INSECTS OF THE WINTER, 1931-32*

As you all know, this has been a very unusual winter, very warm and very dry, but with an unusually large number of foggy mornings. As to how warm and how dry, the following table will show. The data here given are for Gainesville, but will serve to illustrate conditions which have been state wide.

	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Mean Temperature '31-32	.....	.....	67.8	68.7	65.0	67.3
Normal	.....	.....	62.4	58.1	57.8	58.4
Departure	.....	.....	+5.4	+10.6	+7.2	+8.9
Precipitation '31-32	1.41	.16	.49	.84	1.41	1.90**
Normal	5.65	2.84	2.04	3.22	3.31	2.87
Departure	—4.24	—2.68	—1.55	—2.38	—1.90	—.97

Comparing these temperatures with those normal for March (63.7), and April (69.3), it will be seen that each of the months from November to February inclusive were but a few degrees (4.3 to .6) cooler than the average April and distinctly warmer than the average March. Under these circumstances it is to be expected that many insects which commonly do not make their appearance until April should have appeared much earlier this year. The following notes record several such insects.

Orthaea spp.—The Strawberry Pameras, which seldom give any trouble until about April, have been very troublesome. Complaints were received from the Plant City section in early January, and in late February they became very numerous in the Alachua and Bradford County strawberry section. The most common species was *O. vincta* but *O. longulus* was also noted.

Red Spiders were abundant, especially *Tetranychus yothersi,* the Camphor Red Spider. Never has the writer seen the camphor trees so severely and generally russeted as now. Practically every tree shows the yellowish brown color characteristic of the attacks of this spider mite.

The Six-spotted mite became rather common on grapefruit

*Given before Fla. Ent. Soc. J. R. Watson.

**All but .02 of this fell after the 19th of the month, on which date the drought can be considered as being ended.

trees in many sections of the state as early as February. During the same month Mr. F. W. Walker reported the Purple Mite, *Paratetranychus citri,* as common on satsumas as far north as Monticello.

As usual during warm winters, the Celery Leaf Tyer, *Phlyctaenia ferrugalis,* became very abundant in the Sanford area from December on. The Semi-tropical Army-worm, *Xylomyges eridania,* was also abundant on the celery at Sanford and on golf courses and other grassy places south of there. It was not noted about Gainesville.

Cabbage worms were unusually troublesome all winter. They were mostly the Cabbage Looper, *Autographa brassicae,* the Cabbage Plutella *(P. maculipennis),* and the larvae of the Gulf White *(Pontia monuste),* tho some *Pontia rapae* were seen. The first two are usually rather common during a normal winter but the *Pontias* are usually not noted before April.

The adults of the Pecan Twig Girdler *(Oncideres cingulata)* were taken as late as early January.

Perhaps the most unusual of all was the discovery of newly emerged moths of the Velvet Bean Caterpillar *(Anticarsia gemmatilis).* The earliest previous date of the taking of this moth in Florida was April 28 on the shores of Lake Okeechobee. This year they were seen at Gainesville and Citra on March 4. During most winters this insect is exterminated over most of Florida, starved out by the killing of its host plants, velvet beans, kudzu, *Cannavalia,* Soy Beans, and peanuts, which are all very sensitive to frost.† This is the first winter that this insect has been definitely known to survive anywhere in Florida, tho doubtless it frequently, if not usually, overwinters in extreme south Florida. That it was able to survive this winter as far north as Gainesville is doubtless due to the fact that no killing frost has occurred and volunteer plants of its hosts have been available for food.

Entomogenous fungi have been more active than during any previous winter we have known. The Red Aschersonia *(A. aleyrodis* Webber) and the Brown Whitefly Fungus, *Aegerita webberi* Fawcett, have been producing spores. The scale-infesting fungi, especially the Red-Headed Scale-Fungus, *Sphaerostilbe aurantiicola* (B. et Br.) Petch, the White-Headed Scale-Fungus, *Podonectria coccicola* (E. et E.) Petch, and the Black Scale-Fun-

†Bull. 130, Fla. Agric. Exp. Sta.

gus, *Myriangium duriae* Mont., have also been unusually active. It is not so uncommon for these fungi to undergo considerable development during the winter.

Especially active has been the common fungus *(Empusa fresenii* Now.) of the Green Citrus Aphid *(Aphis spiraecola* Patch). Our experience has heretofore been that a warm January, which induces considerable new growth on citrus trees, has usually caused a heavy infestation of aphids the following spring. But this year it has not done so. This is partly due to drought, as is shown by the fact that there are more aphids in irrigated groves and in localities that received somewhat more rain, but the main factor has been the prevalence of this fungus. This *Empusa* is normally active during the summer and is one of the main factors in controlling the aphid during the summer but is usually of little consequence in the early spring. In the spring of 1926 it brought the aphid under control in April but this has been the earliest date recorded heretofore.

The unusual development of these entomogenous fungi is undoubtedly due to the unusual number of warm foggy mornings which has characterized this winter.

MINUTES OF THE FLORIDA ENTOMOLOGICAL SOCIETY

February 26, 1932

The meeting was called to order by President Byers at 4 o'clock P.M. The following members of the Society were present: Dr. Berger, Professor Watson, Professor Dickey, Mr. Bratley, Dr. Tissot, Mr. Merrill, Mr. Calhoun, Dr. Byers, and Professor Creighton. There were three visitors present: Mr. Chester, Mr. Mulrennan, and Mr. Holland.

Dr. Byers read a letter from Dr. Johanssen, of Cornell, who asked that Dr. Byers attempt to arouse the interest of the members of this Society in the trip to Europe for the meeting of The International Congress, to be held in Paris, during the summer of 1932. Anyone desiring information concerning this matter may obtain same by writing to the Secretary of the Society.

President Byers then called for the report of the Business Manager.

As is customary, the officers for the ensuing year were elected: President, Dr. Tissot; Vice-President, Dr. Berger; Business Manager, Mr. Bratley; Member of the Executive Commit-