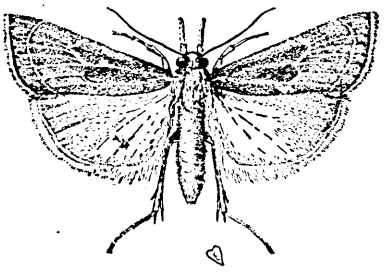
The Bluegrass Webworm

Technical Bulletin 173, issued by the United States Department of Agriculture, entitled "The Bluegrass Webworm," written by George G. Ainslie, of the division of cereal and forage insects of the Bureau of Entomology, may be obtained from the Office of Information, Department of Agriculture, Washington, D. C. The following abstract of the bulletin is published in order to indicate to our readers the subject matter contained in it.

The bulletin was prepared mainly from the standpoint of pasture infestation, but naturally our readers who are interested in golf course turf will recognize the fact that the insects which affect pasture grasses have no scruples when it comes to infesting expensive golf course turf. The bulletin should be in any complete greenkeeper's library. The word bluegrass as used in the common name to designate this webworm is misleading, because the insect attacks other grasses also. The webworms in golf-turf management have usually been very much overlooked as a factor in turf production; nevertheless they may become very serious pests under certain conditions and may cause a great deal of damage, particularly on putting greens of the finer grasses. The bulletin contains a well prepared summary, which we quote:

"The bluegrass webworm is so called because it is most abundant in the sections of the country where bluegrass is a dominant plant species and because it is found feeding principally upon it. The adult is a small grayish moth.



Moth of the bluegrass webworm (enlarged three times)

"It was described in 1821, but has attracted very slight attention from entomologists, and its complete bibliography is very short.

"It is widely distributed in the eastern and the southeastern parts of the United States, and in several States is probably the most abundant species of moth.

"Its economic importance is undoubted. In ordinary seasons it is a cause of serious depletion of pastures, and in dry years may be the real cause for the complete killing out of sod in pastures and lawns.

"Under ordinary conditions there are three broods each year, but individuals vary so greatly in their rate of growth that progeny of a single moth may cover one, two, or three generations in the same season. The principal flights of the moths occur in May, July, and September.

"The egg is similar to the eggs of other species of the genus, but averages slightly larger. The larvae construct flimsy tubes of silk and earth particles, in which they remain during the day, emerging at night to feed. The normal number of instars for this species seems to be eight, although there is great variation. As many as 20 instars have been observed in the case of some specimens, but in such instances there was no increase in size after the eighth instar.

"Kentucky bluegrass is by far the most commonly infested food plant although other grasses are eaten readily. No food plants other than grasses are known to be eaten.

"The pupae are formed in loosely made pupal cases constructed separately from, but near, the feeding burrow. The moths become active about dusk, and are attracted to lights in large numbers. They do not feed, except possibly on water.

"Eggs are dropped promiscuously. The average number produced by one moth is probably about 200 or 250, although one moth laid 564. The moths mate at night; mating was observed only when they were abundant around lights. The normal life of a moth is from 7 to 10 days.

"In the investigation here reported only a single parasite was reared, *Cymodusa mississippiensis*, Ashm. Several predacious enemies were observed feeding on both larvae and adults.

"The use of ordinary poisoned-bran bait gave no apparent results in the control of the larvae, but by combining it with some attractive substance it is possible that an effective bait may yet be devised."

Japanese Beetle Spread

During the period from 1919 to 1929 the area of the United States heavily infested with the Japanese beetle has increased from 48 square miles to 21,353 square miles. In 1929 the heavily infested area included New Jersey, the District of Columbia, eastern Pennsylvania, northern Delaware, and small portions of Connecticut, New York, Maryland, and Virginia. The most isolated point of known infestation was 192 miles by air line from the center of the heavily infested area. The beetles spread of their own accord, by flight, from 10 to 15 miles a year. Their spread by artificial means, as in the transportation of infested soil and nursery stock, can be much greater than this; but the Government's quarantine on the transportation of nursery stock and farm and garden products from the infested areas has succeeded in confining the spread of the beetle practically to its natural flight of 10 to 15 miles a year. There is, however, in addition to the local spread by flight, another type of movement which it is impracticable to attempt to control, and that is the accidental transportation of the beetle on railroad and motor cars. The most outlying points at which the beetle was found in the summer of 1929 included Boston, Mass., Providence, R. I., and Norfolk and Cape Charles, Va. It seems reasonable to infer that the beetle reached these places by the movement of boats from Philadelphia during the height of the travel season, aided possibly also by accidental railroad carriage.

The use of beetle traps at Baltimore, Washington, and in Alexandria County, Va., has resulted in the collection of great numbers of beetles. That enormous quantities of beetles can be collected by trapping has been fully demonstrated. On a single property in New Jersey nearly a ton of beetles were thus collected in a single season. In the heavily infested areas, however, such trapping is of little value if conducted only in isolated places and if not generally adopted as a means of control. The placing of numbers of traps on individual properties may indeed have the unfortunate effect of attracting enormous numbers of beetles to such properties from adjacent land. This objection, however, does not apply to cases of infestation confined in an isolated area. A description of the Japanese beetle trap is given on page 119 of the Bulletin for July, 1929.