

Diamysis from the brackish river Nahal Taninim in Israel, and
its associated fauna

by

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Abstract

A population belonging to the Diamysis bahirensis group is reported from the oligohaline stream of Nahal Taninim on the Mediterranean shore of Israel. The environment is briefly described and the significance of the finding is discussed.

Résumé

Une population appartenant à Diamysis bahirensis "sensu lato" et est rapporté de la petite rivière oligohaline, Nahal Taninim dans la plaine côtière méditerranéenne d'Israël. Le milieu du mysid est brièvement décrit et l'importance de la trouvaille est discutée.

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Nahal Taninim, the Crocodile River, in Israel is a small coastal stream which catches the waters of some springs of the southern Carmel ridge and several abundant swampy springs of the Mediterranean coastal plain, before emptying into the Mediterranean, north of Ma'agan Mikhael.

Because of the fact that some of the springs are saline, the waters of the Taninim stream are oligohaline (0.9 - 1.7 ‰).

The swampy lowland springs represent the last remnants of the once extensive Kebara swamps which occupied a considerable stretch of the Mediterranean coast between Hadera and 'Atlit. The origin of the swamps is to be sought in the high sea levels of the Flandrian transgression (8,000-10,000 years BP). Subsequently the swamps, probably with considerably diluted salinities, persisted behind the ridge of the recent coastal dunes. In Roman times the area was drained by means of artificial outflows pierced through the dunes. In the subsequent periods of neglect the swamps became reestablished and persisted till 1922-1936 when all the area was again drained. The present springs and surrounding swamps of Nahal Taninim are a Nature Reserve area. The most famous inhabitant of the old Kebara swamps was the African crocodile which survived there till the beginning of the 20th century, this being the northernmost locality of its recent range.

The aquatic fauna of Nahal Taninim is an oligohaline association, characterized by euryhaline molluscs, among them Hydrobiidae, but first of all by its oligohaline Crustacea such as Onychocamptus mohammed, Sphaeroma hookeri, Cyathura carinata, Corophium spp. and Palaemon elegans.

We are reporting here the presence of a Mysidacea in Nahal Taninim, which belongs to the Diamysis bahirensis group. The mysids are very small (around 5 mm) and frequent in different springs and streamlets of salinities ranging between 1.6 to 2.2 ‰. Both sexes, ovigerous females and embryos were found in abundance.

The taxonomic position of the Diamysis from Nahal Taninim will be discussed together with its detailed morphological description. However, here it is of interest to note that Diamysis was found here at unusually low salinities. Only Diamysis pengoi from the Black Sea estuaries and D. pusillus from the Caspian waters are reported from salinities lower than 3 ‰. The circummediterranean Diamysis bahirensis bahirensis has been reported till now only from considerably higher salinities (Genovese, 1956). However, Spandl (1922) reported one specimen from the completely fresh Lake Scutari. Genovese (op. cit.) considers this specimen to belong to a D. bahirensis lacustris. Holmquist (1955) discusses these freshwater forms. D. bahirensis was reported by Tattersall (1927) from the now completely polluted stream of Qishon near Haifa. However, besides the mere mentioning there is no description of the specimens from there. Since the work of Bacescu (1954) who considered Diamysis to be a ponto-caspic genus, several species have been described from North America, the West Indies and Madagascar. It is now evident that the genus has a circumtropical distribution and inhabits waters of transitional salinities much in the way in which the group Mysis oculata inhabits brackish waters of the northern hemisphere.

The finding of a new Diamysis in waters of very low oligohaline values in the Nahal Taninim poses again the problem of speciation versus ecotypic adaptation in the Diamysis bahirensis group.