Gulf of Mexico regions. The horizon of locality 7521 is doubtful. It may be Eocene.

Locality 7522. The foraminifera are definitely Eocene. It contains two or more species in common with the Eocene exposure at Nuevitas, Cuba, U.S.G.S. loc. 3478, and species represented at other Eocene localities in Cuba. The corals collected at this locality seem to have come from another, an Oligocene, horizon.

If I noticed specimens of *Globigerina* and nullipores I recorded their presence. The presence of nullipores, if they are *in situ*, indicates relatively shallow water, because they are photosynthetic organisms; while the presence of *Globigerina* indicates that pelagic organisms drifted into the locality where the other fossils were found.

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BOTANY.—*Several more fungi that prey on nematodes.*[1]

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A fungus with long, narrow, straight or somewhat curved conidia, provided with 5 to 15 septa (Fig. 16 A) and borne on erect, aerial, only slightly differentiated hyphae, usually singly (Fig. 16, A, *a*) but sometimes, following continued growth of the hypha, in small number (Fig. 16 A, *b*), was found actively destroying slender nematodes referable to a species of *Rhabditis*. The animals were snared in rather small, intramatrical, non-constricting hyphal loops (Fig. 16, B) attached singly at a noticeable swelling in one of the three component cells by a relatively delicate, often somewhat curving stalk. Often the organ of capture was torn from its attachment by the struggling nema (Fig. 16, C, *a*), which then was frequently further snared in one or two other hyphal loops before finally succumbing to extensive internal hyphal invasion (Fig. 16, C, *b*). This invasion regularly proceeded

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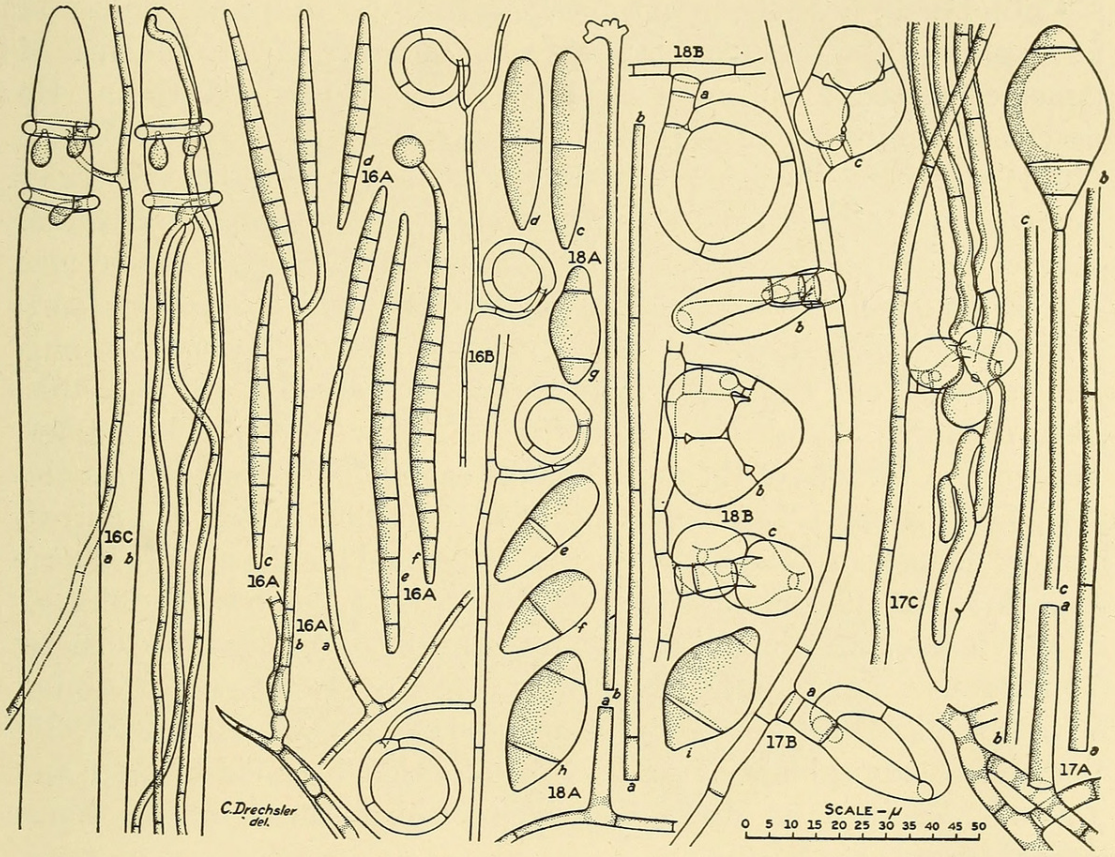
from one or more bursiform outgrowths thrust into the animal immediately following narrow perforation of its integument, the outgrowths being evidently too small to produce serious effects directly.

A fungus bearing terminally on tall, erect conidiophores (Fig. 17, A), solitary, 3-septate conidia strongly resembling in size, shape and septation those of the fungus previously shown in Figure 5,[2] as well as the 3-septate spores frequent in the fungus represented in Figure 12, was found very destructive to nemas referable to the genera *Rhabditis* and *Cephalobus*. The organs of capture here, however, correspond to those produced by the fungi shown in Figures 10, 13 and 14, similarly consisting of mostly vertically oriented, sturdy loops each composed regularly of 3 cells and attached by a short, stout, usually 2-celled stalk, the third loop-cell being fused terminally both to the basal portion of the first loop-cell and to the distal stalk-cell (Fig. 17, B, *a*, *b*); and similarly through pronounced swelling of the loop-cells (Fig. 17, B, *c*) constricting the animal nearly to death before initiating mycelial invasion (Fig. 17,C). The constricting loops here, as also those of the other forms producing them, and as, indeed, even the extensive systems of anastomosing adhesive superficial loops like those produced by the fungus shown in Figure 5, are sometimes torn from their attachments by the struggles of especially vigorous nemas, the uprooted apparatus, nevertheless, just as in the case of the non-constricting solitary loops characteristic of the fungi shown in Figure 6 and 16, usually continuing in its destructive function.

Since organs of capture are generally absent when any of the predacious Hyphomycetes isolated so far (those shown in Figs. 1–7, 9, 12–15, 16–18) are grown in pure culture on agar media of various compositions, it would seem that a tactile stimulus supplied in nature by living nemas, may be of moment for their production. Constricting loops (Fig. 18, B, *a*) in great abundance were produced by a fungus in an agar plate culture free of nematodes but liberally infested with mites. Many of the loops were "sprung" (Fig. 18, B, *b*, *c*), though apparently no mites were captured in them. The fungus in the mite-infested culture gave rise to conidia showing all gradations from an elongated 1-septate type to a strongly inflated 2-septate type (Fig.

[2] As the present summary constitutes a continuation of two earlier summaries concerning nema-capturing fungi, the numbering of the figures is made continuous throughout, so that all citations of figures given herein and bearing numerals from 1 to 11 refer to the first paper (this JOURNAL **23**: 138–141. 1933) and those bearing numerals from 12 to 15 inclusive refer to the second (this JOURNAL **23**: 267–270. 1933).

18, A, *c–i*), thereby abating somewhat the distinctness of the two types of conidia produced by fungi snaring nemas in constricting loops. As in pure culture virtually only spores of the elongated 1-



Three nema-capturing fungi, each numeral denoting a species separate from the others, and all drawn with the aid of the camera lucida at the same magnification; ×500.

Fig. 16.—A, Conidiophores and conidia: *a*, conidiophore of usual type bearing a single conidium; *b*, conidiophore arising from a killed nema and bearing 2 conidia; *c*, *d*, conidia from an agar culture infested with nemas; *e*, *f*, larger conidia from a pure culture. B, Portions of mycelium bearing non-constricting loops. C, A nema snared in two loops: *a*, one of the loops still attached to parent filament, several pouch-like structures thrust into the interior of the animal, the latter still actively struggling; *b*, 5 hours later, both loops detached, mycelial hyphae extending the entire length of the animal, not showing only occasional feeble movement.

Fig. 17.—A, Conidiophore and attached conidium, the former shown in several sections, *a*, *b* and *c* representing corresponding points on these sections. *B*, Portion of mycelium with attached constricting loops, the loops being open in *a* and *b*, and partly closed in *c*. C, Nema captured in constricting loop.

Fig. 18.—A, Conidiophore and conidia from mite-infested culture, the conidiophore drawn in several sections, *a* and *b* representing corresponding points on these sections, *c–i* conidia showing transitions from elongated 1-septate type to inflated 2-septate type. B, Constricting loops from mite-infested culture, *a* in open condition, *b* and *c* in completely closed condition.

septate type are produced, and as the conidiophores (Fig. 18, A, *a*, *b*) are closely similar to those of the fungus shown in Figure 13, it is not certain that a species separate from the latter is represented here.