Tintinnids from the Suez Canal

by

NAIM M. DOWIDAR

Oceanography Department, Faculty of Sciences, Alexandria (Egypt)

No particular records of tintinnids from the Suez Canal seem to have been made since it was opened in 1869. The fact that the Suez Canal has been free from traffic since 1967, provides a unique opportunity for studying the plankton of the canal. The disturbance caused by the traffic in this narrow channel may cause the life of many plankton organisms to be difficult, and probably, almost impossible for such sensitive animals as tintinnids.

In this paper the occurrence and distribution of tintinnids in the Suez Canal, and their ecological affinities, are given. The results of this investigation are based on the examination of several fine-net plankton hauls sampled during summer 1969 (temperature 27° C to 29° C) and winter 1970 (temperature 14° C to 16° C), from the following regions : Port Said, at the Northern end of the canal (salinity 38-39 °/₀₀); Suez Bay at the Southern entrance of the canal (salinity *Ca* 42 °/₀₀). and from the Great Bitter Lake (salinity 44-46 °/₀₀).

The tintinnid population recorded from the Suez Canal belong to the neritic warm water fauna; Oceanic forms are not liable to inhabit the shallow waters of the canal (average depth about 14 m). The composition of the population was fairly diversified. A total of 60 species were identified from the different regions sampled in the canal in both summer and winter seasons. All of them are new records to the area. Of the species recorded 55 % (33 species) were represented in both Port Said and Suez Bay, 32 % (19 species) were recorded only from the Suez Bay, and 13 % (8 species) were recorded only from Port Said. The tintinnid population of the Suez Bay belong mostly to that of the Red Sea. In this review, HALIM [1969] listed some 108 tintinnid species from various parts of the Red Sea. The actual number is, however, probably smaller, as some of the species listed were not carefully checked as regards synonyms [*cf.* BALECH, 1959]. In the present study, 52 species forming 87 % of the total tintinnid population of the Canal, were recorded from the Suez Bay. Some of them are, so far, not known from the Red Sea : *Tintinnopsis aperta, Tps.dadayi, Tps. lindeni, Tps. gracilis, Steenosemella ventricosa, Metacylis annulifera, M. mediterranea, Favella adriatica, F. ehrenbergii, Undella hyalina, Proplectella claparedei* and *Eutintinnus tubiformis*. Nearly all of them are known to have warm water affinities and are widely distributed in the Indo-Pacific region [KOFOID & CAMPBELL 1929]. To these may be added a number of species that are not known from the Northern Red Sea (being recorded in the Red Sea South of Lat. 18° N; HALIM, 1969) *Tintinnopsis butschlii, Tps. campanula, Tps. compressa, Tps. cylindrica, Tps. lobiancoi, Tps. mortensenii, Tps. radix, Tps. tocantinensis, Tps. tubulosa, Condonellopsis schabi, Metacylis jorgensenii, Heliocostomella subulata, Favella campenula, F. panamensis, Rhabdonella elegans* and *Salpingella acuminata;* all of them are widely distributed in the Gulf of Suez down to Al-Ghardaqua [DOWIDAR, *unpublished data*].

The tintinnid population recorded in Port Said area comprise 41 species constituting 68 % of the total tintinnids of the canal, most of them belong to the Mediterranean fauna [JORGENSEN, 1924]; some may be regarded as new to the Mediterranean Sea, particularly the Eastern basin : *Tintinnopsis aperta, Tps. dadayi, Tps. gracilis, Tps. mortensenii, Tps. tocantinensis, Codonelopsis bulbulosus* and *Metacylis annulifera*. All of them are known to have tropical and/or subtropical affinities and their occurrence in Port Said may justify their successful transport from the Red Sea though the Suez Canal.

The tintinnid population of the Bitter Lake was strikingly poor, composed of only 16 species,

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none of them was common. The paucity of tintinnids in the Bitter Lake may be due to its extraordinary high salinity (46 °/oo) which may be repellent to many of the neritic tintinnids inhabiting both ends of the canal. Besides, the existence of a large tintinnid population in the canal proper, prior to 1967, was probably always threatened by the continuous disturbance brought up by the traffic in the canal and the processes of canal maintenance.

Most of the species recorded occur both in winter and summer seasons, in one or more of the regions sampled. Apart from the Bitter Lake, the summer and winter populations of both Port Said and Suez Bay contain almost the same number of species, i.e. 32 and 34 species respectively. In the Bitter Lake, most of the species recorded (70 %) occur only in winter. As the current in the canal is northward during this season, it may be concluded that : a) — The tintinnid population of the Bitter Lake is mostly derived from the Red Sea; b) — Winter is the most favourable season for erythrean plankton organisms to be transported further northward in the canal, not only because of the higher velocity of the northward current, but probably also due to the low winter temperature. Nortward immigration (and/or transport) of Red Sea organisms during summer, is not so successful, probably because of the high salinity of the Bitter Lake which, together with the high summer temperature (29-30° C), may be lethal to many of these organisms.

References

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