ON PARARTEMIA ZIETZIANA SAYCE (CRUSTACEA PHYLLOPODA)

by

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On his journey to Australia, Prof. Dr. L. G. M. Baas Becking collected several specimens of *Parartemia zietziana,* which he kindly handed over to me for further examination. As it is a very little known species, the few details given below may add to our somewhat scanty knowledge.

Sayce described this species in 1903, creating a new genus to receive it, and his material consisted of about 20 ♂♂ and only 1 ♀ (Sayce, 1903, p. 231 sqq.) The locality is given as "brackish-water swamp near Lake Alexandrina, South Australia".

The only further reference I have been able to find was when Calman (1913) identified a few Phyllopoda "not unlike *Artemia*" as this species. They were collected from salt-works near Geelong, Victoria, and were said to die at a concentration of 7°—8° B. (s.g. ± 1.055).

The material of Baas Becking consists of the following:

"Port Price 1" (26 III '36), 69 ♂♂, 39 ♀♀, 77 juv.
"Port Price 2" (26 III '36), 35 ♂♂, 35 ♀♀, great many juv.
Lake Voigt (26 III '36), 37 ♂♂, 4 ♀♀, 2 juv.

"Port Price" is a salt-work, which derives its water from the sea. It is situated on the East coast of Yorke Peninsula, near the top of Bay St. Vincent.

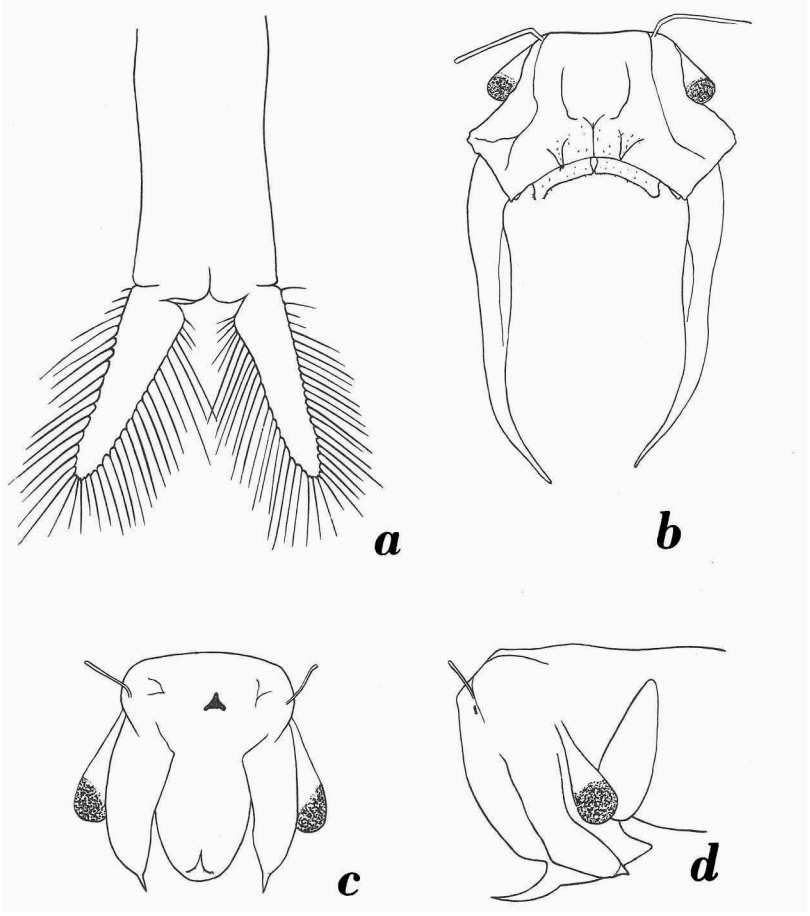
P.P. 1: Gipsum pond, concentration about 23 % total salt. Temp. 27° C.
P.P. 2: Pickle pond, concentration 16 % total salt.

Lake Voigt lies near the South end of the East coast of Yorke, about 6 km inland. The specimens were taken from a ditch (where there was great abundance of *Dunaliella viridis* and *D. salina*). Concentration about 5 % total salt, temp. 16° C.

Apparently *Parartemia* can stand much higher concentrations of salt than was thought at first.

Although it is quite clear that these specimens all belong to the species described by Sayce there are a few differences which seem worth mentioning:

In all specimens the uropoda are distinctly separated from the last



Parartemia zietziana Sayce. *a*, part of the last abdominal segment, with the uropoda; *b*, head of ♂ from the front; *c*, head of ♀ from the front; *d*, head of ♀ from the left.

segment, the ends being less rounded and more conical in shape than Sayce described them. The setae are not feathered (fig. a).

Male: The ridge projecting from the basal joint of the antennae, and the two spiniform processes behind it, are not smooth, but covered with a number of short hairs or spines. The second joint of the antennae is longer and more slender than would appear from the figure drawn by Sayce (fig. b).

The slightly crumpled appearence of the surface is, I think, due to shrinkage in the formaline.

Female: The great difference with the original description lies in the front of the cephalon of the female which has a sharp, curved spine projecting frontwards (figs. c, d).

Although this could be considered as a specific difference, the fact that Sayce only saw one female is, I think, enough reason to suppose he made a mistake, specially as the male is clearly identical.

There is a remarkable difference in size between the specimens from the two localities, those from Lake Voigt being nearly twice the size of those from Port Price.

	♂♂	♀♀
Lake Voigt	18—19 mm	13 mm
Port Price 1	11—12 mm	7—9 mm
Port Price 2	10—12 mm	7—8 mm

Two small males from Lake Voigt, of the same size as the full grown ones from Port Price, are not yet fully developed, nor their antennae, nor their copulatory organs.

Whether this is a case of polyploidy as it frequently occurs in *Artemia salina* (L.) or only a consequence of the different circumstances I am not able to decide.

They also show a difference in colour, but that is undoubtedly due to difference in food.

Specimens reared from Australian eggs in Leiden showed no difference from those collected in Australia, but they died before they reached maturity.

LITERATURE

CALMAN, W. T., 1913. Red water and brine shrimps. Nature, vol. 91, p. 505.

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