a careful study extending over a long period has been made, the results of which are now published (M. C. Cherian and K. P. Anantanarayanan, *Indian J. Agric. Sci.*, 9, Pt. III). The duration of the egg period, the larval and pupal periods are all subject to con-

siderable variation and are found to be 9 to 17 days, 100 to 180 days, and 24 to 62 days respectively, the period from egg to adult varying from 129 to 232 days. The adults themselves were found to live for periods up to a maximum of 293 days. It is also brought out that the beetles are active throughout the year although during certain months of the year, viz. March and April, the pest is most active; elsewhere too this is the same experience, the peak of the damage being soon after the first rains begin. Work on remedial methods which of course are more important from a practical view-point has not led to any helpful recommendations; a trial has been made of various baits, none of which was found of any use. We have noted however that a mash made up of a little groundnut oil cake with cow-dung proved remarkably effective as a bait. We find no reference to the spraying with Bordeaux Mixture which was tried as a good repellent in certain Mysore trials. Various other devices which are probably mere 'nostrums' but which may have something in

them also deserve to be tested out especially in a thorough going investigation of this kind. The growing alongside coconut plants of plantains and of *Euphorbia tirucalli*, the use of common salt, nux vomica leaves and fruit, the oil cakes of some species of *Hydnocarpus* are mentioned as repellents of this

category—inquiries may bring out more—and these deserve a trial. The familiar skewering out with an iron rod with a barbed end apparently holds the field, in the trials reported.

A. K. Y.

ANNOUNCEMENT

SCIENTIFIC MEETING ON TROPICAL DISEASE RESEARCH

The World Health Organization—Tropical Diseases Research and Rockefeller Foundation First Annual Scientific Meeting will be held at ASTRA Research Centre India from 3 to 8 December 1989. Scientists from all over the world who are receiving research support from WHO/RF will be attending this meeting. Although this is a closed meeting, arrangements have been made for closed-circuit television viewing. Those who are interested in

coming to this meeting may write or contact:

WHO/RF Meeting Committee
ASTRA Research Centre India
18th Cross, Malleswaram
Bangalore 560 003

Phone: 340373 Telex: 845 2011 ARCI IN
Fax: 340 449.
