FAUNA OF THE CHILKA LAKE

CIRRIPEDIA.

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There is not much to be said about the barnacles of the Chilka Lake, for only two species, both of which are common and widely distributed, are represented, namely *Dichelaspis cor* and *Balanus amphitrite*. Both were found abundantly in the outer channel of the lake. The only species observed in the main area was *B. amphitrite*, of which a few individuals were noticed on rocks and the bottom of boats.

Dichelaspis cor probably breeds in the outer channel and this may also be the case with *Balanus amphitrite*, but larvae of the latter almost certainly enter annually from the sea. Both species were found in the adult state in the fresh- as well as the salt-water season.

No Rhizocephala or other true parasitic forms were found.

Suborder PEDUNCULATA.

Family LEPADIDAE.

In addition to the species discussed below, another member of this family (the common *Lepas anserifera*, Linn.) is represented by several specimens that were taken in a dead or moribund condition from a stick floating in the outer channel near Manikpatna in March, 1914 This species can hardly be included in the fauna of the lake on evidence so slight, for the stick had probably drifted in from the sea.

Dichelaspis cor, Aurivillius.

1909. *Dichelaspis cor*, Annandale, *Mem. Ind. Mus.* II, p. 119, pl. vi, figs. 7-10.

This species is common on the gills of the crab *Scylla serrata* in the outer channel at all times of the year. In the main area we failed to find it, though the crab was common. Some of our specimens are of very large size, the capitulum being 3 mm. in breadth and the peduncle 8 mm. long. All of them belong to Gruvel's var. A. *D. cor* has been found in the gill-chamber of *Panulirus* in the sea but is particularly common in that of *Scylla serrata* in estuarine tracts. Its distribution extends from East Africa to Sumatra.

The larvae are able to hatch from the egg and to live, at any rate for some hours, in pure fresh water. This I have seen in the case of specimens from the gills of crabs purchased in the Calcutta market. The adults which produced the eggs lived for at least twelve hours out of water.

Suborder OPERCULATA.

Family BALANIDAE.

Balanus amphitrite, Darwin.

1854. *Balanus amphitrite*, Darwin, *Mon. Cirripedia, Balanidae*, p. 240, pl. v, figs. 2*a*-2*c*.

All our specimens from the Chilka Lake belong to Darwin's var. *communis*, but they vary considerably in shape, some being much more depressed than others. The largest have a diameter of about 15 mm.

The species is abundant on oyster-shells, fish-traps and wooden posts in the outer channel of the Chilka Lake and occurs singly or in small numbers on the shells of *Potamides* and other Gastropods and Lamellibranchs. In the main area a few solitary living individuals of small size were observed on rocks, mostly towards the end of the dry season, while a relatively large number of dead shells were observed in the same situation. On one occasion in the season of low salinity the bottom of a boat in Rambha Bay was found to be covered with small living individuals, but it had possibly arrived recently from the outer division of the lake-system. In the outer channel the specific gravity of the water in which apparently healthy barnacles were observed varied from 1·000 to 1·0265. I have seen them in brackish or almost fresh water in the Gangetic delta, near Madras and in Cochin on the west coast of India. The species is common in all the warmer seas and is carried into those of the northern temperate zone on the bottom of ships. In the Bay of Bengal it is perhaps the commonest of the littoral Operculata.

Larval *Balani*, probably of this species, were abundant in our tow-nettings taken in the outer channel in March. This is also the case in collections made in the same month in the shallower parts of the Bay of Bengal.

B. amphitrite is remarkable for the rapidity of its growth and for its power of resisting unfavourable circumstances. Professor Herdman[1] found specimens of a diameter of 8 mm. on baskets that had been in the sea off Ceylon for 21 days. I have little doubt that the species breeds regularly in the outer channel of the Chilka Lake and that stray larvae are carried into the main area and occasionally find it possible to settle down and undergo their metamorphosis, without being able to survive it for more than a few months.

The vicissitudes undergone annually by barnacles attached to oyster-shells in the outer channel are sufficient proof of the strong vitality of the species, but even more remarkable evidence is afforded by the fate of those individuals that attach themselves to prawn-traps in the neighbourhood of Satpara. The traps are placed in the lake in the evening and, remaining in the water all night, are removed at dawn. Throughout the heat of the day they lie on the shore, fully exposed to the sun's rays. Nevertheless, the barnacles on them survive. We saw many instances of this, more particularly in September, 1913, and in the same month of 1914. Specimens from such situations are small (not exceeding 9 mm. in diameter) and dull in colour, but otherwise apparently normal.

[1] *Ceylon Pearl Fisheries* V, p. 147 (1906). The dates were April 17th to May 9th.