slot and pushed toward the cage bottom into the water trough (Fig. 2). Plastic piece A_1 (Fig. 1) is slipped against the top of the wick to close the opening. The water trough can be filled from the outside of the cage (Fig. 1B) through a hole which can be stoppered with a rubber stopper between fillings.

The plastic screen E (Fig. 2, 3) prevents the mosquitoes from laying their eggs on the moist wick. The slide A_8 (Fig. 2) is slipped into place or pulled out to manipulate materials inside the cage. The sleeve D (Fig. 1) can be rolled and tucked into the space between the sleeve holder and the slide A_8 (Fig. 1). The back of the cage B (Fig. 1) has a screened opening which can be partially covered to increase humidity inside the cage. The cage (14" x 10½") is large enough to slip guinea pigs in for feeding.

This cage also helps to combat the problem of cockroaches. Since the high humidity is confined to the cages, roaches are easier to control. The cages can be easily disassembled and sterilized after each use and are more difficult for roaches to enter.

NEW RECORDS OF PARASITES OF CERATOPOGONIDAE[1]

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We have examined ceratopogonid larvae from a number of habitats as an adjunct to a continuous survey of mosquito parasites in southwestern Louisiana. These examinations have yielded several parasites not heretofore reported from larvae of ceratopogonids. All identifications of ceratopogonids were kindly made by Dr. Willis W. Wirth of the U. S. National Museum.

A limited number of such internal parasites of larvae of Ceratopogonidae are recorded and are summarized by Jenkins (1964), but few of these records are from North America.

PROTOZOA (NOSEMATIDAE). Weiser (1957) described *Nosema sphaeromiadis* from larvae of *Sphaeromias* sp. in Czechoslovakia; this is the only nosematid recorded from ceratopogonids.

We have collected larvae of at least two species of *Culicoides* that are hosts of *Plistophora* spp. One larva collected from a shaded woodland pool near Camp Edgewood, Beauregard Parish, VII–8–66, was almost transparent except for some abdominal segments that had become opaque white due to infection (Fig. 1). Mature spores of this *Plistophora* sp. measured $4.5 \pm 0.25 \times 2.75 \pm 0.20$ μ. Intensive collecting failed to produce additional specimens.

[1] In cooperation with McNeese State College, Lake Charles, Louisiana.

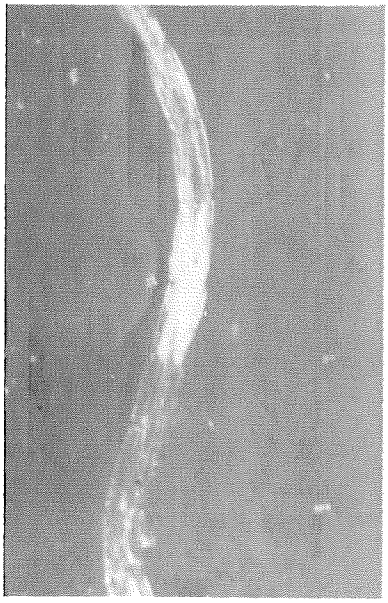

FIG. 1.—Larva of *Culicoides* sp. from a woodland pond with infection of *Plistophora* sp. in several abdominal segments.

Many *Culicoides* larvae containing a different species of *Plistophora* were collected during the spring of 1967 from a treehole near Fort Polk in Allen Parish and from a treehole near Lake Charles in Calcasieu Parish. The host, at least in the Lake Charles treehole, was probably *Culicoides nanus* Root and Hoffman. Larvae of this treehole-inhabiting species are white; hence, patent infections of the microsporidia which normally turn specimens opaque white were difficult to detect. However, in uninfected specimens of *C. nanus*, the area just behind the head and the last several abdominal segments were usually somewhat clear; the entire body of infected specimens was a milky white (Fig. 2). Pansporoblasts were numerous. The mature spore was often slightly constricted in the middle and measured $2.99 \pm 0.19 \times 1.03 \pm 0.05$ μ. All patently infected specimens succumbed just before pupation.

Culicoides IRIDESCENT VIRUS (CuIV). Although iridescent viruses have only recently been reported from mosquitoes (Clark *et al.*, 1965); Chapman *et al.*, 1966), none has previously been reported from ceratopogonids. Between February and April 1967, we collected over 100 larvae of a *Culicoides* sp. with a blue-purple iridescence from a treehole in West Bay, Allen Parish. Electron micrographs showed these larvae to be infected with a cytoplasmic noninclusion virus simi-

lar to the mosquito iridescent virus. The viral particles measured 125–135 mμ. Early infections could be identified by small patches of iridescence on one or more body segments. The entire body exhibits the iridescent color just before death.

FIG. 2.—Larva of *Culicoides nanus* with infection of *Plistophora* sp. evident throughout the body; uninfected specimen on right.

Adult ceratopogonids reared from the same treehole were predominantly *Culicoides arboricola* Root and Hoffman, but *C. guttipennis* (Coquillett) was present. Our more recent collections from the treehole have not yielded larvae; hence the determination of the identity of the host and additional studies with the CuIV will have to await resumption of breeding of the host and the reappearance of the virus.

NEMATODE (FAMILY MERMITHIDAE). No mermithid nematodes have previously been recorded from ceratopogonid larvae. However, about 1–10 percent of the *C. nanus* larvae we collected from the two treeholes near Fort Polk and Lake Charles that produced infections of *Plistophora* sp., harbored nematodes. These juvenile mermithids were coiled lengthwise (Fig. 3) in the body of ceratopogonid larvae and ranged in number from 1 to 6. They were somewhat difficult to see because they occupied the area in the body of the larva that is normally white. All ceratopogonid larvae died just before pupation when the juvenile nematodes emerged. Fully developed female juvenile nematodes were about 5 mm. long; the

FIG. 3.—Larva of *C. nanus* containing mermithid nematodes.

late instar ceratopogonid larvae were about 3.5 mm. long.

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