

## A NEW SPECIES OF CORDYCEPS WITH NOTES CONCERNING OTHER SPECIES<sup>1</sup>

E. B. MAINS

(WITH 2 FIGURES)

In 1931, in Nova Scotia, L. E. Wehmeyer obtained two specimens of a *Cordyceps* which was unique in several respects. In 1934, A. H. Smith collected a number of specimens of the same fungus in the Adirondack region of New York. During the summer of 1936 the writer obtained one specimen in the El Cayo District of British Honduras and Dr. Smith obtained a specimen in Ontario.

This species is characterized by a limited cushion of fertile tissue which develops from a point on one side of the clava a short distance below the apex and partly surrounding the clava (FIG. 1, 2). This usually brings about an oblique development of the upper portion of the clava. *Cordyceps unilateralis* (Tul.) Sacc. occurring on ants in the tropics has a somewhat similar habit. It differs decidedly in color being described as blackish-brown. Also Petch (6) states that *C. unilateralis* is an *Ophiocordyceps* having fusoid ascospores  $90\ \mu$  long which do not break up into segments. The species under discussion is a true *Cordyceps* having filiform ascospores approximately as long as the ascus ( $330\ \mu$ ), the spores breaking up into segments. It apparently is an undescribed species for which the following name is proposed.

### *Cordyceps viperina* sp. nov. (FIG. 1, 2).

Clavis singularibus, filiformibus, 5-15 mm. longis, 0.5 mm. crassis, aurantiis, acuminatis; peritheciis immersis in pulvinis, ovoideis,  $330-440 \times 230-275\ \mu$ , brevibus ostiolis; pulvinis 1.5-2.5 mm. latis, lateralibus sub apicibus; ascis cylindricis,  $330 \times 8-10\ \mu$ ; ascosporis 8, filiformibus, in articulos  $6-8 \times 2\ \mu$  mox fragmentibus.

Ex larvis scarabaeorum. Specimen typicum in Herb. Univ. Mich. conservatum A. H. Smith n. 387, Catlin Lake, N. Y., Aug. 1934.

<sup>1</sup> Paper from the Department of Botany and the Herbarium of the University of Michigan No. 633.

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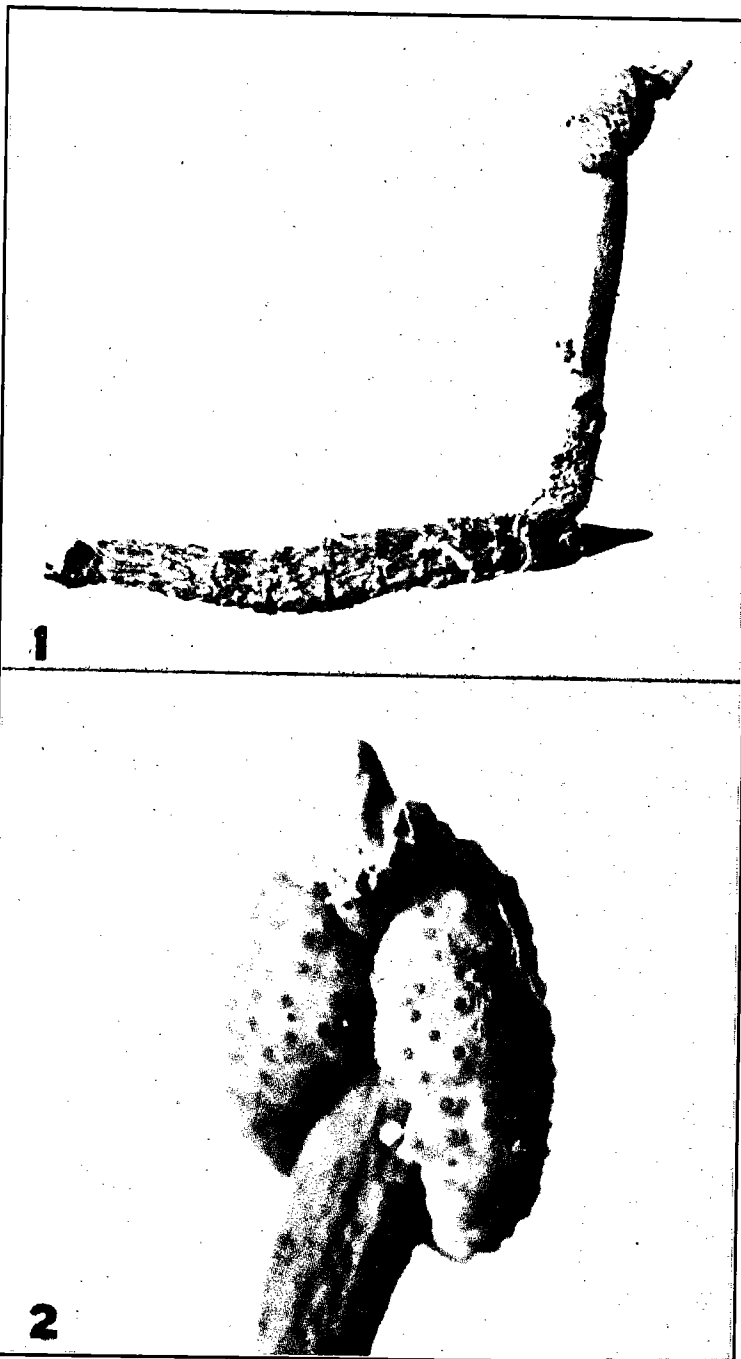


FIG. 1, clava of *Cordyceps viperina*,  $\times 5$ ; 2, fertile cushion of stroma partly surrounding clava,  $\times 18$ .

Clavae single mostly from the posterior portion of larvae, slender, 5-15 mm. long, 0.5 mm. thick, orange, acuminate at the apex; perithecia embedded in a pulvinate stroma, ovoid,  $330-440 \times 230-275 \mu$ ; ostioles short, slightly projecting; fertile stromata, pulvinate, 1.5-2.5 mm. wide, attached on one side below apices of clavae; asci cylindric,  $8-10 \mu$  wide and up to  $330 \mu$  long, the wall thickened abruptly at apex, up to  $3 \mu$ ; ascospores filiform, parallel, nearly as long as the asci, multiseptate, beaking into segments  $6-8 \times 2 \mu$ .

On larvae of a beetle in rotten logs, Brookside, Nova Scotia, July 25, 1931, L. E. Wehmeyer (1213); Earltown Road, Nova Scotia, Aug. 23, 1931, L. E. Wehmeyer (1213a); Catlin Lake, New York, Aug. 19, 1934, A. H. Smith (387, type); Seventh Lake, New York, Aug. 22, 1934, A. H. Smith (425); North Creek, New York, Sept. 10, 1934, A. H. Smith (826); Warrensburg, New York, Sept. 16, 1934, A. H. Smith (883); Lake Timagami, Ontario, Aug. 26, 1936, A. H. Smith (4185); Cohune Ridge, El Cayo District, British Honduras, July 13, 1936, E. B. Mains (3837).

*CORDYCEPS MICHIGANENSIS* Mains.

This species which has been known from only two locations in Michigan (4) was collected on Bear Island, Lake Timagami, Ontario, Sept. 4, 1936, by A. H. Smith (4508).

*CORDYCEPS SUPERFICIALIS* (Peck) Sacc.

This species was described by Peck (5) from a collection obtained at Northville, N. Y., Aug. 1874. Kauffman (1) reported it from a collection obtained at South Haven, Michigan in 1910. A specimen has been received from H. S. Jackson (5043) collected Aug. 16, 1933, on Bear Island, Lake Timagami, Ontario. A collection obtained by G. D. Darker at Norwood, Mass., has also been recently distributed from the Farlow Herbarium of Harvard University (Rel. Farl. 704).

*CORDYCEPS STYLOPHORA* Berk & Br.

This is a rare species. Apparently it has previously been known only from Ravenel's collections in South Carolina and a collection

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the posterior portion of larvae, slender, orange, acuminate at the apex; sterile stroma, ovoid,  $330-440 \times 230$ —projecting; fertile stromata, pulvinate, on one side below apices of clavae; up to  $330 \mu$  long, the wall thickened; spores filiform, parallel, nearly asaking into segments  $6-8 \times 2 \mu$ .

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made by G. H. Hicks near East Lansing, Michigan, in 1892 (4). During the summer of 1934, A. H. Smith collected it repeatedly in New York at Warrensburg and Catlin Lake.

#### CORDYCEPS MELOLANTHAE (Tul.) Sacc.

A collection of this species obtained by A. H. Smith at Ann Arbor is the second record of the species for Michigan (4). Lloyd (2) has pointed out that the specimen of *Sphaeria herculea* Schw. in the Schweinitz herbarium is *Cauloglossum transversarium*. Mr. Don M. Benedict has kindly examined this specimen in the herbarium of the Philadelphia Academy of Science and agrees with Lloyd's conclusions. Both Lloyd (3) and Petch (7) have concluded that the name *Cordyceps Melolanthae* should apply to the fungus which has been passing under the name *C. herculea*.

#### OPHIOCORDYCEPS MACULARIS Mains.

This species has been known only from the type collected at Harbor Springs, Michigan (4). In September, 1934, A. H. Smith obtained one specimen at Kelm Mt., Warrensburg, N. Y.

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