

**RICHARD J. NEVES**  
 The diet consisted of *Crotophaga*, *Chloroceryle*, *Ephedrus*, *Agelaius*, and *Diploca* (Charadriidae, Scolopacidae). The sex ratio was 1:1.26. Demographic ratios indicated that the population was stable.

(175)

The Effects of Exogenous Progesterone on Fetal and Placental Size and Weight in Two Species of *Peromyscus* (Rodentia)

JENNIFER S. PALMER AND WALLACE D. DAWSON  
*University of South Carolina*

The effects of exogenous progesterone on fetal and placental sizes and weights were compared in two species of *Peromyscus*. Hybrid crosses using a female *P. maniculatus* (M) are relatively productive with progeny and placentae smaller than those of the *inter se* crosses. Fertility and viability are greatly reduced in reciprocal hybrid crosses using *P. polionotus* (P) females. The F<sub>1</sub> progeny are generally resorbed about day 16, but those of the *inter se* crosses. Fetal resorption corresponds to a fall in progesterone levels on day 16 of gestation.

Since differing levels of progesterone may result in reduction of fertility between the species, the effects of medoxyprogesterone on pregnant, nonlactating females were ascertained. Female *Peromyscus* were injected with 1.0 mg medoxyprogesterone daily from the time of implantation and compared to uninjected control groups. Mean fetal and placental sizes and weights were recorded. Preliminary data suggest that differences in the progesterone levels are not a major factor in determining fetal and placental sizes in these rodents.

(176)

A Vegetational Inventory of Ossabaw Island, Georgia

FREDERICK P. PARIANI AND JOHN R. BOZEMAN  
*Coastal Resources Division*  
 TERRY D. HOLCOMB, NOEL Z. HOLCOMB AND JERRY L. MCCOLLUM  
*Game & Fish Division*  
*Georgia Department of Natural Resources*

Ossabaw Island, the third largest barrier island on the Georgia Coast, was acquired in 1978 by the State through gift and purchase. Ossabaw is to be managed as a State Heritage Preserve. The objectives of this study were to compile environmental data to be used in the development of a management plan for the island. Beginning in fall 1978 and continuing through 1979 the vascular flora was collected, identified and representative voucher specimens placed in a resident herbarium. More than 400 species of vascular plants have been identified by various collectors as occurring on the island. A vegetation map was compiled from field reconnaissance, sampling, aerial reconnaissance and the study of historic maps. Some of the plant community habitat maps were prepared. Percent cover of 50 quadrats

fresh water wetlands and road dams. *T. fowleri* specimens were collected in the upper Tennessee River.

(177)

A Survey of the Mussels (Unionidae) of the Upper-Tennessee River -- 1978

W. JEFFREY PARQUE  
*Tennessee Valley Authority*

This account of the mussels of the upper Tennessee River includes portions of the mainstream Tennessee River from Walden Gorge, west of Chattanooga, Tennessee, to Fort Loudon Dam, south of Knoxville, Tennessee. Collections were made downstream from each of the three mainstream dams (Fort Loudon, Watts Bar and Chickamauga) for varying distances depending on the quality of the substrate. Eighty-six stations were sampled which yielded a total of 21 extant species. Slight changes in faunal composition have occurred since Scruggs' survey (1960). Most notable of the changes are 1) invasion of typical post-impoundment species and 2) the occurrence of *Dromus dromus* (Lea, 1834), a Cumberlidian species not reported from the Tennessee River since Ortman (1918).

(178)

*Naegleria fowleri*: Detection of Soluble Antigens by Counter Immunoelectrophoresis (CEP)

BRENDA W. PARKER AND T. W. HOLBROOK  
*Medical University of South Carolina*

CEP was evaluated for detection of *N. fowleri* antigens which may be present in spinal fluid of infected human subjects. Rabbits were immunized by a series of intramuscular and intravenous injections of killed amebae from cultures. Antiserum was tested by CEP for detection of *N. fowleri* soluble antigens in chorionicantoic fluid (CAF) from infected chick embryos, medium taken for axenic cultivation of amebae and spinal fluid used at autopsy from a 1978 case of PAM. Soluble antigens were detected in embryo CAF and in medium from cultures but only when amebae were numerous prior to filtration. Concentration of amebae was 1.5 x 10<sup>10</sup>/ml in CAF and about 10<sup>8</sup>/ml in medium. No precipitin line was seen when antisera were reacted with human spinal fluid in which amebae were initially seen microscopically.

(179)

A New Centrarchid Host Record for the Paper Pond Shell, *Anodonta imbecilis* Say (Bivalvia: Unionidae)

ROBERT S. PARKER, MALCOLM F. VIDRINE AND COURTNEY T. HACKNEY  
*University of Southwestern Louisiana*

Four specimens of the longear sunfish (*Lepomis megalotis* (Raf.)) were artificially infected with glochidia from a paper pond shell mussel. Glochidia required approximately 7 days at 30°C to metamorphose and subsequently attached to the caudal and anal fins of the

laboratory conditions. The 4 sunfish were collected in Bayou Peychaud in Martin Parish, Louisiana and the paper pond shell used in the infection was collected from an irrigation canal in Allen Parish, Louisiana. Although the longear sunfish and the paper pond shell are known to occur sympatrically, natural infections of this sunfish with glochidia of *Anodonta imbecilis* have not been observed by the authors. The longear sunfish is, however, a physiologically acceptable host for glochidia of the paper pond shell under laboratory conditions.

(180)

Chromium Incorporation in Soybeans (*Glycine max*) Through Root Uptake and Foliar Absorption Pathways

PATRICIA DREYER PARR AND FRED G. TAYLOR, JR.  
*Oak Ridge National Laboratory*

The deposition of chromate transported in cooling tower drift has been identified as a potential environmental problem. Research at the Oak Ridge Gaseous Diffusion Plant (ORGDP) cooling towers has provided quantitative evidence of the transfer of chromium from drift to vegetation and soil, its short-term effects on the vegetation and its possible accumulation in the soil. In this paper, the potential for incorporation of chromium in vegetation by root uptake and foliar absorption was studied using water from the chromated recirculating water system of the ORGDP cooling towers. Concentration factors for roots (5.1-14.3) of plants grown in soil treated with chromated recirculating water were two orders of magnitude greater than concentration factors for leaves (0.05-0.20), indicating that the chromium was immobilized at the site applied (roots) and not transported to aboveground parts. Similarly, concentration factors in roots of the plants treated with foliar application of chromated recirculating water ranged from 0.01 to 0.10, indicating that the chromium was not transported basipetally. Supported by the Office of Health and Environmental Research, U.S. Department of Energy, under contract W-7405-eng-26 with Union Carbide Corporation.

(181)

Transmission of *Ophidascaris* (Nematoda: Ascaroidea) at the Knoxville Zoological Park

SHARON PATTON  
*University of Tennessee*

Rodents are the accepted intermediate hosts of the *Ophidascaris* species that parasitize pythons and boas. Most investigators have maintained that transmission within a captive reptile population would be improbable or even impossible. This view is not supported, however, by the information gained from an *Ophidascaris* outbreak at the Knoxville Zoo. This parasite was associated with the death of six of fifteen adult pythons and boas from the zoo that were necropsied between October, 1978, and June, 1979. Several of the snakes had respiratory problems associated with the migrating stage of *Ophidascaris* as well as esophagitis and gastritis caused by the parasite. Several pythons and boas were