INSECTS TAKEN BY THE SOUTHERN PITCHER PLANT*

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The Southern Pitcher Plant (*Sarracenia flava* L.) occurs in bogs from Virginia south and west to Louisiana. It has elongated, trumpet-shaped leaves from one to three feet high. The leaves stand nearly erect and are very conspicuous. Often the pitcher plant is very abundant and in some southern bogs may be the principal herb vegetation.

During the later part of August, 1939, a pine bog near Adel, Georgia was studied. In this community the predominant species of herb vegetation was the pitcher plant. Sphagnum moss was also plentiful and saw palmettoes occured. On account of the large size of the leaves and their abundance the writer felt that the pitcher plants must be an important factor in the ecology of the bog. Accordingly a large number of leaves were examined for the insects which had been captured by this interesting plant.

Of the leaves examined all contained a large number of insects. Some times as many as twenty or more individual insects could be recognized in one leaf. Of the large number of insects examined, over 80 per cent were Noctuid moths. The remainder were mainly beetles mostly of the families Lampyridae and Chrysomelidae. A few small Diptera and Hymenoptera rather badly decomposed were also found.

The large number of Noctuid moths can undoubtedly be explained by the presence of a saccharine secretion which attracts them. Concerning this secretion James (1883:285) says: "But a still greater difference is found in the fact that there is a saccharine secretion found on the inner side of the hood, just above the punction of the lid with the rim. But there is something in regard to this secretion which is quite interesting. It has been stated by some observers, and it is thought with truth, that the secretion possesses intoxicating or stupefying qualities. As the insect feeds upon the matter it becomes dizzy, loses its hold on the surface of the hood, and falls to the bottom of the tube. Dr. Gray says in regard to this secretion at the orifice of the pitcher that 'This makes its appearance at first in the form of minute drops, distinctly visible only under a lens; at length it forms flattened drops and even patches, distinctly sweetish to the taste and viscid to the touch'. Mr. Brady, who observed the plants in North Carolina, says in regard to some pitchers of this species, 'These, brought into the house, and kept fresh by the immersion of the base in water, showed the saccharine secretion most abundantly about a quarter of an inch above the junction of the lid with the rim. . . . Many flies settled on the lids, and feasted on the saccharine narcotic. Evident signs of intoxication were manifested in each case, by their breaking loose repeatedly before tumbling into the gulfs'."[1]

The insects in the leaves were all in fair condition in contrast to the state of insects found in the Northern Pitcher Plant (*Sarracenia purpurea* L.). This was no doubt due to the fact that insects do not die by drowning in the southern species. James (1883:286) mentions that "While all the lower and gradually attenuated part of the tube is filled with dead flies in our plants growing in the house, there is only a little moisture at the very bottom." The writer observed that even though considerable rain had fallen before the observations were made the tubes of the leaves did not contain much water.

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[1] James, Joseph F. 1883. Pitcher Plants. Amer. Nat. 17:283-293.