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FEEDING HABITS OF COMMON SNOOK, *CENTROPOMUS UNDECIMALIS*, IN CHARLOTTE HARBOR, FLORIDA

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Abstract We examined the feeding habits, ontogenetic and seasonal diet variations, and predator size-prey size relationships of common snook, *Centropomus undecimalis*, in Charlotte Harbor, Florida, through stomach contents analysis. A total of 694 stomachs were extracted from common snook (300–882 mm standard length [SL]) during a 24-month period (March 2000–February 2002); 432 stomachs contained prey items. At least 37 prey taxa were identified, including 19 that had not been previously reported. Fishes made up 71% of the prey by number and 90% by weight. Three prey items made up almost 50% of the diet numerically—*Lagodon rhomboides*, *Anchoa* spp., and *Farfantepenaeus duorarum*. Seven species made up more than 60% of the diet by weight—*L. rhomboides*, *Cynoscion nebulosus*, *Mugil gyrans*, *Bairdiella chrysoura*, *Synodus foetens*, *Orthopristis chrysoptera*, and *Mugil cephalus*. An ontogenetic shift in prey preference was identified in adult common snook around 550 mm SL. Smaller individuals (300–549 mm SL) ate more *F. duorarum*, palaemonid shrimp, cyprinodontids, and *Eucinostomus* spp. than did larger individuals (550–882 mm SL), which ate more *S. foetens*, ariids, and sciaenids. Significant, positive relationships between predator size and prey size were observed between common snook and *L. rhomboides*, *O. chrysoptera*, portunid crabs, and all fish prey combined. Prey size selection contributed to some seasonal differences in their diet. For example, in winter when *L. rhomboides* are abundant in the estuary and small in size (mean = 23 mm SL), common snook ate few individuals, but they consumed many during summer when larger *L. rhomboides* (mean = 51 mm SL) were available. In summary, common snook are opportunistic predators that feed on a wide variety of prey and exploit specific-sized prey that are abundant in their environment.

BENTHIC NUTRIENT FLUX IN A SMALL ESTUARY IN NORTHWESTERN FLORIDA (USA)

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ABSTRACT Benthic nutrient fluxes of ammonium (NH_4^+), nitrite/nitrate ($\text{NO}_2^- + \text{NO}_3^-$), phosphate (PO_4^{3-}), and dissolved silica (DSi) were measured in Escambia Bay, an estuary within the larger Pensacola Bay system of northwestern Florida (USA). Our study occurred during a severe drought which reduced riverine inputs to Escambia Bay. Laboratory incubations of field-collected cores were conducted on 8 dates between June and October 2000 to estimate nutrient flux, and cores were collected from locations exhibiting a range of sediment organic matter content. NH_4^+ flux ranged from -48.1 to $110.4 \mu\text{mol m}^{-2} \text{h}^{-1}$, but the mean flux was $14.6 \mu\text{mol m}^{-2} \text{h}^{-1}$. Dissolved silica (DSi) fluxes were also variable (-109.3 to $145.3 \mu\text{mol m}^{-2} \text{h}^{-1}$), but the mean net flux ($9.3 \mu\text{mol m}^{-2} \text{h}^{-1}$) was from the sediment to the water column. Bay sediment fluxes for $\text{NO}_2^- + \text{NO}_3^-$ and PO_4^{3-} were less variable during this period (-7.93 to 28.73 and -1.74 to $3.29 \mu\text{mol m}^{-2} \text{h}^{-1}$ for $\text{NO}_2^- + \text{NO}_3^-$ and PO_4^{3-} , respectively). Low NH_4^+ fluxes were similar to published estimates from lagoonal Gulf of Mexico (GOM) estuaries, possibly due to the reduced freshwater input. Diminished regeneration of phosphate relative to inorganic nitrogen observed during the study period was consistent with previous research in Pensacola Bay suggesting phytoplankton phosphorus limitation. Finally, the estimated residence time of Escambia Bay and the mean turnover times for NH_4^+ and $\text{NO}_2^- + \text{NO}_3^-$ suggested that benthic flux significantly influenced nitrogen concentrations in overlying water.

BODY SIZE OF THE ENDOSYMBIOTIC PEA CRAB *TUMIDOTHERES MACULATUS*: LARGER HOSTS HOLD LARGER CRABS

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ABSTRACT The endosymbiotic pea crab, *Tumidotheres maculatus*, uses a broad range of host taxa, including several bivalve species, in the northern Gulf of Mexico. Because shelter size affects the size of other, free-living crab species, we hypothesized that pea crabs living in larger bivalve hosts should attain larger sizes. Crabs and hosts collected from 3 field sites in northern Florida show this trend. We examined crabs living in a large host, the pen shell *Atrina rigida*, and found them to be larger than pea crabs living in a small host, the bay scallop *Argopecten irradians*. Moreover, this trend was only apparent among female pea crabs, which are lifelong endosymbionts, but not among males, which are free-ranging and move among hosts. Our data support the broader conclusion that shelter size influences adult crab size in brachyuran crabs.

SHORT COMMUNICATIONS:

**COMPARISON OF FISH ASSEMBLAGES AND WATER QUALITY
IN TWO MARINAS IN THE BRITISH VIRGIN ISLANDS**

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**MARIONIA TEDI EV. MARCUS, 1983 (NUDIBRANCHIA,
TRITONIIDAE) IN THE GULF OF MEXICO: FIRST RECORD OF
AN OPISTHOBRANCH MOLLUSK FROM HYDROCARBON COLD
SEEPS**

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Los Angeles, California 90007 USA, E-mail avaldes@nhm.org*

**NEW RECORDS FOR *CUBANOCUMA GUTZUI* B{CESCU AND
MURADIAN, 1977 (CRUSTACEA: CUMACEA: NANNASTACIDAE)
FROM THE WESTERN ATLANTIC**

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Donald B. Cadien⁴**

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