

COMMUNICATION

**General characteristics of the diet of *Trachinotus paitensis*
(Teleostei: Carangidae)
from San Ignacio Lagoon, Baja California Sur, Mexico**

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Abstract: The food habits of *Trachinotus paitensis*, in San Ignacio Lagoon B.C.S., Mexico, were investigated. We observed that *T. paitensis* is carnivorous, feeding mainly on benthic invertebrates (the gastropods *Anachis* spp., *Bittium* spp., and the crustacean larvae). We concluded that *T. paitensis* is an opportunist predator that impacts mainly on epibenthic invertebrates.

Key words: *Trachinotus paitensis*, Carangidae, diet, San Ignacio Lagoon, Mexico.

Trachinotus paitensis is one of 35 species of the family Carangidae distributed in the Center-Eastern Pacific, from California to Chile (Allen and Robertson 1994, Smith 1995). This carangid is a dominant species on the ictiofauna of San Ignacio Lagoon (Cruz-Escalona 1998).

Although this zone is part of one of the largest protected natural areas of Mexico ("El Vizcaino"), few studies have been realized for the knowledge of its ictiofauna (Segura-Zarsoza *et al.* 1997, de la Cruz-Agüero and Cota-Gómez 1998, Cruz-Escalona *et al.* 2000a, 2000b). Food habits of *T. paitensis* have not been studied.

The objective of this study is to describe the food habits of *T. paitensis* in San Ignacio Lagoon, B.C.S., Mexico.

Two samplings were realized (May and August 1992) in San Ignacio Lagoon, B.C.S., Mexico (26°38'-27°00' N and 113°06'-113°18' W). The fish were collected with a gill net 140 m long, 3 m wide, and mesh size of 9 cm. The nets were set at sunset (18:00 hours)

and recovered at sunrise (06:00 hours). The organisms were injected into the abdominal cavity with a solution of 10% formaldehyde, neutralized with sodium borate.

A total of 82 stomachs were examined and prey items were recorded quantitatively, by number (N), weight in grams (W), frequency of occurrence (FO) (Hyslop 1980), and identified to the minimum possible taxonomic level. The Index of Relative Importance (IRI) of Pinkas *et al.* (1971) was used to determine the importance of each prey type.

Eleven food components were identified, however benthic invertebrates dominated the diet. Four dietary items accounted for the 80% of the total diet of *T. paitensis*. By number, the most important dietary items were *Bittium* spp. (45.9%), mysis of *Penaeus* spp. (14.8%), portunid megalops (11.7%), *Anachis* spp. (9.2%) and amphipods (7.1%). Gastropod remains also were important. The rest of food components had low values (<3%).

The most important prey by weight were, *Anachis* spp. (36.1%), gastropod remains

(30.2%) and portunid megalops (9%). The gastropod remains (60%), the portunid megalops (29%), *Anachis* spp. (18%) and *Bittium* spp. predominated in percentages for frequency of occurrence.

Also, according to IRI, the gastropod remains (45.7%), *Anachis* spp. (17.4%), *Bittium* spp. (14.2%) and the portunid megalops (11.8%) were the most important food components.

Although we found eleven food components within the trophic spectrum of *T. paitensis*, only four preys dominates their diet (*Anachis* spp., *Bittium* spp., and crustacean larvae), this dietary items accounted for the 80% of the total diet. Carangids have been divided according to food habits in three groups: carnivorous, represented by the genera *Caranx* and *Seriola*; planktophagos, such as *Decapterus* and *Selar*; and mollusk consumers, such as the species of the genera *Trachinotus*. These categories are not absolute, since many species are trophic opportunists and changed their habits during their growth.

There is not other studies about the food habits of *T. paitensis*, however Finucane (1969) and DeLancey (1989) found that amphipods, pelecypods, and crustaceans (*Sphaeroma* spp. and *Emerita* spp.) were the primary prey items in *T. carolinus*. Monteiro and Rodriguez (1990) and Daneman (1993) also indicated that polychaetes are important in the diet of other carangids.

Ontogenetic changes in food habits of carangids have been reported by Modde and Ross (1983); also DeLancey (1989) found diurnal feeding differences in Florida pompano. In summary, the differences between our results and those of the other studies suggest that it is impossible to make any generalization about feeding habits of carangids.

RESUMEN

Fueron investigados los hábitos alimenticios de *Trachinotus paitensis*, en la laguna San Ignacio B.C.S., México. Se observó que *T. paitensis* es carnívoro, y se alimenta principalmente de invertebrados bénticos (los gastrópodos

Anachis spp., *Bittium* spp., y larvas de crustáceos). En conclusión esta especie es un depredador oportunista que tiene un impacto principalmente sobre las poblaciones de invertebrados epibénticos.

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