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Checklist of the Mediterranean Fishes of Israel

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Abstract

A checklist of the Mediterranean marine ichthyofauna of Israel is presented. A total of 402 species belonging to 130 families, 33 orders and 3 classes are listed. The checklist includes all synonyms for each species and citations of all known publications, listed in chronological order, concerning occurrence in Israeli waters of each species. Citations are coded to indicate the focus of each publication.

Key words: marine fishes, checklist, Israel, Mediterranean

Introduction

The ichthyofauna of the Mediterranean Sea includes 664 species of fish (Quignard and Tomasini, 2000), of which close to 75% are of Atlantic origin (Fredj and Maurin, 1987). Cosmopolitan fish species comprise 20%. Both Atlanto-Mediterranean and cosmopolitan fish species are considered indigenous and presumably entered the Mediterranean after the opening of the straits of Gibraltar during the Pleocene period (ca. 5 millions years ago). As a result of the hydrological conditions in the Mediterranean, namely a hot climate in the southeastern region that creates a gradient of rising temperatures and salinity from west to east (Miller, 1983), there are only 350 indigenous species in the Levant (Golani, 1996).

The opening of the Suez Canal in 1869 enabled the invasion of more than 300 species from the Red Sea into the Mediterranean (Galil, 2000), among which are 59 fish species (Golani, 2002a). Golani (1998a) showed that the rate of invasion was initially moderate but gradually accelerating in the last few decades. The distribution of Lessepsian migrants in the Mediterranean caused an opposite gradient to that of the indigenous species, so that there are many Lessepsian migrant species in the Levant and their number lessens as one goes west. No Lessepsian species has yet been found in the western basin proper of the Mediterranean.

The marine fishes of the eastern Levant have been studied by several authors. For a historical account of these studies, see Golani (1996). The first general study of the Israeli marine ichthyofauna was by Ben-Tuvia (1953a), who later revised this list (Ben-Tuvia, 1971a). The last comprehensive study of the ichthyofauna of this region (Golani, 1996) included species from adjacent countries, such as Cyprus, southern Turkey and Egypt. Since the current study includes only those species in Israeli Mediterranean waters (including northern Sinai that was under Israeli control from 1967 until 1979) (Fig. 1), certain species that were included in Golani (1996) have been eliminated from this study (see Table 1).