MARK F. O'BRIEN

NEWSLETTER

of the

MICHIGAN ENTOMOLOGICAL SOCIETY

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THE DEVIL'S COACH HORSE AND THE ESCARGOTS

by IAN MOORE[1]

In England they call it "the devil's coach horse". It is a large (22 mm long) black rove beetle (Staphylinidae) indigenous to western Europe known as *Ocypus olens* (Müller). Sometime early in this century it was accidently introduced into California where it is now established in some cultivated areas.

Another immigrant to the United States, including California, is the brown garden snail, *Helix aspersa* (Müller). This terrestrial pulmonate mollusc has accompanied man's migration throughout the world. It has been accidentally introduced in many areas in nursery stock and intentionally introduced into others as food (the escargots of the French). Within California *H. aspersa* has long been considered a severe garden, nursery and orchard pest. Its diet is omnivorous and includes living and decaying vegetables, flowers, ground covers, citrus leaves and fruit, and even paper labels and cardboard cartons as well as cadavers of its own species. Large numbers of snails crawling onto freeways from well-watered landscaping have threatened to create a high-slip hazard to passing traffic. Within California home owners probably spend more money for control of brown garden snail than for all other pests combined. Effective snail control thus far in backyard situations is achieved only by the use of prepared metaldahyde baits. Recent laboratory studies by T. W. Fisher and R. E. Orth (personal communication) show that local populations of *H. aspersa* which have been subject to a systematic baiting program over the past several years are more resistant to metaldahyde baits than are populations rarely or sporadically treated. Consequently, we at U.C.R. are search-ing for other means to control this pest.

Several years ago when I first moved into my present home, I noticed a paucity of snails in the garden in comparison with many other gardens in the neighborhood. I also discovered that my garden had an established population of *Ocypus olens*. As a student of rove beetles, I was aware that *O. olens* was alleged to feed almost exclusively on slugs in England. Putting two and two together I speculated that possibly the beetle might include snails in its diet thus accounting for the scarcity of snails in my garden. Often when a pest and its predator are in good balance, both are scarce. Searching for healthy rove beetles in my garden proved unrewarding, although dead specimens were seen on the concrete patio and driveway. We wanted specimens for laboratory study so were pleased when a student finally brought us a healthy adult specimen from another part of the city.

We confined our healthy female specimen of *O. olens* in a plastic 16 oz. container with a wire screen lid, about two inches of moist soil and mulch in the bottom and two 12 mm garden snails. As both the snails and beetles are nocturnal we witnessed no feeding that day; but the next morning found an empty slightly damaged shell in the container. We replaced the snail with a live one and had the same results the following morning. This went on for sever-

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[1] Department of Entomology, University of California, Riverside 92502.

The NEWSLETTER of the Michigan Entomological Society is published as four numbers yearly, at irregular intervals. Please send all notes, news, new insect records, research requests, season summaries, important dates for the Entomologists' Calendar, other items for the NEWSLETTER, membership inquiries, dues, etc. to the Executive Secretary, Michigan Entomological Society, Dept. of Entomology, Michigan State University, East Lansing, Michigan 48824.

The Executive Secretary's Page

1975-76 OFFICERS OF THE MICHIGAN ENTOMOLOGICAL SOCIETY

President ..... David C. L. Gosling
President-Elect ..... Donald C. Cress
Past President ..... Robert W. Husband
Executive Secretary ..... M. C. Nielsen
Member-at-Large ..... John A. Witter
Member-at-Large ..... Ronald J. Priest
Member-at-Large ..... Roger G. Bland
Journal Editor ..... Irving J. Cantrall
Newsletter Editor ..... Louis F. Wilson

NOTICES

FOR SALE: Bull. of Ent. Soc. of Canada (miscellaneous 1969-74); Can. Ent. Supple. (1-30); Syrphidae of Ohio by Metcalf (1913); N.A. Clear-wing Moths, Aegeriidae by Englehardt; Dragonflies of Indiana by Williamson (1899); Insect Galls of Indiana by Cook (1905); Orthoptera of Indiana by Blatchley (1901); Rev. of Strepsiptera by Pierce (1909). If interested, write to M. C. Nielsen, 3415 Overlea Drive, Lansing, MI 48917 (517-484-3471).

AVAILABLE: Limited number of brochure "The Butterflies of Wayne County (Mich.)"; reprint "Collection of Lepidoptera from Whitefish Point, Mich."; reprint "Distribution, Habits, and Life History of *E. mitchellii* (Satyridae)". Send 16¢ for postage to M. C. Nielsen, 3415 Overlea Dr., Lansing, MI 48917.

WANTED: 1975 Lepidoptera field summary from Mo., Ky., Oh., In., Il., Ia., Mn., Wi., Mi., and Ont. for Annual Summary of "The Lepidopterists" Society. Send data (new records, range extensions, changes in populations, etc.) to M. C. Nielsen, 3415 Overlea Dr., Lansing, MI 48917.

WANTED: Papered butterflies and moths from the United States. Will buy or trade. Send list of offers and wants. All answered. Elenore Gwinn, P. O. Box 404, West Sand Lake, NY 12196.

WANTED: Specimens of, or information on, the range of *Hyalophora columbia*, the Columbian Silk Moth. Will exchange or buy. Erwin Elsner, 6089 Lincoln Ave., Stevensville, MI 49127.

WANTED: Data on Michigan butterflies for use in a new publication on the butterflies of Michigan. Any doubtful specimens can be forwarded for determination or confirmation. Especially interested in Lycaenidae and Hesperiidae records. Contact M. C. Nielsen, 3415 Overlea Drive, Lansing, MI, Telephone number: (517) 484-3471.

WANTED: Records of *Podosesia syringae* (Lepidoptera: Sesiidae). This clearwing, known as LILAC BORER or ASH BORER, has been captured in early summer, rarely in late summer, and is distributed widely east of Rockies. Especially interested in late summer records. Also would welcome contacts with clearwing collectors worldwide. F. F. Purrington, Dept. of Entomology, O.A.R.D.C., Wooster, OH 44691.

WANTED: Color pictures of named U.S. beetles. Monty Wood, 420 Lincoln Ave., Livermore, CA 94550.

WANTED: Coleoptera, especially scarabs. I will exchange specimens of all insect orders from southern California. Please send a list of what you have and want. Arthur V. Evans, Rt. 1, Box 37 D2, Littlerock, CA 93543.

SPECIAL OFFER TO MEMBERS

The Society still has back issues of the Journal (Michigan Entomologist and Great Lakes Entomologist) and Newsletters. Some are in limited supply so members will be supplied on a "first come, first served" basis. Back issues of Volume 1 (10 numbers) are $3.00 per volume and Volumes 2-8 (4 numbers each) are $2.00 per volume. A complete 8-volume set is $17.00. Sets of available Newsletters, Volumes 13-19, can be obtained for $2.50. Take advantage of this special offer NOW by contacting the Executive Secretary, c/o Dept. of Entomology, Mich. State Univ., East Lansing, MI 48824.

MES GOVERNING BOARD MEETING

On October 13, the Governing Board of the Michigan Entomological Society met at Michgian State University, East Lansing. The meeting convened at 7:45 p.m. Attending were: David Gosling (presiding), Roger Bland, Irving Cantrall, Donald Cress, Richard Fleming, Mogens Nielsen, Ronald Priest, Louis Wilson, and John Witter. The following items of business were considered:

1. Board voted unanimously to approve Dave Gosling as the new Editor of the Journal. He will assume the editorship on January 1, 1976. Cress then prepared a letter to all those persons who were considered for the editor and explained the actions of the Board. The question of an assistant editor will be left up to the new editor.
2. Nielsen discussed the possibility of a dues increase should printing and mailing costs

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CONSTITUTION AND BY-LAWS OF THE MICHIGAN ENTOMOLOGICAL SOCIETY

CONSTITUTION OF THE MICHIGAN ENTOMOLOGICAL SOCIETY

ARTICLE I--NAME

Section 1. This organization shall be known as THE MICHIGAN ENTOMOLOGICAL SOCIETY.

ARTICLE II--OBJECT

Section 1. It shall be the purpose of this society to promote the science of entomology in all its branches and by all feasible means, and to advance cooperation and good-fellowship among persons interested in entomology.

ARTICLE III--MEMBERSHIP

Section 1. The classes of membership shall be Active, Honorary, Student, Sustaining, and Institutional.

Section 2. *Active Membership.* All persons professing an interest in entomology may become active members by vote of the Governing Board, after a regularly executed application, endorsed by two Active Members and accompanied by the requisite fee, has been filed with the Executive Secretary.

Section 3. *Honorary Membership* may be conferred upon anyone who has performed long and distinguished service in the field of entomology with special reference to the State of Michigan or upon anyone who performs an outstanding service to the Society. Proposals for Honorary Membership shall be made in writing with a supporting statement by two Active Members and shall be acted upon by the Governing Board and submitted to the Society for vote by mail ballot. Nominees must receive four-fifths of the ballots cast to be elected. The total number of Honorary Members shall not exceed five at any one time, and not more than two shall be elected in any one year. Honorary Members shall be exempt from payment of dues, but shall have all the privileges of active membership.

Section 4. *Student Membership.* Any person who is enrolled in a recognized educational institution and professes an interest in entomology, whether studying that subject or not, may become a student member at reduced dues to be specified by the Governing Board. Application shall be endorsed by two active members and filed with the Executive Secretary, accompanied by the requisite fee. Election shall be by vote of the Governing Board. Student Members shall not be allowed to vote, to hold office, nor to receive scientific publications of the Society, but shall be permitted all other privileges of membership.

Section 5. *Sustaining Membership.* Any person, institution, or organization desiring to support the aims of the Society by an annual contribution of not less than $25.00 may become a Sustaining Member. An Active Member may also become a Sustaining Member by the contribution of the proper fees.

Section 6. *Institutional Membership.* Any institution, society, school, museum, or other organization desiring to support the aims of the Society, but not to the extent of a sustaining membership, may become an institutional member. Institutional members shall have all privileges of active members except that they may not vote in Society affairs nor hold office.

ARTICLE IV--OFFICERS

Section 1. The officers of this Society shall be a President, a President-Elect, and an Executive Secretary.

Section 2. *President and President-Elect.* The President-Elect shall be elected by mail ballot as specified in the By-Laws. He shall serve one year as President-Elect and the following year as President. He shall assume the office of President at the close of the annual meeting next following his election.

Section 3. *Executive Secretary.* The Executive Secretary shall be elected by mail ballot as specified in the By-Laws and shall serve for one year. He shall assume office at the close of the annual meeting next following his election.

ARTICLE V--GOVERNING BOARD

Section 1. The Governing Board shall conduct the business of the Society, subject to the decisions on policy by the membership by mail ballot or at an annual meeting. This Board shall consist of the following officers: President, President-Elect, Executive Secretary, the two most recent available Past Presidents, three elected Members at Large, and the editor of the Society's Journal.

Section 2. In the event that a regional branch has not held a branch meeting for one year, a member-at-large shall be elected to the Governing Board in the same manner as other officers. The last branch chairman shall continue to serve on the Governing Board until he is replaced by an elected member-at-large.

ARTICLE VI--REGIONAL BRANCHES

Section 1. *Regional Branches* shall be established on the basis of convenience, for all the avowed purposes of the Society.

Section 2. *Choice of Regional Branch Membership*, if any, shall be voluntary with individual members and such choice shall be filed with the Executive Secretary of the Society. Each member shall be restricted to voting with the Branch of his choice, but shall be entitled to attendance at all meetings and other activities of every Branch.

Section 3. *Officers of Regional Branches.* The officers of each Branch shall be a Chairman, a Vice-Chairman, a Secretary-Treasurer, and a Recording Secretary. These officers shall be elected annually by procedure adopted by their respective Branches.

Section 4. *Activities of Branches.* Each Branch shall operate autonomously in such manner as it sees fit, subject to the provisions as set forth in the Constitution and By-Laws.

Section 5. *Establishment of Regional Branches.* To become established, proposed Branches must formally petition the Society, be endorsed by the Governing Board, and be approved by the Society. The petition must indicate clearly that an organized unit of at least ten persons exists and that its establishment will be useful to the Society and to entomology.

Section 6. *Financial Responsibility of Branches.* Regional Branches shall not incur financial indebtedness in the name of the parent Society without explicit prior approval of the Governing Board.

ARTICLE VII--FUNDS

Section 1. All monies due the Society shall be collected, disbursed, and accounted for by such officers as are to be specified in the By-Laws or as the Governing Board may determine.

Section 2. A permanent fund shall be established to include donations, bequests, and other such property and funds as may be added to it. This permanent fund shall be in custody of the Governing Board. The principal of this fund shall be invested and may be expended only upon the recommendation of the Governing Board and approval by the Society by mail ballot or at any meeting, notice of such action to be given in the call for said meeting. The interest on this permanent fund in any year may be used to meet necessary expenses of the Society on approval of the Governing Board, but if not so expended during the year shall be added to the principal. Loans from the permanent fund may be made to other established funds of the Society for self-liquidating projects, on recommendation of the Governing Board and the approval of the Society.

ARTICLE VIII--PUBLICATIONS

Section 1. The publications of the Society will be a scientific entomological journal and a Newsletter, to be sent to all members of the Society except Student Members, who receive only the Newsletter.

ARTICLE IX--STANDING COMMITTEES

Section 1. Standing Committees shall be such as are deemed necessary by the Governing Board of the Society. The duties of these committees and the manner in which their members shall be elected are set forth in the By-Laws.

ARTICLE X--MEETINGS, VOTING, AND OFFICE-HOLDING

Section 1. The annual meeting shall be at such time and place as may be decided upon by the Governing Board. Special meetings may also be called by the Governing Board. Voting and holding office shall be limited to Active, Honorary, and individual Sustaining Members.

Section 2. *Mail Ballots.* Matters of major importance shall be placed before the entire membership by mail ballot. Any matter shall be voted on by mail ballot upon written petition to the Governing Board by ten members.

ARTICLE XI--AMENDMENTS

Section 1. All proposed amendments shall be presented at an annual meeting. The President shall at that time appoint a special committee to consider the amendment or amendments and to report its recommendations at the next annual meeting. At this time the annual meeting may make changes germane to the subject and purpose of the amendment, which shall then be referred by mail ballot to the entire membership. If two-thirds of the votes cast are in the affirmative, the amendment shall be adopted.

ARTICLE XII--GENERAL PROHIBITIONS

Section 1. Notwithstanding any provision of the Constitution or By-Laws which might be susceptible to a contrary construction:

(a) the Society shall be organized exclusively for scientific and educational purposes;
(b) the Society shall be operated exclusively for scientific and educational purposes;
(c) no part of the net earnings of the Society shall or may under any circumstances incure to the benefit of any private individual;
(d) no substantial part of the activities of

the Society shall consist of carrying on propaganda, or otherwise attempting to influence legislation;

(e) the Society shall not participate in, or intervene in (including the publishing or distributing of statements), any political campaign on behalf of any candidate for public office;

(f) the Society shall not be organized or operated for profit;

(g) the Society shall not:

(1) lend any part of its income or corpus, without the receipt of adequate security and reasonable rate of interest, to;

(2) pay any compensation, in excess of a reasonable allowance for salaries or other compensation for personal services actually rendered, to;

(3) make any part of its services available on a preferential basis to;

(4) make any purchase of securities or any other property, for more than adequate consideration in money or money's worth, from;

(5) sell any securities or other property for less than adequate consideration in money or money's worth to; or

(6) engage in any other transactions which result in substantial diversions of its income or corpus to; any officer, member of the Governing Board, or substantial contributor to the Society.

The prohibitions contained in this subsection (g) do not mean to imply that the Society may make such loans, payments, sales or purchases to anyone else, unless such authority be given or implied by other provisions of the Constitution or By-Laws.

ARTICLE XIII--DISTRIBUTION ON DISSOLUTION

Section 1. Upon dissolution of the Society, the Governing Board shall distribute the assets and accrued income to one or more organizations as determined by the Board, but which organization or organizations shall meet the limitations prescribed in Sections (a)-(g) inclusive, of Article XII, immediately preceding.

BY-LAWS OF THE MICHIGAN ENTOMOLOGICAL SOCIETY

ARTICLE I--MEMBERS

Section 1. Privileges. All members shall have equal privileges, except as otherwise herein specified.

Section 2. Membership of persons who are accepted before July 1 shall begin with the preceeding January 1; membership of those accepted at a later date shall begin the following January 1, unless the earlier date is requested and the required dues have been paid.

ARTICLE II--OFFICERS

Section 1. *President and President-Elect.* The President shall have and exercise such powers as are reasonably necessary to carry out his official duties, including with the approval of the Governing Board, the filling of vacancies in the standing committees; such appointees to serve until the next annual meeting. In case of inability of the President to serve, the President-Elect shall become President.

The President-Elect shall be elected by mail ballot by the following procedure: At least four months prior to each annual meeting the Executive Secretary shall invite each member of a special nominating committee consisting of the immediately preceding Past President and the Chairmen of the Branches, to propose one name for President-Elect. All of these names, arranged alphabetically, shall be placed on a ballot to be mailed to each member not later than three months before the annual meeting, with the request that he indicate his preference on the ballot and return it in a special envelope marked "Ballot". A deadline for the return of the ballots, not less than thirty days from the date when they are mailed out, shall be specified, and no ballots received later than the specified deadline shall be counted. Members may write in other names of their choice. The votes shall be tabulated by a special committee of three members selected by the Executive Secretary.

If no candidate receives a majority of all votes cast, the two candidates receiving the greatest number of votes, or in case of a second-place tie, the three receiving the highest number of votes, shall be placed on a run-off ballot, which shall be mailed to the membership, with a time limit of not less than thirty days from the date of mailing, for their return, as with the first ballot. The ballots shall be counted as before. On the run-off ballot, the candidate who receives the greatest number of votes shall be declared elected. The Governing Board and the candidates shall be promptly notified of the outcome.

A vacancy in the office of the President-Elect shall be filled as soon as practicable by written ballot by the Governing Board from the two eligible nominees in the most recent election who received the highest number of votes.

Section 2. *The Executive Secretary* shall serve as Secretary, Treasurer, and Business Manager of the publications and other affairs of the Society. He shall keep a record of the pro-

ceedings, attend to the general correspondence, shall collect all monies due, pay all bills incurred by the Society, submit a report at each annual meeting, and perform such other duties as may be delegated to him.

He shall furnish a suitable corporate-surety bond (premium to be paid by the Society) when the funds of the Society total more than $500. His accounts shall be audited annually, or more frequently if so directed by the Governing Board. He shall attend as far as possible the annual and special meetings of the Society and receive reimbursement for necessary expenses.

Section 3. The Executive Secretary shall be elected in the same manner and at the same time as the President-Elect.

ARTICLE III--GOVERNING BOARD

Section 1. If any Chairman of a Regional Branch should be elected to the position of President-Elect, his position as Chairman of the Branch shall be considered vacated and the Branch shall fill the office in their designated manner.

Section 2. Members-at-large shall be elected by mail ballot to serve a three year term. The terms of service of the three members-at-large shall be staggered such that one member-at-large is elected each year. Members-at-large shall be elected in the same manner and at the same time as the President-Elect.

ARTICLE IV--DUES

Section 1. Dues shall be set by the Governing Board, subject to the approval of the Society by letter ballot.

ARTICLE V--PUBLICATIONS

Section 1. General responsibility for the publications of the Society shall rest with the Governing Board.

Section 2. Editor. The Editor shall be appointed by the Governing Board and shall serve as chairman of the Publications Committee.

ARTICLE VI--STANDING COMMITTEES

Section 1. *Terms of Office and Rotation.* Unless otherwise indicated, members of standing committees shall serve for periods of three years each. Their election shall be so arranged that one-third of the terms shall expire each year.

Section 2. *Election of Standing Committees.* The Governing Board shall serve as the nominating committee to propose a slate of candidates for election to positions on standing committees not filled in other ways. The candidates nominated by the Board, together with any nominated from the floor, shall be voted upon at the annual meeting. The Board shall designate which member of each standing committee shall serve as chairman.

ARTICLE VII--DELEGATES

Section 1. The President shall appoint such delegates or representatives to such other organizations, meetings, etc., that occasion may require.

ARTICLE VIII--MEETINGS, QUORUMS, VOTING, ETC.

Section 1. Ten active members shall constitute a quorum for the transaction of the business of the Society.

Section 2. Four members of the Governing Board shall constitute a quorum for the transaction of its business, provided, that all members of the board have been informed of the intent to meet.

Section 3. No officer or committee of the Society or of its Branches shall solicit in the name of the Society contributions for use in obtaining or paying for specialized entertainment.

ARTICLE IX--MISCELLANEOUS

Section 1. Members two years in arrears of dues shall be dropped from the rolls by the Executive Secretary after twenty days' notice. At the discretion of the Executive Secretary, any or all publications of the Society may be withheld from members who have not paid their dues for the current calendar year.

Section 2. Members shall not use the name of the Society for financial advantage.

Section 3. Members in good financial standing have the right to resign. The right to terminate the membership of any member for due cause is reserved by the Society, but except for non-payment of dues, no member shall be dropped until opportunity has been given him for a hearing before the Governing Board.

Section 4. In voting at meetings or in mail balloting, a majority of votes cast shall be considered as deciding in all matters, unless otherwise specified in the Constitution or By-Laws.

ARTICLE X--AMENDMENTS TO THE BY-LAWS

Section 1. Changes in these By-Laws may be made by a two-thirds vote of any general meeting or by a two-thirds majority of all votes cast in a mail ballot; provided, that written notice of the proposed amendment shall have been sent to every active member at least one month before the date of the meeting at which it is to be considered, or the last date for the receipt of the ballots in case of mail vote.

(MES Governing Board cont. from p. 2)

exceed expected levels. It was suggested that Active membership be increased by $2.00 and that Institutional membership be increased by $4.00. Printing costs and postage rates are expected to increase again during the coming year which may necessitate an increase in dues. The Board took no action. Any such proposal must be approved by the membership in a mail ballot.

3. Past-President, Robert Husband, now chairman of the nominating committee will be contacted for nominations for President-Elect, Executive Secretary and one Member-at-Large.
4. The date and place of the 1976 Annual Meeting was discussed. Cress, chairman of the Annual Meeting program arrangement, will contact Eastern Michigan University for use of their Environmental Center near Lapeer. A second possibility is the Central Michigan University's outdoor center north of Clare. It was agreed to set the meeting date for Friday, June 11th, with the weekend for collecting activities. Effort will be made to get an early announcement in the Newsletter concerning the Meeting and a call for papers.
5. Cantrall discussed need to obtain solid committments from authors whose paper will be subsidized by an institution. It was agreed to accept partial advance payments for subsidized papers.
6. The next Governing Board meeting will be held on December 15 at Wilson's home in East Lansing.

The meeting adjourned at 9:45 p.m.

THIS IS YOUR NEWSLETTER

Many thanks to those faithful entomophiles who faithfully contribute news and articles to the Newsletter. Let's hear from the rest of you out there! Jot down a few notes and send them in. You see good newsworthy items everyday in newspapers, journals and magazines; you have opinions on entomological subjects. The more you contribute the better the Newsletter will be. Here are some items especially solicited.

1. Recent literature on insects with special reference to the Great Lakes Region.
2. Tidbits of all kinds such as magazine or newspaper clippings, cartoons, jokes, poems, insect anecdotes.
3. Field reports. Tell us of collecting trips, unusual collecting localities, and reports of rarities, new state records, and general observations.
4. Feature articles. Write a moderately long article on "How to" do something or on a topic or issue of your choice.
5. Notices. These will be accepted from members and printed in the Newsletter free of charge and must pertain to entomology.
6. Research requests. All desiring material or data pertaining to arthropods of the Great Lakes Region may submit requests to the Newsletter.
7. Book and movie reviews on entomological subjects.
8. Comments and criticisms on entomological subjects.

NEWS OF MEMBERS

REV. J. C. E. RIOTTE, Research Associate of the Royal Ontario Museum, Toronto, Ontario, will be retiring on November 1, and moving to Honolulu, Hawaii. He will be on the staff of the Bishop Museum and will be continuing his work with the lepidoptera. Riotte was chairman of the Toronto Branch of the Michigan Entomological Society and active in many other entomological societies.

Rev. J. C. E. Riotte during field trip of the MES 15th Annual Meeting at Alpena, MI.

DAVID and NANCY GOSLING were hosts in June to Edmund Giesbert from Beverly Hills, California. Ed shares the Goslings' enthusiasm for longhorn beetles, and they volunteered to help him add some Michigan species to his collection. The resulting field trip lasted a week, and ranged from Berrien to Gogebic County. Although night-lighting and other nocturnal efforts were very disappointing, the diurnal species were more cooperative, and the trio collected an exceptional total of 47 species of Cerambycidae. These included several species not often collected in Michigan, such as *Anthophylax cyaneus*, *Spondylis upiformis*, *Microclytus gazellula*, and *Oberea delongi*.

(Devil's Coach Horse, cont. from p. 1)

al days until one day we were able to observe actual feeding, a vicious voracious attack on a live snail which was consumed in about an hour. On weighing the beetle and the snail we found that she ate about her own weight in snails a day. This was very encouraging. If we were on the right track our hope was to rear the beetles in large numbers in the laboratory and release them in snail infested areas to see if they would reduce the snail populations to non-economic levels. As our female specimen laid no eggs we assume that she was not mated when we got her. We searched for a male in vain. Finally, after more than six months in captivity, she died. I told this sad story to my wife, Helen, and the next day received the following poem:

IN MEMORIUM
Ocypus olens

We cherished her to no avail,
Though every day she ate a snail,
No beetle shared her virgin bed,
A maid she died, alas, unwed.

R.I.P.

This ending has not deterred us in our search. We still hope to test *O. olens* as a control for the brown garden snail.

Repeated attempts for more than a year to obtain larvae of *O. olens* in my garden failed until April 4, 1975, when R. E. Orth found five larvae ranging in size from 21 to 25 mm. They were found in a dense accumulation of decaying leaves under an oleander bush. One of the larvae was injured by a trowel. The other four were brought back to the laboratory for biological studies. Each was housed in a container similar to that used for the single adult. Two *Helix aspersa* whose shells measured 10 to 12 mm were placed in each container with small amounts of lettuce as food. The larvae fed exclusively on a diet of snails for from two to three weeks. During this period each larva consumed from two to eight snails. Once feeding was complete the mature larvae burrowed through the substrate to the bottom of the unit and formed individual cells which were elliptical in shape. Had the substrate been deeper the larvae probably would have burrowed to a greater depth as all cells were tight against the bottom of the containers. Once larvae were housed within the cells they remained inactive without physical change for about ten days. Then pupation took place. Eighteen days after pupation they appeared ready for emergence. However, for reasons not understood, all pupae failed in their final development. We speculate that perhaps thus far optimum temperature, moisture or even light have not been provided.

On June 19, 1975, R. E. Orth was fortunate enought to find two adult male and two adult female beetles in my garden. A pair has been placed in each of two large (6 X 12 inches) plastic containers in the laboratory with ample substrate where they are actively burrowing but not yet feeding. We hope they fall in love and give us offspring.

MICHIGAN ENTOMOLOGICAL SOCIETY

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EAST LANSING, MICHIGAN 48823

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