

In devising appropriate objective methods of measuring the gain of hearing aids, resonance of the meatus under these conditions thus requires consideration, since they are the conditions of normal hearing with which aided hearing has to be compared.

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¹ NATURE, 143, 118 (1939).

Post-Partum Œstrus in a Bat

ALL the insectivorous Chiroptera in which details of the breeding cycle are known are monœstrous, producing a single offspring, or sometimes twins, once a year.

In *Nycteris luteola* Thos. there is a post-partum œstrus, so that at least two pregnancies occur in quick succession. Out of thirteen adult female specimens collected at Mto-wa-mbo, Tanganyika Territory, in December 1935, nine were in full lactation, and at the same time pregnant with fetuses up to 12 mm. in length. Two others were lactating and in œstrus; and two young adults were not lactating but pregnant for the first time.

The ovaries of these bats contained no corpora lutea, which must disappear early in pregnancy. They contained many healthy ripening follicles, and presented an appearance widely different from the heavily atretic ovaries usually found in pregnant monœstrous bats. They gave every indication of being prepared for a further œstrous cycle during the forthcoming lactation period.

The genital tracts of all the adult males, collected at the same time and place, were in full functional activity. These facts point to the possibility of this species being polyœstrous.

Detailed observations on the anatomy and physiological state of the genital tract in *Nycteris luteola* and other species of African bats will be published elsewhere in due course.

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Colchicine-induced Polyploidy in Nature

IN a recent communication¹, Prof. D. Kostoff describes experiments in which he has produced a polyploid condition in seedlings grown in close association with disintegrating pieces of the corns of *Colchicum autumnale*. He further suggests that the sites of colonies of this species might prove fruitful sources of polyploids.

On examining several such sites, I have failed to find anything of an abnormal nature, in respect of external morphological characters, either in gramineous or other species. One colony was known to be at least twenty years old, and was associated with a mixed flora.

It is well known that the influence of colchicine is to delay germination and to cause stunting of growth with a delayed establishment of a root system. In the case of mustard, every seedling was affected after soaking the seed for four days in a 1:2,000

aqueous solution of amorphous colchicine. Control plants reached a height of 50 mm. after 20 days growth, whilst the treated seedlings averaged only 15 mm. in height.

In the case of rye-grass (*Lolium perenne*), colchicine appears to affect a smaller proportion of seedlings. The difference in the rate of growth and resulting height of unaffected and control seedlings, as compared with affected ones, is even more pronounced. The average height of the former individuals was 65 mm. after 28 days growth, while that of affected plants was 7 mm. with a complete absence of root growth.

It is obvious that in a state of Nature, the polyploid individuals would be suppressed in competition with normal seedlings or established vegetation. This would be quite sufficient to explain their absence in the field.

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¹ NATURE, 143, 287 (1939).

Open-Air Sites of the Upper Palæolithic Period in Kent and North Lincolnshire

FROM time to time I have recorded in the columns of NATURE the discovery of artefacts and pottery fragments in lateral valleys of the Lower Thames. The geological conditions under which these finds were made caused me to attribute to them an Upper Palæolithic date; a precedent for which is to be found in the discoveries and claims made by Mr. J. Reid Moir, as a result of investigations conducted by him at Ipswich during the past twenty years.

The prolonged and extensive excavations I have since been enabled to make in the Lower Thames Valley and elsewhere compel me unreservedly to withdraw all claims I have made for the alleged discovery of pottery of Upper Palæolithic age, and to regard the pottery in question as belonging to Neolithic - Bronze Age times.

The comprehensive series of deposits, twenty-five feet thick, exposed in the Ebbsfleet Channel, near Northfleet, has established the fact that during Middle and Late Pleistocene times south-east England was peopled by Levalloisian races and that the characteristic Upper Palæolithic cultures of the Continental caves are unrepresented.

Some years ago I directed attention to the apparent close relationship of the Ebbsfleet Channel beds to the estuarine deposits underlying the Brown or Hesse Boulder Clay at Kirmington and Barton-on-Humber, in north Lincolnshire¹.

Preliminary investigations at these two sites have resulted in the discovery of two distinctive types of artefacts, namely, Clactonian and Creswellian². The former are similar to the Clactonian examples found in the Levalloisian horizons of the Ebbsfleet Channel: whilst the latter are the counterpart of the Continental cave types mentioned above, and so conform to the Upper Palæolithic series of implements found by Mr. A. L. Armstrong in the Derbyshire caves.

Thus it would appear that at Kirmington and at Barton-on-Humber there is evidence of the overlapping of these two fundamentally different implement-making techniques.