Abstracts

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Abstracts of papers from the American Microscopical Society will be published in 1985 in

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PRELIMINARY OBSERVATIONS ON THE SOCIAL BEHAVIOR OF THE CORTEZ DAMSELFISH (STEGASTES RECTIFRAENUM). G. Hoelzer. University of Arizona, Tucson.

Aspects of the social behavior of the cortez damselfish were studied at various sites in the Gulf of California. The reproductive behavior of this species indicates that sexual selection may be strong despite apparent sexual monomorphism. Males display in courting coloration to attract females swimming over the reef. They will also leave their territories to court a nearby female in her territory. Females don't respond to most courting advances and often reject a potential nest site following an inspection. Female choice thus influences the territorial behavior of males who must prepare a clean surface for the eggs and spend time and energy defending eggs as well as courting females. Females also feed twice as often as males during the breeding season. The stable territorial system may be strengthened by individual recognition due to the Dear-Enemy effect. This possibility was investigated by the presentation of neighbors and strangers in bottles. The initial results do not support the existence of individual recognition but indicate that high population density conditions may not meet the assumptions of the Dear-Enemy model.

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BEHAVIOR AND ENERGETICS OF CALLING IN SQUIRREL TREE FROGS. K. E. Brugger and K. N. Prestwich. University of Florida, Gainesville, and College of the Holy Cross, Worcester, MA.

In peninsular Florida, Hyla squirella, are explosive breeders. They form choruses during the summer months ca. 1 to 3 h after sunset and call for 2 to 5 hrs depending primarily on temperature and frequency and amount of rain. Males do not fight nor are encounter calls given. However, vocal interactions are common. Satellite males occur. Calling rates at 24 C range between 70 and 120 pulses per min. of 0.2 s duration. The calls have two frequency bands at 1 and 3 kHz (dominant). Sound fields are omnidirectional. At calling rates of 100/min., the upper limit of acoustic output is 0.7 J/ h. During calling, aerobic metabolism rises ca. 3.4 times over resting [5.03 (rest) to 17.1 (calling) J/h, mass = 2.33g]; anaerobic contributions are minimal. Energy does not appear to constrain calling by squirrel tree frogs.

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FORAGING BEHAVIOR AND HABITAT USE OF RED-SHOULDERED HAWKS IN SOUTHEASTERN MISSOURI. M.A. Parker and B.R. Tannenbaum. Univ. of Missouri, Columbia, and U.S.F.S., North Central Forest Expt. Sta., Columbia, MO.

Red-shouldered Hawks (RSH) were studied on Mingo National Wildlife Refuge in southeastern Missouri to determine the hawk's preferred foraging habitats. Two adult hawks were radio-tracked, each for about seven months. The birds were located at 20 min intervals, with more than 2000 locations obtained for both birds. During the breeding season, observations were conducted at the nests of the radio-marked birds while they were being tracked to determine the frequency of prey type and delivery and preferred foraging areas. Results show that the birds forage often in open habitats, such as wet brushy meadows and old fields. However, the birds also forage extensively in wooded areas, along pond and river ditch edges. Approximately 22% of telemetry observations in forest were within 25 m of aquatic edge. Fluctuating water levels and their effects on prey movements and populations appear to be the primary factor affecting RSH foraging behavior and habitat use on Mingo NWR. Alteration of forest-stream-pond habitats in states where the RSH is already threatened could affect breeding populations.

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THE EFFECT OF PREDATOR AVOIDANCE BY GHOST CRABS ON THE FORAGING SUCCESS OF BLACK HAWKS. J. Sherfy. University of California, Berkeley, CA 94720

For the painted ghost crab (Ocypode gaudichaudii) the sandy beach environment provides little protection from predators. These crabs dig burrows in the sand that are their primary refuge; however, these burrows can only be maintained near the high tide line where the sand is dry enough to permit excavation. At low tide crabs often leave the protection of these burrows to feed near the water's edge. On Llorona Beach, Costa Rica, the Black Hawk (Buteogallus anthracinus) is a major predator on crabs. Hunting by this hawk increases the risk of foraging by crabs near the water's edge and results in decreased utilization of this area. Crabs respond by feeding in aggregations and by fleeing to the burrow area. The effectiveness of these antipredator tactics are evaluated by comparing the foraging success of Black Hawks feeding in the burrow area and near the water's edge at low tide. The protection provided by schooling behavior near the water's edge is further explored by comparing the attack and success rates of Black Hawks for groups of crabs differing in number.