Knowledge of the relationship between the length and weight of a fish species in a given geographic region is useful for at least four reasons:

A) For the estimation of standing-crop biomass when the length-frequency distribution is known (1,2).

B) Conversion of growth-in-length equations to growth-in-weight for the prediction of weight at age and use in stock assessment models (2).

C) For the calculation of condition indices (1,3).

D) For the life history and morphological compression of populations from different regions (1,4).

In this study we report on the weight-length relationships for 13 species from the south coast of Üskenderun Bay caught using longlines.

Sampling took place on the south coast of Üskenderun Bay (Fig. 1) from September to December 2000 with longlines of three hook sizes (14, 10 and 8), about 15,000 hooks, in depths from 12 to 65 m. Catches were immediately transported to the laboratory where total weights and lengths were recorded to the nearest gram and to 0.5 cm. All weights (g) and total lengths were fitted to length-weight equations, $W = ax^b$, by using least square methods with Statistica software. In the length-weight equation $a$ and $b$ are the intercept and slope (= exponent) of the length-weight curve, respectively (5).

The estimated parameters of the weight-length relationship, along with sample descriptive statistics (number of fish, mean length, standard error of mean length, minimum and maximum length), the coefficient of determination ($R^2$) and type of growth (based on confidence limits of $b$) are given in the Table. The sample size ranged from 12.10 cm for Symphodus tinca to 67.50 cm for Epinephelus aeneus. The $R^2$ values ranged from 0.85 for Diplodus sargus to 0.997 for Symphodus tinca and all regressions were highly significant (P < 0.001). The values of $b$ ranged from 2.391 for Epinephelus costae to 3.675 for Symphodus tinca and the median value of $b$ was 2.714 (Fig. 2). Five species (Sargocenron rubrum, Dentex gibbosus, Diplodus sargus, ...
Diplodus vulgaris and Pagrus coeruleostictus showed isometric growth, seven species (Saurida undosquamis, Epinephelus aeneus, Dentex dentex, Sparus aurata, Oblada melanura, Pomadasys incisus and Epinephelus costae) showed negative allometric growth and only one species (Symphodus tinca) showed positive allometric growth.

For this species, the data were not representative for all months. Thus, these estimated parameters should be considered to represent only a particular season or time.
of year. According to Bagenal and Tesch (6) the parameters of $b$ generally do not vary significantly throughout the year, unlike parameter $a$ which may vary seasonally, daily and between habitats.

Due to the selective properties of the equipment, used in this study, such as longline, our samples do not include juveniles or small individuals for any of the species. As pointed out by Petrakis and Stergiou (1), the use of these relationships should be limited to the sizes used to estimate the parameters. It is also noted it was particularly dangerous to extrapolate to juvenile or immature stages (2,6).

References