

Table 1. CHANGES OF THE ADRENAL IN THYMECTOMIZED GUINEA PIGS

| Condition            | Weight (parts per 1,000 of the body-weight) | Ascorbic acid (mgm. in 100 gm. of fresh organ) | Cholesterol (gm. per 100 gm. of fresh organ) |
|----------------------|---------------------------------------------|------------------------------------------------|----------------------------------------------|
| Normals I            | 0.43                                        | 156.0                                          | 3.02                                         |
| " II                 | 0.49                                        | 162.0                                          | 4.21                                         |
| " III                | 0.50                                        | 151.6                                          | 3.74                                         |
| Thymectomized since: |                                             |                                                |                                              |
| 6 days               | 0.49                                        | 140.0                                          | 3.04                                         |
| 12 "                 | 0.65                                        | 75.2                                           | 3.72                                         |
| 18 "                 | 0.68                                        | 68.0                                           | 2.79                                         |
| 24 "                 | 0.63                                        | 67.0                                           | 2.65                                         |
| 38 "                 | 0.60                                        | 105.8                                          | 2.15                                         |
| 58 "                 | 0.57                                        | 142.3                                          | 3.27                                         |

in the left-hand glands, cholesterol in the right-hand glands. The methods used were those of Comsa and Leroux (*loc. cit.*). Similar determinations were made for three groups of three normal male guinea pigs of the same age as controls. The experiments were carried out during the summer. All the animals came from the same strain, which has been inbred for the past twelve years.

Following the operation, the animals behaved as described previously<sup>2</sup>. They were in a poor condition and did not improve until about the fortieth day. Fourteen animals died between the fifteenth and the thirty-fifth day after the operation. They could not be examined.

As can be seen from Table 1, thymectomy resulted in significant changes of the adrenal. The relative weight was increased; the ascorbic acid and cholesterol content was decreased. These changes are greatest between twelve days and twenty-four days after the operation, and they decrease gradually afterwards. They provide evidence of a transitory stimulation of the adrenal cortex following thymectomy, which is in good agreement with the observation of the resting condition of the gland in hyperthymized guinea pigs.

I acknowledge the technical assistance of Ch. Becker.

J. COMSA

Department of Experimental Medicine,  
Medical School,  
University of the Saar.  
Jan. 25.

<sup>1</sup> Comsa, J., and Leroux, H., *J. Endocrinol.*, **13**, 7 (1955).

<sup>2</sup> Comsa, J., *C.R. Soc. Biol.*, **127**, 903 (1938).

### An Aberrant Form of *Anopheles gambiae* Giles from Southern Nigeria

No morphological character is known by which the adults of *A. gambiae gambiae* and *A. gambiae melas* can be separated with certainty, but it was thought that there were constant differences between the structure of their respective eggs<sup>1</sup> and also between the larval pectens<sup>2</sup>. *A. gambiae melas* is a purely coastal species the larvæ of which are relatively resistant to salt water, whereas those of *A. gambiae gambiae* are not<sup>3</sup>.

Blood-fed adults of *A. gambiae* were collected at Abeokuta and Ibadan, which are inland at 60 miles and 100 miles distance respectively from the coast of Nigeria. Out of a total of 251 egg batches laid by the females, 68 batches (27.1 per cent) were found to have the characteristic morphology of *A. gambiae melas*. No intermediate forms were found.

Testing these eggs for resistance to salinity was carried out on fourth-instar larvæ. The larvæ were placed direct from fresh water into saline solution at various concentrations of sodium chloride for a period of 24 hr. The results have shown that none of these larvæ was resistant to salinity exceeding 12.5 gm. of sodium chloride per litre, and that physiologically all these larvæ were *A. gambiae gambiae*. Measurements of the atypical eggs proved, however, that their average size was greater than the respective size of either *A. gambiae gambiae* or *A. gambiae melas*.

The average length of 10 eggs in each of the 161 batches produced by *A. gambiae gambiae* was  $0.483 \pm 0.014$  mm.; that of 10 eggs in each of 27 batches produced by *A. gambiae melas* (collected in Lagos) was  $0.472 \pm 0.006$  mm.; that of 10 eggs in each of 47 batches of the 'aberrant form' of *A. gambiae gambiae* was  $0.515 \pm 0.016$  mm.

The pecten of the 'aberrant form' of *A. gambiae* is of the *A. gambiae gambiae* type, since it has four to five long non-spiculated teeth well differentiated from the more numerous shorter teeth, which bear small spicules.

A colony of the 'aberrant form' of *A. gambiae* was established, and it was found that the eggs of the  $F_1$  generation remained true to the pattern presented by the original batch of eggs from which the parents arose. Crossings with *A. gambiae gambiae* and *A. gambiae melas* are proceeding and their results will be published later.

The results of this investigation indicate that in Nigeria, *A. gambiae* eggs with a typical external morphology of *A. gambiae melas* may be found far away from the coast and may be non-resistant to salinity test. Thus the separation of the two species by the egg character only is unreliable, at least in some areas of West Africa.

L. J. BRUCE-CHWATT  
M. W. SERVICE

Federal Malaria Service,  
Yaba, Lagos, Nigeria.

<sup>1</sup> Thomson, R. C. M., *Bull. Ent. Res.*, **36**, 185 (1945).

<sup>2</sup> Ribbands, C. R., *Ann. Trop. Med. Par.*, **38**, 87 (1944).

<sup>3</sup> Ribbands, C. R., *Ann. Trop. Med. Par.*, **38**, 85 (1944).

### Hæmoglobin in Branchiura

HÆMOGLOBIN dissolved in the blood plasma has been recorded in all the major divisions of entomostacran Crustacea except one<sup>1</sup>. This respiratory blood pigment has been found in all species of Phyllopoda examined, in most Cladocera, in a few Ostracoda, in some harpacticid and parasitic Copepoda and in some Rhizocephala, but not hitherto in the Branchiura. This is a small group of so-called fish lice, which includes the well-known *Argulus foliaceus* (L.). I have been unable to detect hæmoglobin in the pale blood of species of this genus, but *Dolops ranarum* (Stuhlmann) has red blood and I find that it shows strong absorption bands of oxyhæmoglobin. The animals were found parasitizing the silurid fish *Bagrus docmac* (Forskål) in Lake Victoria, and I was able to examine them, thanks to the staff of the East African Fisheries Research Laboratory at Jinja, Uganda.

H. MUNRO FOX

Queen Mary College,  
University of London.  
March 26.

<sup>1</sup> Fox, H. M., *Nature*, **179**, 148 (1957).