

these individuals are mostly likely to develop clinical toxoplasmosis. Since Mississippians consume a lot of pork, there was a significant need to know the extent to which *Toxoplasma gondii* infection poses a health problem in the state. Prior studies had been done in Mississippi, but they were limited to Crystal Springs, MS. This study focused on the Southwestern region of the state of Mississippi. Between July 2003 and March 2004, blood samples were collected from slaughterhouses in Southwestern MS and Alcorn State University Swine Farm in Churchill, MS. The collected blood samples were centrifuged and the sera were collected, labeled and stored in a freezer. The modified agglutination test (MAT) was performed at dilutions of 1:25, 1:50 and 1:500. A titer of 1:25 was considered to be seropositive. Of a total of 302 samples tested, 48 (16%) were seropositive at 1:25; 29 (10%) were positive at a titer of 1:50; 11 (4%) were positive at a titer of 1:500. The prevalence of *T. gondii* in pigs in Southwestern Mississippi is not as high as previous studies done in Mississippi, but the potential for infection still exists.

8:30 HIV/AIDS IN MISSISSIPPI AND NIGERIA

Alex D.W. Acholonu, Alcorn State University, Alcorn State, MS 39096

AIDS is an extremely serious disease in which the ability to mount an immune response is disabled completely. It is caused by the human immunodeficiency virus (HIV). HIV infection virtually always progresses to AIDS after a prepatent period of some years (6 months to about 10 years or longer). The purpose of this study is to assess the extent to which HIV/AIDS has spread in the two geographic areas. Data for this study were obtained from literature review and information from the Mississippi State Department of Health. While the first case of AIDS was reported in 1981, AIDS became reportable in Mississippi in 1983 and HIV infection in 1988. In 2001 the prevalence of HIV/AIDS in Mississippi was reported to be 7,635. The total reported since 1981 is 10,032. (1698 AIDS; 8334 HIV). In terms of public Health Districts, District V was the highest (3728, 37.2%) and District II was the lowest (370, 3.7%); in terms of counties, Hinds County had the highest (2615, 26.0%) and Greene the lowest (8, 0.1%) as of year 2002. A preponderance of HIV/AIDS cases occurred in African Americans (38.4 African Americans vs. 5.6 whites per 100,000 population). The number infected is reported to be declining. The prevalence of HIV/AIDS in Nigeria has steadily increased from 1.8% of the population in 1991 when the first sentinel survey was conducted to 5.8% in 2001. The latest sentinel survey was conducted in 2003. The following were reported: HIV population was 4,046,701; new AIDS cases, 235,146; AIDS deaths in 2003, 198,184. Relentless effort must be made to educate people on HIV/AIDS. It is necessary to teach and preach safe sex for the sexually active ages and continence. It should be mandatory for pregnant women to undergo HIV/AIDS tests. Effective treatment drugs should be made available to the rich and poor alike.

8:45 THE FIRST RECORD OF THE GENUS *POLYERGUS* (HYMENOPTERA: FORMICIDAE) IN MISSISSIPPI

JoVonn G. Hill* and Richard L. Brown, Mississippi State

University, Mississippi State, MS 39762

Polyergus is a biologically and behaviorally interesting genus of ants whose members have no worker caste, but rather have a well-developed soldier caste. Soldiers are obligatory slave-makers of various ant species in the genus *Formica*, which assume all worker activities after they are captured as pupae in slaving raids. In June 2003, *P. lucidus* Mayr and *P. lucidus longicornus* Smith were discovered at three locations in the Black Belt Prairie region of Mississippi, representing the first record of this genus for the state. *Polyergus l. lucidus* was previously known from New England to Florida, west to the Rocky Mountains. Eight individuals of this subspecies, some holding pupae of a *Formica* species in their mandibles, and several adults of *Formica pallidefulva* Latreille were collected with a pitfall trap in an oak-hickory forest in Lowndes County. Subsequently, pitfall traps in a prairie remnant of the Tombigbee National Forest (Trace Unit) in Chickasaw County yielded 48 individuals of *P. l. lucidus* and several individuals of *Formica schaufussi dolosa* Buren, the dominant *Formica* at this prairie. A second subspecies, *Polyergus l. longicornus*, was previously known only from the Carolinas and Georgia. A slave raid of this subspecies was observed in a one-hectare oak-hickory forest near the Osborn Prairie in Oktibbeha County about 5:30 p.m. on 5:30 on 19 June 2003. Approximately 100 individuals were moving as a group in a southeasterly direction, but the *Formica* slave of this subspecies was not discovered. Specimens of both subspecies are deposited in the Mississippi Entomological Museum.

9:00 Break

9:15 ASSESSMENT OF WATER QUALITY IN TWO LOTIC BODIES OF WATER IN JEFFERSON COUNTY, MISSISSIPPI

Rosie Hopkins* and Alex D.W. Acholonu, Alcorn State University, Alcorn State, MS 39096

This study was conducted to find out if Coles Creek and Mud Island Creek located off the Natchez Trace Parkway, in the picnic areas, are polluted or meet the Mississippi Water Quality Standard. The main thrust was to eventually check the distribution of pollutants and/or human contamination in all seasons of the year. During the summer and the fall of 2002 and the winter and spring of 2003, water samples were collected in three replicates from three sites, 50 meters apart, and at one week intervals for three consecutive weeks. This was done in each of the two bodies of water. They were taken to the laboratory and tested according to the manufacturers of LaMotte Test Kits. The chemical parameters tested and recorded as parts per million (ppm) were total alkalinity, ammonia-nitrogen, carbon dioxide, chloride, chlorine, chromium, copper, fluoride, hardness, iron, manganese, magnesium, nitrate-nitrogen, pH, phosphate, silica, sulfate, sulfide, and zinc. The physical parameters tested on site were atmospheric temperature (°C), surface temperature, (°C), conductivity (mS, micro Siemens), dissolved oxygen (DO), salinity (ppt, parts per thousand) and turbidity (NTU, Nephelometric Turbidity Units). The parameters, namely, conductivity, and salinity, were added in the fall of 2002. There were no significant differences found in their habitat profiles and they meet the Mississippi Water Quality Standard.