
Seasonal Aggregations of Roper's Inshore Squid Associated with Coral Spawning

JENNIFER L DEBOSE and GABRIELLE A NEVITT

Center for Animal Behavior

Department of Neurobiology, Physiology & Behavior

University of California

Davis, California 95616 USA

Here we present documentation of seasonal aggregations of Roper's inshore squid, *Loligo roperi*, on the Flower Garden Banks in the northwest Gulf of Mexico. Previous reports of Roper's inshore squid are scarce, and we only first recorded sightings of them in the Gulf of Mexico in 2001. However, over the last three years (2001-2004), we have seen repeated aggregations of juvenile, sub-adult, and adult *L. roperi* over the Flower Garden Banks during the annual coral spawning event which occurs 7-10 days after the first full moon in August (and in September if there is a split-spawn). Analysis of the timing of these aggregations from the 2003 year suggests that the highest occurrence of squid shows a time-lag correlation with coral spawning, suggesting that squid may be attracted to the Flower Garden Banks by the coral spawning event. Moreover, detailed morphological examinations of adult individuals revealed that females had spermatophore packets protruding from the buccal lappet, as well as under the dorsal and ventral mantle. While the significance of this annual aggregation remains unclear, the presence of spermatophores on adult females suggests that the squid may be spawning during this time. Alternatively, squid may aggregate during the coral spawning event to capitalize on prolific food resources present during the coral spawning event. Either way, this aggregation of *L. roperi* is the first annual aggregation documented for this species, and it provides the opportunity to investigate the social and reproductive habits of this species in further detail.

KEY WORDS: Flower Gardens Bank, Gulf of Mexico, *Loligo roperi*

Las Agregaciones Estacionales del Costera Sepia de Roper a la Coral Desovando

Aquí presentamos la documentación de agregaciones estacionales de costera sepia de Roper, *Loligo roperi*, en los Flower Garden Banks en el noroeste Golfo de México. Los informes anteriores de *L. roperi* son escasos, y primero registramos solamente sightings de ellos en el Golfo de México en 2001. Sin embargo, durante los tres años pasados (2001-2004), hemos visto repetidas agregaciones del juvenil, secundario-adulto, y adulto *L. roperi* sobre el Flower Garden Banks durante anual coral acontecimiento de desovando que ocurre 7-10 días después de la primera Luna Llena en Agosto (y en Septiembre si hay una doble- o fractura-desovar). El análisis de la sincronización de estas agregaciones a partir de los 2003 año sugiere la ocurrencia más alta del sepia

demuestre una correlación con coral desovando, sugiriendo sepia pueden ser atraído a la Flower Garden Banks por el acontecimiento de desovando por los corales. Además, el examen detallado de la morfología de individuos adultos mostró las hembras haber spermatophores en la zona bucal y en la capa dorsal y ventral. Mientras que la significación de las agregaciones anuales de *L. roperi* permanece sin resolver, la presencia de spermatophores en hembras adultas sugiere que sepia pudo desovando durante este tiempo. Otra hipótesis sería que *L. roperi* agregan durante coral desovando para capitalizar en la prolífica abundancia de recursos alimenticios durante este periodo. En cualquier caso, la agregación de *L. roperi* descrita en esta comunicación es la primera agregación anual documentada en la especie y proporciona una inmejorable oportunidad para investigar los hábitos sociales y reproductivos de *L. roperi* con mayor detalle.

PALABRAS CLAVES: Flower Garden Banks, sepia de Roper, *Loligo roperi*, Golfo de Mexico

Flame Scallops: Ripe for Aquaculture?

ANGELA K. DUKEMAN¹, NORMAN J. BLAKE²,
and WILLIAM S. ARNOLD³

¹Florida Fish and Wildlife Conservation Commission, Stock Enhancement
Research Facility

14495 Harllee Road

Port Manatee, Florida 34221 USA

²University of South Florida

140 7th Avenue S

St. Petersburg, Florida 33701 USA

³Florida Fish and Wildlife Conservation Commission

100 8th Avenue SE

St. Petersburg, Florida 33701 USA

The reproductive cycle of the flame scallop, *Ctenoides scaber* (Born 1778), formerly *Lima scabra scabra*, from Boca Chica Key, FL was examined from January 1998 to September 1999 using qualitative and quantitative methods. Flame scallops have a high meat-to-shell ratio, are consumed throughout the Caribbean basin, and are commonly harvested for the marine aquarium industry, but difficulties in collecting them from their rocky and coralline habitats limit the increase of the commercial fishery. Economically they may be good candidates for aquaculture production.

In the wild, annual reproductive trends are related to seasonal changes in water temperature and food production. Gamete initiation occurs in winter with maximum ripeness observed in late summer. Synchronous spawning occurs in autumn with rapidly decreasing water temperatures and increased phytoplankton abundances. Partial spawning, observed in late spring, could