NOTES AND NEWS

CYCLOPS BICUSPIDATUS THOMASII S. FORBES (COPEPODA, CYCLOPOIDA) IN THE CHESAPEAKE BAY: AN ISOLATED AND UNUSUAL OCCURRENCE

BY

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During March 1976, 68 specimens (67 adults and one copepodite) of Cyclops bicuspidatus thomasii S. Forbes, 1882, were collected in Chesapeake Bay waters near Calvert Cliffs, Calvert County, southern Maryland. This subspecies was found at a sampling station located eight miles north of Cove Point, Maryland in approximately thirty feet of water (38°25'07"N 76°25'08"W). Specimens were collected during all phases of a 24-hour monthly sampling period.

Cyclops bicuspidatus thomasii belongs in the subspecies group of Cyclops bicuspidatus Claus, 1857, though Bunting (1973), supported Reed (1963), who suggested that Cyclops thomasi be considered a separate species distinct from the C. bicuspidatus subspecific group. Members of the C. bicuspidatus-group are C. b. bicuspidatus Claus, 1857, Cyclops bicuspidatus navus Herrick, 1882, and Cyclops bicuspidatus lubbocki Brady, 1868.

C. bicuspidatus and C. b. lubbocki, both abundant in Europe, are considered euryhaline, while C. b. thomasi and C. b. navus are thought to be strictly limnetic (Gurney, 1933).

C. b. thomasi differs structurally from others in the C. bicuspidatus group in possessing a slimmer body form (fig. 1) and in having a longer outer terminal spine on the end segment of the 4th endopod of the swimming leg (Yeatman, 1944).

Cyclops bicuspidatus thomasi has apparently not previously been recorded from the Chesapeake Bay, the Patuxent River (Herman et al., 1968; Heinle, 1972) or the Potomac River (Sage et al., 1976). During the preparation of this paper, however, a few specimens of C. b. thomasi were collected by colleagues of the A.N.S.P. staff from the Patuxent River, whose estuary is the closest to the Calvert Cliffs area.

These findings represent an extension of this subspecies' ecologic range. Traditionally, C. b. thomasi has been regarded as a limnetic animal (Gurney, 1933; Yeatman, 1944; Bunting, 1973), but at the time and place this material was obtained, the salinity ranged from 5.70/00 through 11.0/00. This species is not
a stenohaline limnetic organism as generally believed. Although its uppermost salinity tolerance has not been recorded, *C. b. thomasii* is euryhaline.

Information concerning conspecific subspecies supports this. *Cyclops bicuspidatus lubbocki* has been reported from waters in which salinities reached 240/00 (Gurney, 1933). Dr. H. C. Yeatman (personal communication) recently found *C. b. bicuspidatus* in brackish waters of Otago, New Zealand. He specified no salinity level, but stated that characteristically marine species were found in the same water samples, and added that the Otago freshwater collections also included *C. b. bicuspidatus*.

The existing data strongly suggest that the entire *Cyclops bicuspidatus* complex exhibits a euryhaline and rather low-salinity ecologic range. Therefore, it should not necessarily be considered unusual to observe one or more of these subspecies, specifically *C. b. thomasii*, in the Chesapeake Bay during periods when salinities are lowest (e.g., the Nearctic spring).

For most of the year in the bay near Calvert Cliffs the calanoid copepod *Acartia tonsa* Dana, and other characteristically marine species are the dominant zooplankters (Heinle, 1966; Herman et al., 1968). However, during March 1976, the euryhaline calanoid *Eurytemora affinis* (Poppe) became the most abundant copepod in the vicinity of Calvert Cliffs. This concurs with Heinle’s (1972) finding. As salinity increased during later months, typically marine organisms regained dominance.