A LIST OF SCARABAEIDAE BEETLES OF THE NEVADA TEST SITE[1]

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In August, 1959, Brigham Young University initiated an ecological study at the Nevada Test Site as a basis for determining the effects of nuclear testing on native animals (refer to Brigham Young Univ. Sci. Bull., Biol. Ser., II(2):1-52; 1963). During the succeeding five years, studies dealing with selected groups of arthropods yielded a number of beetles of the family Scarabaeidae. These were submitted to Dr. Henry F. Howden, Canada Department of Agriculture, Ottawa, to whom we are grateful for the identification of the specimens. For the most part, specimens were trapped in pit cans as described by Allred, *et al.* (*Ibid.*, pp. 8-9). In some cases, however beetles were taken by hand directly from the host plant.

In the listing that follows, the plant community and the host plant are given when known (for a description of the plant communities refer to Brigham Young Univ. Sci. Bull., Biol. Ser., II(4):1-5; 1963). When no host plant is listed, the specimens were taken from pit cans in the plant community indicated.

Aphodius fucosus Schm.

Of a total of 222 beetles of this species, 219 were taken from the Grayia-Lycium community during March, April, and May. Three specimens were taken from the Coleogyne community in March. The majority were found during April.

Aphodius militaris Lec.

Five of 13 specimens taken were from the Grayia-Lycium community in March, May, and June. One specimen was taken from *Lycium andersonii* in January, and another from *Lycium* sp. in November, both in the Larrea-Franseria community. Six were taken from a Mixed community in November and December.

Aphodius nevadensis Horn

Two of a total of 127 specimens were taken from a Grayia-Lycium community in February. Seven were taken from a Coleogyne community—one in January, three in February, one in November, and two in December. One was collected from the Pinyon-Juniper community in November. A total of 117 was taken from the Mixed community—one in November, 106 in December, and nine

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in January. Over the whole test site, the predominant number of specimens was taken in December.

Chnaunanthus flavipennis Horn

One specimen was taken from the Grayia-Lycium community in May.

Cyclocephala longula Lec.

Two of a total of seven specimens were taken from a Grayia-Lycium community in August, three from a Larrea-Franseria community in August, and two from a Coleogyne community in July and August.

Diplotaxis deserta Fall

A total of 19 specimens was taken from a Mixed community. Eighteen were taken in June and one in August.

Diplotaxis haydeni Lec.

Five specimens were taken from a Pinyon-Juniper community in July.

Diplotaxis incuria Fall

Five specimens were taken from the Larrea-Franseria community in June.

Diplotaxis insignis Lec.

One specimen was taken from the Pinyon-Juniper community in July.

Diplotaxis moerens moerens Lec.

A total of 77 specimens was taken. Thirty-five were found in the Larrea-Franseria community in August, and one was taken from *Lycium pallidum* in the same community in July. One specimen was taken from the Atriplex-Kochia community in September, 13 from the Coleogyne community in August, and four from the Grayia-Lycium community in July. Twenty-two were taken from a Mixed community—11 in July, four in August, and seven in September. With reference to the whole test site, the greatest number of individuals was taken in August.

Diplotaxis pacata Lec.

One specimen was found in a Larrea-Franseria community in June.

Diplotaxis subangulata Lec.

Thirty of 167 specimens taken were from the Grayia-Lycium community—one in May, four in July, 24 in August, and one in September. Forty-two specimens were found in a Larrea-Franseria community—five in June, two in July, and 35 in August. Four were

taken from a Coleogyne community in July, and 52 from a Mixed community—one in June, 43 in July, six in August, and two in September. With reference to the whole test site, the predominant numbers were taken in July and August.

Ochodaeus sparsus Lec.

One specimen was taken from a Grayia-Lycium community and two from a Coleogyne community, all in August.

Paracotalpa granicollis Hald.

A total of 226 specimens was taken. From the Grayia-Lycium community 25 were taken in January and 34 in February. Five were found in the Salsola community in February. In the Larrea-Franseria community 19 were taken in January and 10 in February. In the Atriplex-Kochia community 99 were taken in January, four in March, and two in April. In the Mixed community 26 were taken in January, one in February, and one in March. Over the whole test site, the predominant number was taken in January.

Jorgensen (Pan-Pacific Ento., 39(3):154-6; 1963) noted some aspects of the biology and distribution of this species at the Nevada Test Site. He mentioned specifically the flight and mating activities of the adult males and females.

Serica alternata Lec.

Thirty-four specimens were taken from the Pinyon-Juniper community in July and 15 from a Mixed community in August.

Serica perigonia Dawson

Five specimens were found in the Pinyon-Juniper community in July.

Summary

In addition to those listed above, others collected for which data are not complete are *Aphodius* (near) *talpoidesi* Brown, *Phyllophaga* (*Listrochelus*) sp., *Serica curvata* Lec., and *Serica falli* Dawson.

In sequence of greatest abundance, the most common species known to occur at the test site are *Paracotalpa granicollis*, *Aphodius fucosus*, *Diplotaxis subangulata*, and *Aphodius nevadensis*, respectively. Seasonally, the greatest numbers of species in the adult stage were most active in July, June and August, and May, respectively, although greatest numbers of individuals were found in January, July, April, August, and December.

It is expected that further collecting specifically oriented toward the scarabeids will reveal additional species.