RESEARCH CIRCULAR 50 APRIL 1958

BIONOMICS of the ONE-SPOT STINK BUG in OHIO

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LITERATURE CITED

Esselbaugh, Charles O. 1946. A study of the eggs of the Pentatomidae (Hemiptera). Annals Ent. Soc. Amer. 39(4):667-691.

Esselbaugh, Charles O. 1948. Notes on the bionomics of some midwestern Pentatomidae. Entomologica Americana 28(1):1-73.

Foot, K. and E. C. Strobel. 1914. Results of crossing **Euschistus variolarius** and **Euschistus servus** with reference to the inheritance of an exclusively male character. Journ. Linn. Soc. (Zool.) 32:337-373.

Garman, H. 1897. Notes on several tobacco insects and on two imperfectly known diseases of tobacco. Kentucky Agr. Exp. Sta. Bull. 66:33-34.

Glover, T. 1856. U. S. Agricultural Report for 1855. Pp. 93-94.

Hawley, I. M. 1922. Insects and other animal pests injurious to field beans in New York. New York Agr. Exp. Sta. (Cornell) Mem. 55: 949-1037.

Mundinger, F. G. 1940. Pentatomids attacking tomatoes and experiments on their control. Journ. Econ. Ent. 33(2):275-278.

Mundinger, F. G. and P. J. Chapman. 1932. Plant bugs as pests of pear and other fruits in the Hudson Valley. Journ. Econ. Ent. 25(3): 655-658.

Parish, H. E. 1934. Biology of **Euschistus variolarius** P. de B. (Family Pentatomidae; Order Hemiptera). Annals Ent. Soc. Amer. 27(1): 50-54.

Porter, B. A., S. C. Chandler and R. F. Sazama. 1928. Some causes of cat-facing in peaches. Ill. Nat. History Survey Bull. 17 (Art. 6): 261-275.

Rings, Roy W. 1955. Tarnished plant bug and stink bug injury to peaches. Proc. Ohio State Hort. Soc. 108:51-56.

Rings, Roy W. 1957. Types and seasonal incidence of stink bug injury to peaches. Journ. Econ. Ent. 50(5):599-604.

Sailer, R. I. 1952. A technique for rearing certain Hemiptera. U.S.D.A. ET-303.

Sailer, R. I. 1954. Interspecific hybridization among insects with a report on crossbreeding experiments with stink bugs. Journ. Econ. Ent. 47(3):377-383.

Woodside, A. M. 1946a. Life history studies of **Euschistus servus** and **E. tristigmus.** Journ. Econ. Ent. 39(2):161-163.

Woodside, A. M. 1946b. Some insects that cause cat-facing and dimpling of peaches in Virginia. Virginia Agr. Exp. Sta. Bull. 389:1-15.

BIONOMICS OF THE ONE-SPOT STINK BUG, *EUSCHISTUS VARIOLARIUS* (PALISOT DE BEAUVOIS), IN OHIO

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The one-spot stink bug, *Euschistus variolarius* (Palisot de Beauvois), has been a subject of interest not only to economic entomologists but also to specialists in other fields of insect study. The life history of the species has previously been studied by Parish (1934) at Ames, Iowa and by Esselbaugh (1948) at Urbana, Illinois. Experiments involving the cross-breeding of *Euschistus variolarius* and *Euschistus servus* (Say) have shed further light on interspecific hybridization in insects (Sailer 1954).

This stink bug has been reported to be injurious to a number of agricultural crops, including cotton (Glover 1856), beans (Hawley 1922), pears (Mundinger and Chapman 1932), tomatoes (Mundinger 1940) and tobacco (Garman 1897). The species was first recognized as a peach pest by Porter, Chandler and Sazama in southern Indiana and southern Illinois in 1928 when it was found to produce a scarred and distorted condition in the fruit (Figure 1). This deformity was originally given the name of "cat-facing" by fruit growers in this area and the term is now commonly used in the Middle West. The work of Porter *et al.* was later confirmed by Woodside (1946b) in Virginia and by Rings (1955) in Ohio. Three additional types of injury resulting from attack

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[3]The authors gratefully acknowledge the cooperation of Dr. Reece I. Sailer, Section of Insect Identification and Parasite Introduction, Entomology Research Division, Agricultural Research Service, U. S. Department of Agriculture, Washington, D. C. for specific determinations and many helpful suggestions. Thanks are also due to Robert M. Crowell, Henry W. Shaver and Robert S. Niemiller for their assistance in obtaining records

by this species, namely, scarred, gummosis, and water-soaked injury, were described by Rings (1957). Experimental studies in Indiana, Illinois, Virginia and Ohio have shown that the one-spot stink bug is part of a large complex of stink bugs and plant bugs which are collectively known as "cat-facing" insects.

The primary purpose in the study of this economic problem was to develop practical control measures for the various species of cat-facing insects. Since efficient control is based upon adequate biological information, a bionomical study of several species of stink bugs of economic

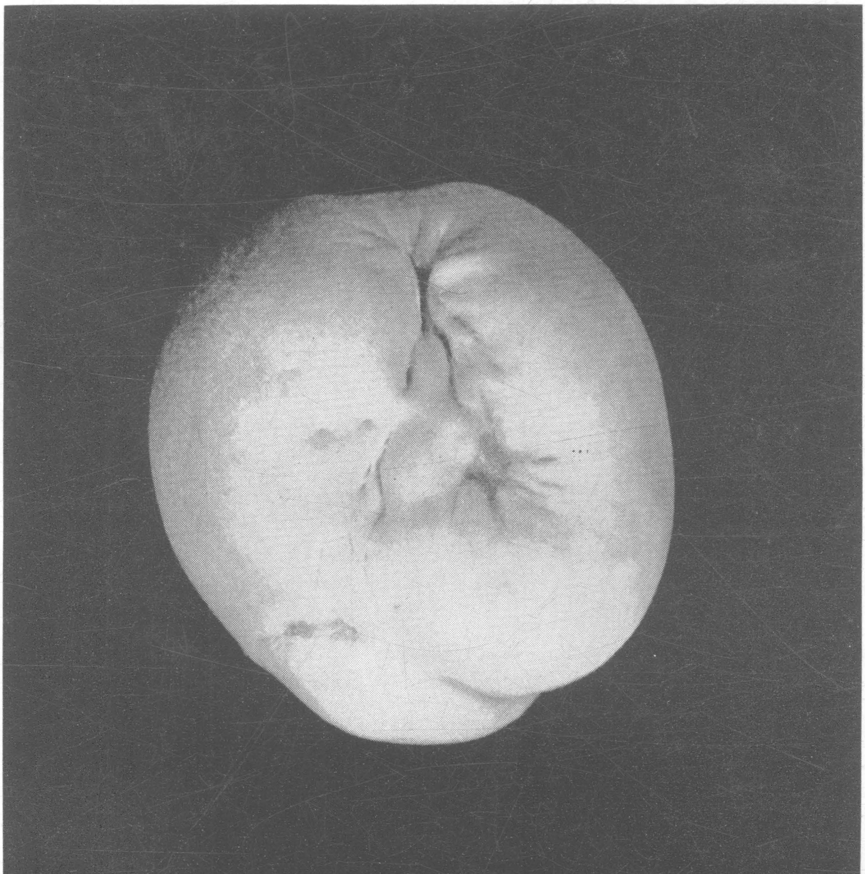

Fig. 1.—Golden Jubilee peach showing deformities produced by the feeding of the one-spot stink bug.

importance was conducted at Wooster, Ohio during the seasons of 1955 and 1956. This circular presents the information obtained in the phases dealing with the life history, behavior, and ecology of the one-spot stink bug.

A complete description of the various stages of *Euschistus variolarius* may be found in the works of Parish (1934). Esselbaugh (1946) also gives a detailed description of the eggs. Since these publications are readily available detailed descriptions of the life stages in the present paper would be repetitous and therefore are omitted.

The general appearance of the adult insect is shown in Figure 2. The species receives its common name from the fact that the male has a black spot on the genital segment (Figure 3, A). The female, however, lacks this distinguishing characteristic (Figure 3, B).

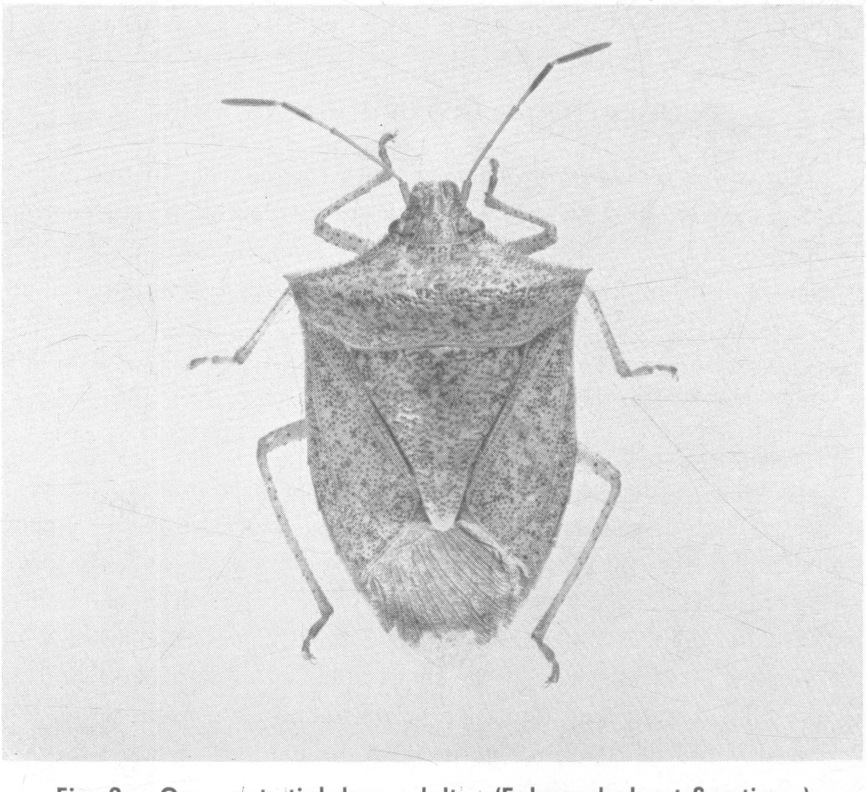

Fig. 2.—One-spot stink bug adult. (Enlarged about five times)

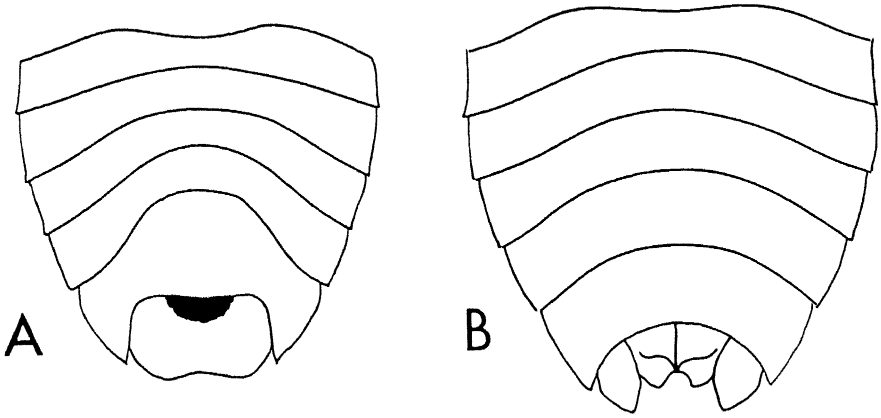

Fig. 3.—Ventral view of abdominal and genital segments.
A. Male. B. Female.

GEOGRAPHICAL DISTRIBUTION IN OHIO

Euschistus variolarius probably occurs throughout the State of Ohio. Surveys in 1954, 1955 and 1956 have shown this species to be present in 63 of the 88 Ohio counties. The known occurrence does not follow any particular distributional pattern and it is believed that it occurs in all of the counties.

HOST RANGE

In Ohio, adults have been collected from peach, mullen, tall ironweed, goldenrod, mustard, elderberry, alfalfa, clover, soybeans, black walnut, tulip tree and pine. The adults are common on mullen in early spring during late April and early May. Jarring records on peaches indicate that this stink bug is present from about bloom until harvest with the greatest numbers taken at the shuck-fall stage of host development. In the fall, nymphs and adults have been found to be plentiful on tall ironweed if collections are made early in the morning with a sweeping net. Nymphs and adults have been taken in moderate numbers from clover and alfalfa in the autumn months.

LIFE HISTORY

Methods. Overwintering adults were collected from common mullen, *Verbascum thapsus*, and from peach trees in April shortly after their emergence from hibernation. Collections were made in Adams, Ashland, Pike, Scioto, Stark and Wayne Counties. The insects were identified, separated into pairs consisting of one male and one female, and placed in rearing containers. The containers employed were wide-mouthed, pint, Mason jars equipped with cheesecloth covers held in place by metal screw caps. Filter papers were placed in the bottoms of the jars to absorb excrement and to provide a suitable site for oviposition. Two or three ordinary green string beans were added to the jars each week as a food source. This technique was originally developed by Sailer (1952).

Life history studies were conducted in an insectary screened on three sides. Observations were made daily on each pair usually from 8:00 to 11:00 A. M. These observations included the number of egg masses deposited, the number of eggs in each mass and the number of individuals feeding and copulating.

Every day egg masses were removed from the rearing containers and placed in shell vials stoppered with a loose cotton plug. These were then observed daily for embryological development. Five newly hatched first instar nymphs were transferred to rearing containers and examined daily for developmental changes.

Development of the egg. The egg is light green in color when newly deposited but after a few hours it assumes a distinct yellow color. The first evidence of embryonic development is the appearance of faint, red eyes just beneath the operculum. The embryonic eye spots may be seen from four to eleven days after oviposition, the time required being dependent upon the temperature. A second stage of development is the appearance of dark pigment in the egg-burster which appears as a T-shaped structure just beneath the opercular suture. The "black T" stage usually follows the "red eye" stage by one or, at the most, two days. Eggs usually hatch in two or three days following the appearance of the black T, but during cold weather nine days may be required for hatching.

The incubation period varies with the temperature. Eggs deposited in early May when low temperatures prevail (Tables 1 and 2) required as long as 22 days to hatch while those deposited in August may hatch in 4 days. Eggs of the second generation require, on the average, less time than eggs of the first generation. The minimum, maximum and mean number of days required for incubation in 1955 and 1956 are presented in Table 3. The mean incubation periods obtained in Ohio corresponded quite closely for 1955 and 1956 considering the seasonal weather difference. These figures differed somewhat from the 6 days found by Parish in Iowa and the 5.6 days obtained by Esselbaugh in Illinois. The Ohio data are summarized from the observation of 4,654 eggs in 1955 and 5,063 eggs in 1956.

TABLE 1.—April to September mean daily temperatures in 1955. Ohio Agricultural Experiment Station, Wooster

Date	April	May	June	July	August	September
1	47.0	55.0	57.0	77.0	78.5	57.5
2	50.5	58.5	57.0	78.5	81.0	59.0
3	42.0	67.0	60.5	75.5	78.5	64.5
4	40.5	69.0	64.5	75.0	80.5	70.0
5	55.0	62.5	69.5	77.5	80.0	69.5
6	51.5	52.0	71.5	72.5	79.0	67.5
7	34.0	61.0	65.0	75.0	72.0	58.5
8	42.5	50.0	59.0	77.0	69.0	57.0
9	51.5	45.0	58.5	76.5	70.5	66.0
10	55.5	55.0	59.5	72.5	78.0	76.5
11	53.5	57.5	61.0	71.0	75.0	57.0
12	60.0	56.5	57.5	69.0	71.0	56.0
13	64.5	61.0	55.0	71.0	66.0	56.5
14	60.0	58.5	59.5	77.5	65.0	66.0
15	53.0	55.5	59.5	73.5	70.0	73.5
16	51.0	60.0	63.0	76.5	77.5	74.0
17	53.0	49.5	66.5	75.0	76.5	74.0
18	55.5	50.0	71.0	77.0	77.5	73.5
19	66.0	60.0	72.5	75.0	78.0	73.5
20	66.0	61.0	73.0	71.0	77.5	64.0
21	57.5	59.5	73.5	72.5	81.0	60.0
22	59.5	73.5	68.0	75.5	71.5	66.0
23	54.0	72.0	65.5	75.5	64.0	62.5
24	62.5	71.5	64.0	71.5	61.0	61.5
25	52.5	60.5	60.0	70.0	65.5	55.5
26	46.5	61.5	59.5	73.5	68.5	53.5
27	50.0	69.5	61.5	82.5	72.0	58.0
28	51.5	73.0	63.0	75.5	70.5	61.0
29	54.0	64.5	68.0	75.5	75.0	60.0
30	57.0	54.0	73.0	76.0	69.5	63.0
31		57.5		77.5	63.5	
Mean	53.2	60.0	63.9	74.8	73.0	63.8
Departure from aver.	+5.0	+1.4	—3 9	+2.9	+2.9	—0.2

Observations on viability and egg hatch were made upon five egg masses or less per day. In 100 egg masses, selected at random in 1956, representing 1,828 eggs, 87.3 percent of the eggs hatched, 10.4 percent were nonviable and 2.3 percent were viable but failed to hatch.

Development of the nymphs. The minimum, maximum and mean number of days required for the completion of the five instars appear in Table 3. The mean length of time required for the different instars

TABLE 2.—April to September mean daily temperatures in 1956. Ohio Agricultural Experiment Station, Wooster

Date	April	May	June	July	August	September
1	40.0	48.0	53.0	76.5	69.0	71.5
2	55.5	52.0	49.0	82.0	68.0	64.5
3	61.5	56.0	50.0	73.5	67.0	63.0
4	52.0	42.0	59.0	68.5	71.0	66.5
5	50.5	47.5	57.5	74.0	78.5	70.5
6	48.5	60.5	59.0	66.0	71.0	60.5
7	38.5	45.5	64.5	69.5	70.0	53.0
8	33.0	43.5	67.0	73.0	71.5	51.5
9	41.0	51.0	67.0	67.5	72.5	56.5
10	38.0	61.0	67.0	67.5	72.0	52.5
11	50.0	69.0	68.0	67.5	70.5	63.5
12	45.5	71.5	70.5	71.5	70.0	66.0
13	44.0	77.0	76.5	69.5	71.5	72.0
14	47.0	66.0	75.5	65.0	72.5	67.5
15	50.5	52.0	74.5	66.5	70.0	58.0
16	39.5	41.0	73.5	71.0	72.5	66.5
17	39.5	44.0	75.0	65.5	73.5	59.5
18	33.5	52.5	67.5	66.0	76.0	51.0
19	41.0	51.0	64.0	67.0	64.5	54.5
20	35.0	49.5	65.5	70.0	61.0	42.5
21	45.0	61.0	74.5	71.5	58.5	45.5
22	41.0	70.0	74.5	71.0	58.0	62.0
23	37.0	51.0	74.5	70.5	67.0	62.5
24	38.5	42.5	73.5	70.0	59.5	55.0
25	40.5	48.5	70.5	72.5	58.5	53.0
26	48.5	57.5	69.0	72.5	63.0	53.0
27	59.5	67.0	70.5	77.5	71.5	52.0
28	63.5	62.5	64.0	70.5	74.5	54.0
29	61.0	62.5	61.0	64.0	73.5	57.5
30	41.0	74.0	67.5	61.0	72.5	53.0
31		69.0		66.0	77.5	
Mean	45.3	56.3	66.8	69.8	69.2	58.6
Departure from aver.	—2.9	—2.2	—1.0	—2.1	—0.8	—5.3

varied considerably. In all cases, however, the first instar had the shortest mean length of time followed by the third, second, fourth and fifth instars. This was essentially true in comparable studies with *Euschistus servus* and *Euschistus tristigmus,* except that in *tristigmus* the fourth instar had a slightly lower mean developmental period than the second instar. These results were similar to those reported by Esselbaugh (1948) who mentioned the fact that the second, third and fourth instars in most Pentatomidae are of approximate equal duration.

TABLE 3.—Length of the pre-imaginal stages of Euschistus variolarius

Year	Generation and stage	Duration in days		
		Minimum	Maximum	Mean
1955	**First generation***			
	Egg	3	22	8.9
	First instar	3	11	5.0
	Second instar	3	16	7.0
	Third instar	4	13	6.8
	Fourth instar	4	11	7.3
	Fifth instar	7	34	11.9
	Total			46.9
	Second generation†			
	Egg	5	7	6.0
	First instar	3	6	4.4
	Second instar	4	8	6.4
	Third instar	4	8	5.5
	Fourth instar	5	10	8.5
	Fifth instar	11	25	16.2
	Total			47.0
1956	**First generation‡**			
	Egg	4	22	9.8
	First instar	3	8	5.1
	Second instar	6	12	8.4
	Third instar	4	12	7.8
	Fourth instar	6	13	9.6
	Fifth instar	12	29	16.2
	Total			56.9

*Based on the complete development of 52 males and 48 females.
†Based on the complete development of 10 males and 15 females.
‡Based on the complete development of 50 males and 50 females.

There were also considerable differences in the length of time required for complete morphological development. In 1955 some individuals completed their development in only 35 days while others required as long as 67 days. In 1956 the minimum was 47 days and the maximum 67 days. There were no significant differences in the length of time required for completion of development in males as compared with females. Seasonal differences in development are also evident from Table 3 since the mean was 10 days longer in 1956 than in 1955. This may be attributed to the generally higher spring temperatures in 1955 as compared with those encountered in 1956 (Tables 1 and 2).

Number of generations per year. In 1956 only one complete generation of this species was observed. This is in agreement with the report of Parish (1934) and Woodside (1946a). The number of generations per year may be influenced by seasonal weather and is discussed in another section of this paper. This is shown by the fact that in 1955 this species had a partial second generation. Some first generation individuals matured by July 9, 1955 and the first progeny of this generation emerged as adults on September 11, 1955. However, not all of the second generation matured and many were in various nymphal stages when the first frost occurred and caused their death. In 1956 some first generation females deposited eggs but none of these hatched.

BEHAVIOR

Copulation. The literature records some differences of opinion as to the habits of this species. Foot and Strobel (1914) reported that copulation occurs at rather definite intervals during the breeding season. Parish (1934) states that normally the females mate only once although some individuals were observed to copulate a second time. In the Ohio studies 86 overwintering pairs were observed to copulate an average of 1.6 times from May to September. One pair mated eight times while other pairs were not observed *in copula.* Since observations were made but once a day much mating activity may have been overlooked and the average quoted above may be rather low. Although accurate records were not kept of the time spent in copulation it was noticed that many pairs remained *in copula* for at least 24 hours and one pair apparently mated for 77 hours. First generation males in 1955 copulated an average of 0.68 times before they became inactive in the fall. Second generation adults were not observed to copulate.

Oviposition. The eggs of this species were laid in various places in the rearing containers. The eggs were deposited in the following locations in order of their frequency: on the bottom of the filter paper, on the cheesecloth top, on the green beans, on the top of the filter paper and on the sides of the jar.

The minimum, maximum and mean number of eggs and egg masses deposited by each generation in 1955 and 1956 appear in Table 4. The differences in the mean number of eggs deposited by overwintering females may be explained by the fact that a greater proportion of females in 1955 laid no eggs. The rate of oviposition cannot be established from the observations made in 1955 and 1956. In 1955, however, two females were observed ovipositing on two different dates. One female laid 12 eggs in 16 minutes while another laid 23 eggs in three hours and ten minutes.

Woodside (1946a) reported that females, caged on peach trees, most frequently laid their eggs in seven or multiples of seven, arranged in alternate rows of four and three eggs each. However, the number and arrangement of eggs laid by females in the insectary were not consistent. The Ohio studies, which were carried on exclusively in the insectary,

TABLE 4.—Number of eggs and number of egg masses deposited by overwintering and first generation Euschistus variolarius females*

Year		Overwintering generation	First generation
1955	**Number of eggs per female**		
	Minimum	0	0
	Maximum	646.0	245.0
	Mean	269.0	81.4
	Number of egg masses per female		
	Minimum	0	0
	Maximum	50.0	22.0
	Mean	15.4	8.8
1956	**Number of eggs per female**		
	Minimum	0	0
	Maximum	516.0	66.0
	Mean	290.6	3.8
	Number of egg masses per female		
	Minimum	0	0
	Maximum	35.0	4.0
	Mean	14.8	0.3

*Based upon eggs deposited by 86 females of the first generation and 19 females of tha second generation in 1955 and 25 females of each generation in 1956.

yielded somewhat different results in that females tended to deposit their eggs in multiples of 14. Figure 4 shows one peak at 14 eggs per mass, another at 28, and a third smaller peak at 42. No peaks are evident at 7, 21 or 35 eggs per mass. Since dissection has shown that there are seven ovarioles in each segment of the female reproductive system it appears that each ovary discharges seven eggs at approximately the same time. In some instances two, or even three, batches of eggs are apparently stored and later deposited at a single laying, thus accounting for masses of 28 and 42 eggs.

Longevity. Since adults have not been reared from one season to another exact longevity records were not obtained. In both 1955 and 1956 overwintering adults were collected in the spring and observed for the remainder of the season in the insectary. All of the adults collected in the spring died before October 15 and it is doubtful if any adults spend a second winter in hibernation.

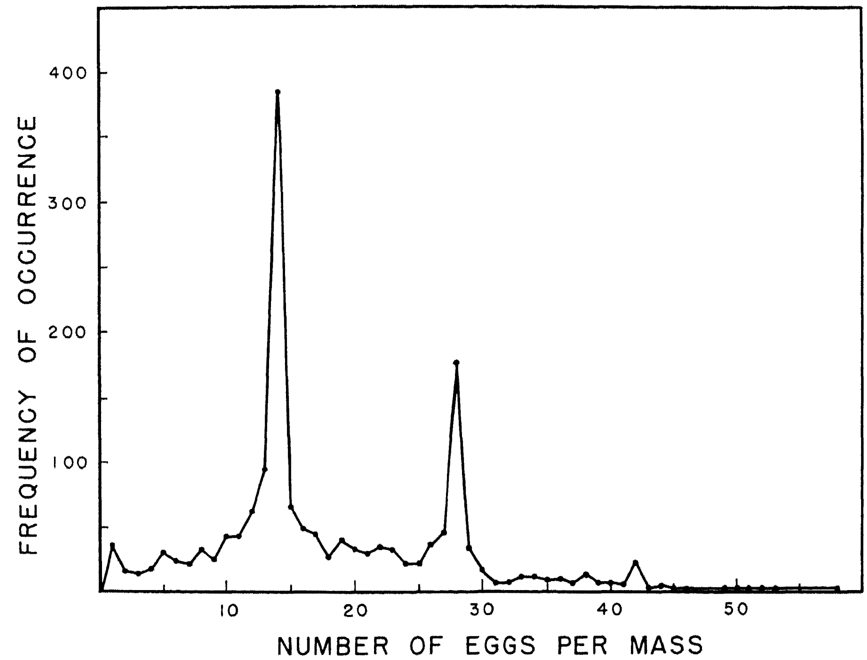

Fig. 4.—Frequency of occurrence of various numbers of eggs in egg masses of the one-spot stink bug.

Under insectary conditions males lived an average of 105.4 days in 1955 and 109.8 days in 1956. Females lived an average of 99.7 days in 1955 and 111.3 days in 1956. It was estimated that the life span averaged around 14 months. However, in nature this figure would be considerably reduced by various environmental resistance factors.

Effects of temperature on activity. In southern Ohio *E. variolarius* normally emerges from hibernation around the middle of April but the prevalence of cool weather may delay emergence until much later. While it is impossible to present detailed weather data in this paper a summary of monthly mean temperatures and the departure from average monthly mean temperatures is presented in Table 5 and will give a comparative idea of weather conditions in this area in 1955 and 1956. In 1955 stink bugs were first collected in Adams and Scioto Counties on April 11 while in 1956 they were not collected from the same localities until April 30. The difference in emergence date is undoubtedly due to the occurrence of warmer than normal temperatures in April 1955 as compared with the abnormally cool temperatures in April 1956.

TABLE 5.—Monthly mean temperatures and departures from monthly mean temperatures in 1955 and 1956. Portsmouth, Scioto County, Ohio

Month	1955		1956	
	Monthly mean	Departure from average	Monthly mean	Departure from average
January	32.3	—2.4	30 6	—4.1
February	35.8	—1.0	40 5	+3.7
March	45.5	+0.3	44 1	—1.1
April	59.4	+ 3.8	53.0	—2 6
May	66.7	+ 1.7	64.9	—0.1
June	67.7	—5.2	71.8	—1.1
July	78.8	+2 0	75.6	—1.2
August	78.0	+3 3	74 2	—0.5
September	71.7	+3.3	66.8	—1.6
October	58.2	+1.8	61.1	+4.7
November	44.1	—1.1	47.2	+2.0
December	33.6	—3.2	45.1	+8.3

Egg and nymphal development, copulation, oviposition, feeding and the number of generations per year were also influenced by temperature. When daily mean temperatures averaged 50.9 degrees, it required 22 days for eggs to hatch but when these temperatures averaged 72.9 degrees eggs hatched in only 4 days. A similar temperature effect was noted on nymphal development. Copulation, feeding and oviposition were influenced largely by maximum temperatures. Few eggs were laid when maximum temperatures were below 60 degrees while more were deposited when maximum temperatures ranged from 60 to 70 degrees. The greatest number of eggs were deposited when maximum temperatures ranged from 80 to 90 degrees. Mating and feeding activities were similarly affected by maximum temperatures.

In 1955 one full and a partial second generation occurred while there was but one generation in 1956. The difference in life history is a seasonal one as shown by Tables 1 and 2. In 1956 several periods of abnormally low temperatures occurred in May, June, July and September. These periods are reflected in the mean daily temperatures in Table 2 and prolonged complete morphological development by 10 days in 1956 as compared with 1955. The delay in emergence from hibernation also contributed significantly to this difference.

NATURAL ENEMIES

Parasites of adult *Euschistus variolarius* seem to be of little value in suppressing populations of this stink bug. In 1955 only 4.9 percent of the 224 field collected adults were parasitized and in 1956 only 1.3 percent of 75 adults were killed by parasites. Of the parasites reared 50 percent were *Gymnoclytia occidua* (Wlk.), 25 percent were *Euthera tentatrix* Lw., 12.5 percent were *Cylindromyia binotata* (Big.) and 12.5 percent were *Cylindromyia fumipennis* (Big.). All of these species are members of the Family Larvaevoridae. *Gymoclytia occidua* appears to be the most important parasite attacking adult stink bugs since it has also been reared in Ohio from the red-shouldered stink bug, *Thyanta custator* Fab., and the stink bug, *Holcostethus limbolarius* (Stal.).

In the male the immature parasite emerges from between the fifth and sixth abdominal segments. This results in almost complete separation of the sixth segment from the abdomen. In the female the sixth abdominal segment is split longitudinally by the parasite larva as it makes its exit. If the abdomen is viewed immediately after the parasite has emerged, it is transparent due to the fact that the internal tissues have been devoured by the parasite.

The only predator observed to attack *variolarius* was a chrysopid larva (*Chrysopa* sp.) which was found feeding upon second instar nymphs in a tree cage used in peach cat-facing insect studies.

SUMMARY

The life history, behavior and ecology of the one-spot stink bug, *Euschistus variolarius* (Palisot de Beauvois), were investigated in Ohio in 1954, 1955 and 1956. Only one generation occurred in 1956 and the complete life cycle required 56.9 days. In 1955 one complete and a partial second generation was found. The life cycle of both the first and second generation in 1955 was completed in approximately 47 days. Egg and nymphal development, feeding, copulation, oviposition and the number of generations per year were predominantly influenced by temperature. The species occurs throughout the State of Ohio and is common on mullen, peach, legumes and various other plants. It is of economic importance to peach growers since early season feeding by the insect tends to produce severely deformed fruit. Four species of Larvaevorid parasites were found to attack adult stink bugs, *Gymnoclytia occidua* (Wlk.), *Euthera tentatrix* Lw., *Cylindromyia binotata* (Big.), and *Cylindromyia fumipennis* (Big.).