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INSECT GALLS ON SPECIES OF CUSCUTA

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In a study of the genus *Cuscuta* carried on now for nearly twenty years, I have had occasion to examine thousands of specimens either in the fresh condition or as herbarium specimens. Different species of these parasitic plants occur in nearly every part of the world and under a great variety of climatic conditions. They occur from Chile to Canada in the Americas, where they are most abundant, and from the Cape of Good Hope to about 60° north latitude in the Old World. Some species parasitize plants with woody stems seemingly as readily as they do those with succulent herbaceous stems, and occasionally they are to be found on the stems of *Equisetum* or of grasses. Hosts growing under the arid conditions of the desert or in salt marshes apparently serve as well for some *Cuscuta* species as do those occurring in more favorable growing regions.

One would expect to discover, in the examination of so large a number of specimens gathered from so wide a geographical range and growing under such variable ecological conditions, some specimens which were attacked by plant or animal parasites. In my experience I have seen no specimen which showed positive evidence of fungal parasitism. Saccardo records *Dendryphium macowanianum* as attacking *Cuscuta cassytoides*, and Peck described *Protomyces martindalii* as occurring on *Cuscuta Gronovii* which are the only references I have discovered giving

Cuscuta as a host plant for fungi. In my opinion the species of *Cuscuta* are free of fungous disease to a remarkable extent.

I have found swollen stems and flower pedicels in a few specimens which were believed to indicate insect gall formation. In most of the specimens seen, however, the material was dry and old and it was not considered worth while attempting to determine the causative insect.

Recently Dr. Chas. C. Deam of the Department of Conservation sent me a specimen of *Cuscuta pentagona* which he had collected a few miles southwest of Lafayette, Indiana, that showed excellent galls. Through the courtesy of Mr. George Burkett of our department I was able to secure from the same station a large quantity of fresh plants bearing numerous galls.

The galls, which occur on the stems and pedicels, are subglobular to oval or somewhat irregular in shape, from 0.3 to 1.0 cm. in length and commonly somewhat longer than thick. The central cavity represents from one-third to one-half of the gall.

Search of the available literature failed to reveal any reference to galls on *Cuscuta* which would assist in the identification of the causative insect. Specimens were sent to Dr. E. Porter Felt who, in reply, stated "The galls on *Cuscuta* are with little question those of *Smicronyx sculpticollis* Casey, a small weevil which produces a gall one-eighth to one-fifth of an inch in diameter."

The galls resemble, so far as I can remember, those observed on previous occasions. It is now impossible, of course, to determine if they were produced by *S. sculpticollis* or by some other insect. It is apparent, however, that gall production on *Cuscuta* is comparatively rare and probably limited to a few insects.