

*The*

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### FLORIDA LONGEVITY RECORDS OF THE COTTON BOLL WEEVIL

By EDGAR F. GROSSMAN<sup>1</sup>

The fact that a cotton boll weevil (*Anthonomus grandis* Boh.) lived 267 days without food in a hibernation cage, in 1922-23, together with similar occurrences during succeeding years, stimulated interest in the longevity of the boll weevil in Florida.

In an early publication<sup>2</sup> the following records are noted: the maximum record of longevity (period of hibernation included) of any boll weevil which was fed squares after emergence from hibernation was a total of over 335 days; the maximum number of days that a weevil lived in hibernation without food was 240 days; the maximum number of days that a weevil lived with food after emergence from hibernation was 130 days.

A later publication<sup>3</sup> specified that the maximum record of longevity for a specimen of *Anthonomus grandis thurberiae* Pierce was over 333 days, 270 of which were spent in hibernation. In this publication the author stated that experiments conducted at Washington, D. C., indicated that boll weevils have been kept in a dormant state for over a year, giving promise of living considerably longer.

In the fall, November 2, 1927, the present author placed 5000 boll weevils without food in a hibernation cage located in a damp and sheltered spot in the woods near Gainesville, Florida.

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<sup>1</sup>Contribution from the Department of Cotton Investigations, Florida Agricultural Experiment Station.

<sup>2</sup>The Mexican Cotton Boll Weevil, Senate Document No. 305, 62nd Congress, 2nd Session, Washington, D. C. 1912.

<sup>3</sup>Coad, B. R., Recent Studies of the Mexican Cotton Boll Weevil. Bul. 231, U. S. D. A. August, 1915.

LONGEVITY RECORDS OF COTTON BOLL WEEVILS CAPTURED NEAR GAINESVILLE,  
FLORIDA, AND PLACED IN HIBERNATION NOVEMBER 2, 1927.

Weevil Number	Date emerged from hibernation	Number days in hibernation	Date died	Number post-hibernation days	Total number days alive
1	June 15	226	July 1	17	243
2	June 15	226	July 1	17	243
3	June 15	226	July 1	17	243
4	June 15	226	July 1	17	243
5	June 15	226	July 1	17	243
6	June 15	226	July 1	17	243
7	June 15	226	July 1	17	243
8	June 15	226	July 1	17	243
9	June 15	226	July 1	17	243
10	June 15	226	July 2	18	244
11	June 15	226	July 4	20	246
12	June 15	226	July 5	21	247
13	June 15	226	July 13	29	255
14	June 15	226	July 13	29	255
15	June 15	226	July 16	32	258
16	June 15	226	July 18	34	260
17	June 15	226	July 25	41	267
18	June 15	226	Aug. 2	49	275
19	June 15	226	Aug. 11	58	284
20	June 15	226	Oct. 4	112	338
21	June 16	227	July 1	16	243
22	June 16	227	July 1	16	243
23	June 16	227	July 1	16	243
24	June 16	227	July 1	16	243
25	June 16	227	July 1	16	243
26	June 16	227	July 1	16	243
27	June 16	227	July 13	28	255
28	June 16	227	July 20	35	262
29	June 16	227	Oct. 6	113	340
30	June 16	227	Oct. 15	122	349
31	June 16	227	Nov. 5	143	370
32	June 21	232	Aug. 8	49	281
33	June 21	232	Aug. 11	52	284
34	June 22	233	Aug. 14	54	287
35	June 24	235	Sept. 3	72	307
36	June 26	237	July 3	8	245
37	June 26	237	July 3	8	245
38	June 26	237	July 20	25	262
39	June 26	237	Sept. 12	79	316
40	June 26	237	Sept. 12	79	316
41	June 26	237	Sept. 18	85	322
42	June 26	237	Oct. 29	126	363
43	June 27	238	July 3	7	245
44	June 27	238	July 3	7	245
45	June 27	238	July 3	7	245
46	June 27	238	July 3	7	245
47	June 27	238	Aug. 8	43	281
48	June 27	238	Nov. 7	134	372
49	June 29	240	July 31 (escaped)	33	273
50	June 29	240	Oct. 14	108	348
51	June 30	241	Nov. 5	129	370
52	July 4	245	Oct. 13	102	347
53	July 10	251	July 27 (escaped)	18	269
54	July 16	257	Aug. 14	30	287

Though some weevils emerged from hibernation throughout the winter, no record of emergence was kept until March 1. On this date all the weevils which were out of hibernation were removed from the cage and recorded. Daily observations and removal of those weevils which emerged continued until August 9. The last weevil to emerge appeared on July 16, having spent 257 days without food in the hibernation cage. Of the 5000 weevils placed in the cage, 11.24 percent, or 562 weevils, emerged.

In order to determine the greatest number of post-hibernation days that weevils would live, all the weevils emerging after June 14 were provided with fresh cotton squares and placed individually in lantern globes. The globes were kept in an insectary where "normal" conditions were simulated as nearly as possible.

The accompanying table gives the record of all weevils which emerged after June 14. The following individuals are of interest: weevil No. 54 which spent 257 days without food in the hibernation cage; weevil No. 31 which lived 143 days after emerging from hibernation; and weevil No. 48 which lived a total of over 372 days. This is respectively 17, 13 and 37 days longer than the previously cited records for *Anthonomus grandis* Boh.

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### A NEW JUNIPER APHID FROM UTAH<sup>1</sup>

#### WITH NOTES ON A FEW OTHER SPECIES

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#### *Minuticornicus* gen. nov.

Head without prominent antennal tubercles; antennae shorter than the body, six-segmented and armed with round sensoria; front wings with the media twice branched; hind wings with both media and cubitus present; cornicles very small, wider than high, and situated on slightly swollen bases; cauda well developed, tapering gradually and armed with a number of fine sensilla; anal plate rounded.

This genus resembles *Siphonatrophia* Swain in general form but has one more segment in the antennae. *Minuticornicus* has a shorter and somewhat different type of cornicle than *Pergandeidia* Schoutenden, although the cauda is very similar.

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<sup>1</sup>Contribution from the Department of Entomology, Utah Agricultural Experiment Station.

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