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Stable carbon and nitrogen isotope ratios of demersal fish species were studied in two areas of the continental shelf in the Gulf of Mexico in the summer of 2004. Samples were obtained from the shrimp bycatch while boarding the commercial fleets in the Veracruz and Campeche fishing area. Stable carbon and nitrogen isotope ratios were determined in a total of 26 demersal fish species. High variations in the isotopic composition were observed, with a general trend towards depleted carbon values in the Veracruz area and enriched nitrogen values in the Campeche area. Detritus seems to constitute the main food sources for primary fish consumers in the continental shelf of Campeche, while seagrass, epiphytes and macroalgae seem to support the structure of the Veracruz trophic web. A benthic-pelagic coupling seems to occur, with some fish of higher trophic levels feeding both on benthic and pelagic prey items. No linear relation was observed between the nitrogen isotope ratios and the trophic level as suggested in the literature. We discussed that fish species can obtain a new muscle isotopic signature relatively fast in response to changes in the isotopic composition of their diet and/or diet shifts regulated by the particular hidrodynamic process in both of the continental shelves.

Palabras clave: trophic level, Veracruz continental shelf, Campeche sound, isotopic signatures