

# Scarabaeus

A NEWSLETTER FOR THOSE INTERESTED IN SCARABAEIDAE

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This newsletter was conceived in discussions during 1978, but press of other commitments has necessitated a delay in its inception. The proposed purposes of this letter are to facilitate communication among the rather substantial numbers of persons interested in Scarab beetles, and to indicate areas where a coordinated effort would add to the body of knowledge of this group. This is not intended to be an outlet for new species descriptions or announcements of taxonomic decisions, and is not to be considered a publication in the sense of the International Code of Zoological Nomenclature. Rather, we hope to present: short articles summarizing the available information dealing with rare or cryptic species, in the hopes that this wider knowledge will result in a better chance of new facts being recorded; a summary of recent literature; new distributional data, host data and the like; and to facilitate the exchange of literature, specimens and information. It will appear on an irregular basis.

Initially, we propose to restrict the scope of items in this newsletter to the United States, Canada, and adjacent Northern Mexico. With time, the limits may be expanded to other areas. We welcome contributions, but realizing that errors are more difficult to remove from the body of knowledge than to insert, verification may be requested for identifications of beetles and/or hosts. All submissions should include the names of observers and identifiers.

## HOW TO GET THIS NEWSLETTER

Since this is to be a shoe-string operation and we don't have money, or want to keep track of same, we propose the following scheme of things: In order to receive the newsletter (the first couple will be mailed out free), send approximately six legal sized self-addressed envelopes, complete with U.S. postage. On the last envelope, mark clearly, where you will see it, the words "Last Envelope" or the like. When you receive this envelope, you will know that it is time to send another supply. By this system, we hope to reduce maintenance effort, and to make certain that this goes to those who want to receive it. We have made a tentative mailing list, but we are certain we have omitted many. Please tell your contacts about this newsletter. Anyone who did not receive back numbers can have same upon request.

## WINTER COLLECTING

Recent investigations in desert areas of the Western United States seem to indicate that many of the rare or poorly known species may be active in winter or early spring, and are gone before most collecting really begins. A notable case in point is the recent collection, in less than one week, of over 1,000 Xeropsamobeus

desertus, where less than a dozen were previously known. The species is winter active. Large series of Aphodius pyriformis and others have been collected when the air temperature was  $-8^{\circ}\text{C}$  ( $17^{\circ}\text{F}$ ), at 7:00 a.m., in clear patches in snowy areas. These and many others have been found to be early season insects. One group that probably has numbers of winter active species is Coenonycha.

### COENONYCHA

Coenonycha is a western genus of Macroductylini, which was last revised in 1943 (Cazier and McClay). With the subsequent addition of two species by Potts (1945)

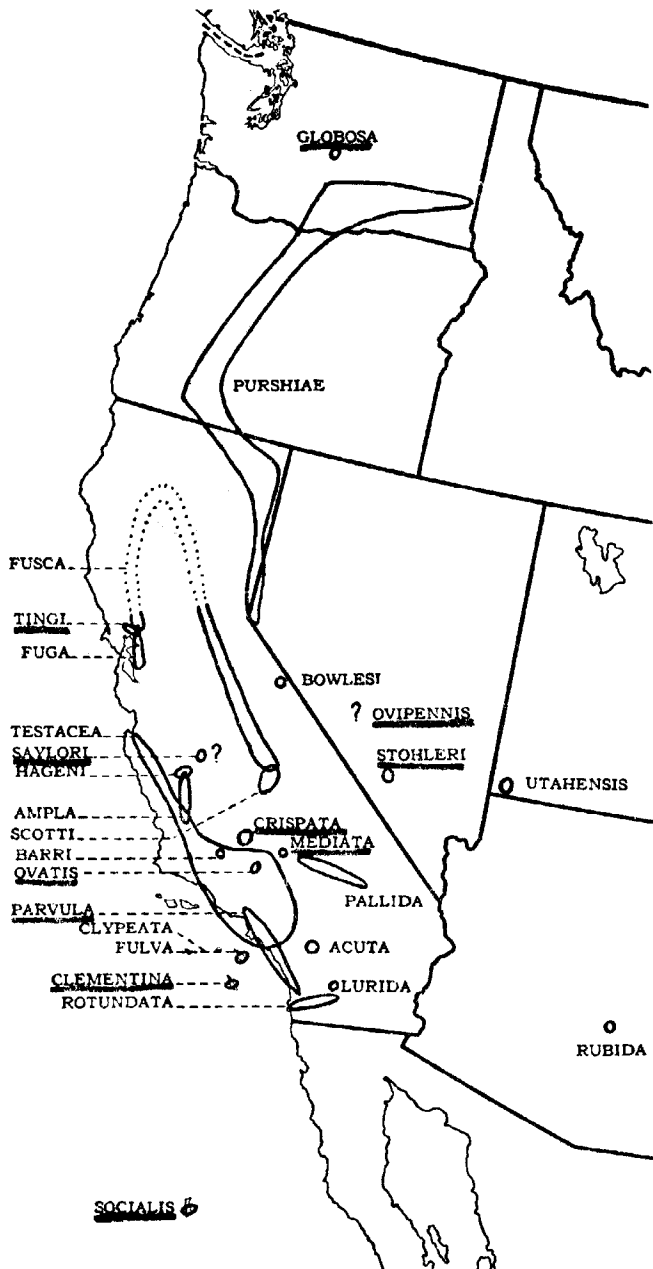
and Howden (1969), the total of described species now stands at about 30. One of the things that makes this genus interesting is the reduced wings on about a dozen of the species. As is to be expected in some groups of flightless beetles, endemism is high and there are undoubtedly many undescribed species waiting to be discovered, in addition to the dozen or so undescribed species already known.

As is evident from the accompanying map, most known species are from California, but there may be others in other western states. Most species have been taken from March to May, but several large series have been taken during February. This may indicate that later collections were of survivors of larger early populations. Many species of this genus may be winter active, and early season attempts at collection may yield surprising results.

Coenonycha generally are taken beating vegetation. Some species appear to be diurnal (especially earlier forms), but most are nocturnal. Some species are attracted to blacklight, but most apparently not. Series have been taken in the soil about the roots of the host plant. Recently, several species, including wingless forms, have been taken in antifreeze (Ethylene Glycol) pit traps.

Species in the genus are generally difficult to identify, in part the result of so many undescribed species, and in part through a lack of verified comparative material. Most specimens in the major collections were burrowed over 10 years ago for a revisionary work, which has not yet appeared.

Important contributions remain to be made



A map taken from Cazier and McClay (1943) showing distributions for Coenonycha. The reduced-winged species are underlined.

towards the knowledge of this group, notably by location of new populations and association with host plants. Larvae of nearly all species are unknown or unassociated.--A. R. Hardy.

#### CALIFORNIA OCHODAEINAE

The subfamily Ochodaeinae is represented in California by two genera: Ochodaeus Serville and Pseudochodaeus Carlson and Ritcher. Pseudochodaeus is monobasic with estriatus (Schaeffer) its only included species. Ochodaeus is a large cosmopolitan genus represented in California by several species.

Although the California species of Ochodaeinae are probably not rare in nature, several are collected infrequently and consequently, are rare in collections. Ochodaeinae are most frequently collected at lights (black-light and incandescent), however, at least one species is apparently diurnal (probably the reason it is rare in collections).

The following geographical and temporal data are presented in anticipation that collectors may make additional material available for revisionary studies now in progress.

##### Pseudochodaeus estriatus (Schaeffer)

Foothills and higher elevations in the Sierra Nevada, Siskiyou, Klamath, and Cascade mountain ranges. Collection dates range from June through August. See Carlson & Ritcher, 1974, Pan-Pac. Ent., 50(2):99-110 for specific locations.

##### Ochodaeus californicus Horn

Los Angeles County: Pasadena, Claremont; April.

San Diego County: San Diego, June 10; Stewart Mine, nr. Pala, 27 March.

This species is easily distinguished by its coloration. The head and pronotum are black and the elytra are light-brown. Collecting records indicate that this species is diurnal in its habits. It has been taken flying over dirt roads and grassy areas.

##### Ochodaeus gnatho Fall

San Bernardino County: 27 mi. E. 29 Palms, 12 October.

Riverside County: Palm Springs, 26 April.

Imperial County: Bard, August; county records for May, June, and July.

Probably taken at lights. O. gnatho is most readily distinguished by its well-developed elongate mandibles. The mandibles are less developed in females. It is uniformly brown (testaceous and darker) and setose.

Ochodaeus mandibularis Linell

San Bernardino County: Yermo, 30 August; 10 mi. E. Palms, 1 August.

Riverside County: Coachella, September; Thermal, 10 July and 27 September; Pleasant Valley, Joshua Tree National Monument, 22-23 September.

Imperial County: Algodones Dunes, April; Calipatria, 10 April, 6, 16 October, and 30 September; Westmorland, 12 October.

Frequently taken at lights. This species is readily distinguished by a usually well-developed horn on the vertex. In some smaller specimens the horn may appear more like a tubercle.

Ochodaeus spp.

Other localities where Ochodaeus (species as yet undetermined) have been collected are:

Inyo County: Grandview P.C., 8 August.

Mono County: Benton, 1 July.

Monterey County: Carmel, 12 March.

Placer County: Meadow Vista, 18 May.

Tuolumne County: Pinecrest, 10 June.

Ventura County: Mt. Pinos, 31 May.

Sequoia National Park, 12 May.

--David Carlson, Biology Department, Azusa Pacific College, Azusa, CA 91702.

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THE RAREST U.S. EUPHORIA

The rarest U.S. Euphoria currently goes under the name E. aestuosa Horn 1880. The species has an interesting history, and is virtually unknown. As indicated above, the current name is E. aestuosa, but this is in fact a junior synonym, which has as yet not been published. Since we don't wish to introduce new taxonomic changes in this paper, we will use aestuosa for this discussion.

During the course of a revisional study of the Euphoriini of N. America, I had the privilege of examining a number of types housed in the Paris Museum, but sent on loan. One specimen, described as a species in a related genus, was clearly E. aestuosa. From labels on the specimen it appeared to have been sent to Europe by a "LeConte".

Whether this refers to John L. LeConte or his father or cousin, who also were entomologists, is not indicated, but two years after it was described in Europe, Horn (1880) described E. aestuosa. Since Horn worked with the LeConte collection and since LeConte was still alive and active at the time, it would seem that J. L.

LeConte was not the one who sent the specimens as he certainly would have informed Horn. Both John L. LeConte and his father, John E. LeConte, were military men. The elder LeConte was called "Major" by those who knew him. John L. LeConte served in the civil war where he rose to the rank of Lieutenant Colonel.

A reading of the original description indicates that the specimens (there were at least two) were from the Dejean collection, and were listed in Dejean's 1837 catalog of his collection. Since John L. LeConte was born in 1825, it is hard to conceive of this individual, before the age of 12, transmitting specimens to the most noted Coleopterist of the time. Finally, at the end of the description, the specimens are attributed to "Major LeConte".

In 1880, Horn described the species, and evidently these three specimens were all that were known for nearly 35 years. Of the nine specimens I have examined (except types), the earliest date was 1913, and the latest 1954. The species thus seems to be represented by 12 specimens.

The most interesting thing discovered about this species was related to me by H. Dybas, Field Museum. In 1954, he was excavating the burrow system of the gopher Geomys breviceps in Grant Parish, LA., when in one fecal chamber he found large numbers of larvae of a scarabaeid. He retained a number and subsequently some of these matured into adults. I have examined six specimens from this series, which are now in a number of collections. I am unaware of more, but there is definitely the possibility the original series was larger. At present, breviceps is considered a subspecies of G. bursarius, which is widely distributed throughout the great plains. It would thus seem fruitful to examine Geomys burrows for this species.

At present the species has been examined from Reno Co. Kansas, Grant Co., Louisiana, Payne Co. Oklahoma, and Kendall Co., Texas, three dates are III-14, V-9, and V-29.

Many other scarabaeids are found in dung chambers of rodents. The most fruitful method of collection seems to be to take the soil from beneath the chambers and use Berlese funnels to extract adult beetles. In gopher burrow-systems many times there is more than one dung-chamber (often lateral, blind tunnels), and the nest chamber is blocked by a temporary plug of dirt. One technique that has proved successful for many species is to trap out the rodent, and place a pitfall trap inside the entrance, which is then blocked. Oftentimes best results are obtained if the pitfall is baited with human dung--A.R. Hardy.

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--A. R. Hardy

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We note with regret the death of the Japanese Scarab worker Shizuma Nomura, on January 17, 1979.