3. *Tropidonotus piscator*, Schneid.
   Dejoo, North Lakhimpur, Upper Assam.
4. *Tropidonotus himalayanus*, Gthr.
   Dejoo, North Lakhimpur, Upper Assam.
5. *Tropidonotus stolatus*, L.
   Dejoo, North Lakhimpur, Upper Assam.
6. *Tropidonotus chrysargus*, Schleg.
   Silonibari, North Lakhimpur, Upper Assam.
7. *Pseudoxenodon macrops*, Blyth.
   Maikola valley, East Nepal.
8. *Blythia reticulata*, Blyth.
   Dejoo, North Lakhimpur, Upper Assam, and base of Dafla hills.
9. *Lycodon jara*, Shaw.
   Dejoo, North Lakhimpur, Upper Assam.
10. *Coluber radiatus*, Schleg.
    Dejoo, North Lakhimpur, Upper Assam.
11. *Simotes albocinctus*, Cantor.
    Dejoo and base of Dafla hills.
    The specimens belong to the typical form.
12. *Dipsadomorphus hexagonotus*, Blyth.
    North Lakhimpur; base of Dafla hills.
13. *Psammodynastes pulverulentus*, Boie.
    North Lakhimpur; base of Dafla hills.
14. *Dryophis prasinus*, Boie.
    Dejoo, North Lakhimpur, Upper Assam.
15. *Naia tripudians*, Merr.
    North Lakhimpur; base of Dafla hills.
    A young specimen referable to the var. *fasciata*, Gray, with 25 scales across hood, 21 across body; V. 196; C. 62.
16. *Lachesis gramineus* (Shaw).
    North Lakhimpur; base of Dafla hills.

G. A. BOULENGER.

CRUSTACEA.

NOTES ON PLANKTON FROM THE CHILKA LAKE.—The townettings on which the following notes are based were taken by Dr. Annandale and Mr. Kemp on the surface of the Chilka Lake off Barkul in the Puri district of Orissa in July, 1913.

Of three samples that I have examined, the first contained only a number of immature Mysids, and a small quantity of detritus. The remaining two samples, however, contained a certain number of planktonic organisms.

The main bulk of the plankton in sample II consists of vegetable debris and Copepoda, while the third sample contained numerous Algae.

By far the commonest Diatom present was a species of *Nitzschia*: in addition there were present several different species of *Chaetoceras*, among which I was able to recognize *G. diversum*, *C. peruvianum* and *C. lorenzianum*. A single species of *Rhizosolenia*, closely allied to if not identical with *R. setigera*, was present, but was extremely rare, only a very few individuals being found, while a few examples of species of *Ditonula* and *Melosira* were also seen, and a few filaments of a species of both *Nostoe* and *Oscillaria*.

Dinoflagellates were present in considerable numbers, and of these by far the commonest was *Ceratium fusus*, Ehr. Dr. Annandale tells me that at the time the collections were made numerous minute phosphorescent points were seen, and these were no doubt due to these individuals. Among other forms were at least two species of Peridinian's that I have been unable to identify.

The Copepoda obtained belong to three species.

1. *Paracalanus crassirostris*, Dahl.

Paracalanus crassirostris, Dahl. "Die Copepoden Fauna des unteren Amazonas". Berichte der Naturforschenden Gesellschaft zu Freiburg. Zool. Abhand. n. ser. Vol. 8, p. 21, pl. i, figs. 27–28. Freiburg and Leipzig, 1894.

? *Paracalanus pygmaeus*, T. Scott. "Entomostraca from the Gulf of Guinea". Trans. Linn. Soc. Zoology, series 2, Vol. VI, p. 27, pl. i, figs. 1–8. London, 1893.

Paracalanus crassirostris, Thompson and A. Scott. "The Copepoda". Ceylon Pearl Oyster Fisheries and Marine Biology, pt. I, p. 243. Royal Society, London, 1903.

Numerous examples of this species (both ♂ and ♀)were present in the collections. The form of the rostrum, the general proportions of the body and abdomen and the structure of the 5th pair of legs in the female exactly correspond with the figures given by Dahl, and I have no doubt that the present specimens belong to his species.

Dahl only obtained examples of the female and as the male differs in several details, I have given below a few notes on the main points of its structure.

♂.- Total length 0·39 mm.

Proportions of cephalothorax and abdomen 3 : 1.

The head and 1st thoracic segment are fused completely and the 4th and 5th thoracic segments are partially so, but the line of separation can in most cases be detected towards the ventral side.

The abdomen consists of the usual five segments having with the furcal rami the following proportions :—6 : 7 : 5 : 4 : 7 : 7.

The furcal rami are not quite twice as long as broad and have convex inner borders.

The 1st antennae, as in other members of the genus, have a large basal portion consisting of several fused segments, and reach as far as the posterior thoracic margin.

The 2nd antennae also show the nipple-like termination of the exopodite as in all adult males of both *Paracalanus* and *Acrocalanus*.

As regards the swimming legs, these closely resemble those of *Paracalanus parvus*: in the 2nd–4th pairs of legs, both exopod 2 and 3 have serrated margins, and the distal as well as the proximal part of the border of the 3rd exopod bears teeth.

The 5th pair of legs is asymmetrical, but the most striking feature in this species is the remarkable length of the right leg; this consists of the usual number of segments, but when folded back it reaches beyond the tip of the furca by the last two segments, whereas in the other males of the genera, it only reaches to the last abdominal segment.

T. Scott has described a form *P. pygmaeus* from the Gulf of Guinea; according to Giesbrecht this is the same as *P. crassirostris*, Dahl; but his description of the female, which was the only sex he obtained, while closely resembling the present specimens as regards the general shape of the body, yet differs very materially in the arrangement of the spines on the swimming feet: according to him, his examples possessed spines on both the last joints of the 2nd–4th swimming feet: in the present specimens, spinulation was completely absent in exopod 2 in all the swimming feet of the ♀, nor in this sex was there any trace of spines on the distal part of the margin in exopod 3. I am inclined, therefore, to believe, that these two forms are not the same.

Thompson and Scott have recorded *P. crassirostris* from the coastal waters of Ceylon. I have recently examined a large collection from the Ceylon Pearl Banks, but have seen no examples of this species.

It is interesting to note that Dahl's specimens were obtained in brackish water having a salinity ranging from 11·8 to 12·8.

2. *Acartia centrura*, Giesbrecht.

This species seems to be a common inhabitant of Indian waters. The examples in the present collection are interesting in that they are slightly smaller than the normal, measuring ♂ 1·028: ♀ 1·13.

In both sexes the general structure of the body and appendages is as in normal examples, but the spines on the posterior thoracic margin, and the distal border of the abdominal segments are much smaller than is the case in specimens obtained in the open sea. It would seem probable that these are a "depauperized" form.

3. *Oithona* sp.

Not only were numerous adults of all species present, but also a large number of immature forms and nauplii larvae, thus showing that the three species were all actively breeding in the lake.

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END OF VOL. IX.