

SCARABS

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“Rúguo ta wéndào wèi dehuà, jìn huì bá tamen yín lái”

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Dung Trapping Addendum

Construction and Deployment of an Inexpensive Light Trap

Part 2. Field Deployment

by Delbert La Rue

In Part 1., I presented a confusing, garrulous composition on light trap construction which utilized a 15-watt blacklight tube as the attractant. Here in Part 2., I remain consistent and share my own thoughts and experiences concerning power options, light trap deployment, maintenance and trouble-shooting.

Power Options

The location which you will ultimately set up your light trap depends entirely upon whether it is powered by AC common house current or 12-volt DC current.

If your trap utilizes 12-volt DC current, then you can virtually set the trap in almost any location; your only limitation is the longevity of the charge the battery will hold. I assume we are interested in running the trap for several days, and not just an over-night drop-off. This problem can be overcome to some extent, and the period of field use extended, by the use of a timer.

BioQuip Products (17803 La Salle Ave., Gardena, CA 90248) sells the “Edwards 12 volt DC timer” (#2835). The timer utilizes a quartz clock motor which is secured in an aluminum housing with a clear acrylic observation window. Using the accompanying “program cards,” the light can be turned on or off for one or more predetermined periods from 12 minutes up to 24 hours. Each unit is supplied with 12 volt DC connectors (both male and female), a AA battery (which runs the quartz motor) and 12 additional program cards. Cost?

\$52.50 plus tax. (Ouch!) Using this overpriced gadget, you could extend the charge of the 12-volt battery and run your light for a few hours each night over the course of several days.

Consider this: with a 12-volt deep cycle battery rated at 35 amps (the advantages and particulars of a deep cycle battery were outlined in *Scarabs*#1) you can run a 15-watt blacklight which consumes approximately 1.3 amps per hour, for approximately 27 (26.9) hours. Now, it is not recommended to totally drain the battery, so only run the trap, utilizing a DC timer, for a few hours a night, say, four hours, just before daybreak when *Pleocoma* males will fly the heaviest. Conservatively, you can run the light trap for six nights, consuming 24 amps of battery power, before you will need a recharge—theoretically.

Keep in mind that climatic conditions, age and capability of the battery to hold its charge, condition of the light tube, electrical connections, etc. will all have some effect on the overall performance of the system. Conversely, the deep cycle will also recharge itself slightly when not in use.

Let us not forget that an inopportune case of “cunninghaming” may rear its ugly head, keeping one from returning to service the trap and battery until weeks, months or years, long after the last measurable spark of power has extinguished itself. For example, the only set of car keys being flushed down the toilet by the resident three-year-old, or perhaps, double flat tires en route, with no usable spare, no cash in your wallet (doesn't matter anyway, because you forgot your wallet) and no service station for miles.

There are a few other options to this type of system which may be considered and utilized by the ingenious collector: connection of additional batteries to the sys-

tem, or perhaps a solar panel which would recharge the battery during daylight hours (see “Portable, solar-powered charging system for blacklight traps.” Gerber, Walkof & Juskiw, 1992. *Canadian Entomologist* May/June:553-554). Also, keep in mind that your equipment and materials, which may amount to a few hundred dollars, will be left unattended, and the potential of theft or vandalism is an important consideration.

The other power option to consider is common AC house current. Placement of your trap will then have to be near private dwellings or out buildings where there is an electrical outlet to plug into—not always convenient or available, especially in rural areas. This problem may be alleviated to some degree by the use of several all-weather extension cards which would allow you to place your trap some distance away from the local populace, which includes inquisitive, rock-throwing children and the territorial Rotweiler with a weak bladder.

Again, a timer will be indispensable. AC timers can be purchased at Home Depot, Home Club, and most other hardware and home center type stores. Intermatic manufactures a 1875 watt programmable timer which sells locally for about \$4.95 plus tax. It is simple to program and also has an early on/off operation which allows you to double check that the system is sound. That way you are not sitting at home, six hours by car, four hundred miles away from your trap, wondering if it is working or not. Thus, plugged into an AC source, and equipped with a timer, you can run the trap for months. The possible theft of your equipment is also reduced since your trap would be in somewhat populated areas.

To summarize power considerations:

12-volt DC.

PROS: Unlimited choice of trap locations which translates into higher potential for new information and discoveries (i.e., distribution records, undescribed taxa, etc.).

CONS: More capital outlay for equipment involved than AC, limited period of unattended operation, can be more expensive and inconvenient in the long

run especially when possibility of theft is considered.

AC.

PROS: less equipment required than DC system, unlimited period of unattended operation, possibility of theft unlikely.

CONS: trap locations limited near dwellings or other buildings where AC source is available, possibility of vandalism (e.g., broken light tubes) to consider.

Light Trap Deployment

Power considerations aside, where and how you will install your light trap is next on the agenda:

WHERE: What I look for are fairly open areas, away from buildings (if possible), or natural obstructions (e.g., hillsides, rock formations, dense tree areas), where the blacklight will be in optimum view and give yield—hopefully. Natural flyways are of course the best ideal situations to set your trap, but not always convenient or accessible. Several times I wasn't exactly thrilled by an area available to set up an AC trap but did, of course. These were the areas where the beetles just loaded the trap... you know, right in front of somebody's living room window.

HOW: If you've constructed your light trap according to the variation I presented in Part 1. (Congratulations!), one or more wooden or metal stakes, about three feet long or shorter (available at home centers, etc.), will be needed to support the trap and keep it erect and stable during adverse weather conditions or possible visits from an array of various animals. Frank “Mr. Pleocoma” Hovore has several entertaining tales concerning “curious” animals and light trap operation. Although one stake firmly pounded into the soil next to the trap would be adequate, I prefer at least three, equally spaced around the outside perimeter of the bucket. One or two “Bungee-cords” of about 24-inch length wrapped around the stakes surrounding the light trap will secure the unit effectively. Hey, let's face it, if anything larger than a skunk, fox or coyote is interested in the quarry trapped within the bucket, for example Sasquatch or even Godzilla, I think it is safe to

assume your trap will need extensive repairs.

If you are installing an AC-powered trap utilizing all-weather extension cords, I suggest wrapping the cords together in a loose granny knot, hopefully preventing them from being pulled apart and disconnected. Also, a small piece of duct tape wrapped around the cord connections will inhibit moisture from entering the system, possibly preventing a short. The tape also acts as a safety keeping the connections from being unplugged accidentally.

If you have connected a timer to operate the trap, seal the timer inside a Zip-Loc baggy, then make your power connections right through the plastic. Again, if you have constructed your trap per my scenario, you can place the bagged timer above the flight intercept vanes, below the rain hood.

Maintenance & Troubleshooting

The light trap is virtually maintenance free. It is recommended to have extra components (e.g., timers, light tubes, extension cords, etc.) on hand when you return to check your trap after several days. Occasionally, something has occurred that you did not plan on. Once, I had two traps placed along a paved driveway which permitted access to houses several hundred feet away. I was not made aware that the owners of two adjacent parcels of land, which both shared the driveway, were in the middle of a property line dispute. When I returned to check my traps, the blacklight tubes in both had been shattered. Another time I had my trap set on a small ranch where the owners let the animals roam freely. Again, when I returned to check the trap, I found that the extension cord, about 100 feet, had been chewed into tiny pieces no larger than three inches in length.

Other than outside disturbances which cannot be foreseen, seldom does the trap have any problems. Most can be avoided by simply checking the trap for proper operation after installation is completed. If the trap will not operate, troubleshooting is simply a process of elimination. If connecting an AC trap, check that there is power at the chosen outlet. Occasion-

ally, property owners turn off power at outbuildings, etc., because they are seldom used. For a DC trap, check that the battery sufficiently charged. If there is power at the outlet (or battery) but the light will still not operate, disconnect all accessories (i.e., extension cords, timers) and plug trap directly into power source. If the light tube operates, you have a problem with one of the accessories, usually just a loose connection. If the tube does not operate, either the tube or wiring inside the ballast has vibrated loose during transport. If the trap will still not operate: obtain wallet from back pocket, open and remove driver's license, read name, if name reads "Richard A. Cunningham," **you** are the problem!

I wish you all good luck in your endeavors.

Beware!!! A Rebuttal

by David Russell

I believe my departure was not soon enough! The dreaded (and until recently, undescribed) Cunningham-Streit Virus (CSV) has spread to Northern California, and possibly all the way to Washington!! Through a currently unknown vector, this virus has spread northward and possibly eastward.

(Editor Bill's Note: Anyone touching an original copy of Scarabs should be vaccinated!)

Symptoms appears as though you have received directions from Dr. Kirk Smith to a collecting locality—you arrive several months early/late and the sight is different than expected. But the Cunningham-Streit Virus is much more insidious: you convince your wife you **must** leave her with the kids for **only** a week; you use what is left of the money in the vacation fund and promise not to spend a dime more than what's there (you already dipped in previously, with a promise to repay); you convince her sister/mother to come stay with your wife for a few days; you promise to finish your "Honey Do" list immediately upon your return; and you will come back a

day "early" to get your chores done before returning to work.

So you are finally set!! You have high hopes of successfully visiting new and unique habitats—collecting unique and undescribed scarabs—and in my case, live specimens of *Polyphylla*. You take your car in for a service and put it on your credit card. Oh well, it needed to be serviced anyway! Most recently, I picked up an accomplished and yet unsuspecting collecting partner, Mr. Larry Bezark, and off we went. Five nights, 2,200 miles, record low temperatures in north-eastern Nevada and north-western Utah, mosquito hatches in Idaho, absolutely beautiful conditions in central Oregon—and **one, single** *Polyphylla* (*arquta*) was collected. And it died before it could be shipped for freezing! Beware, this is a horrible virus!!!

I am hoping a rehabilitative period in the lush, humid midwest should purge this virus from my system. As part of my recovery I have targeted nearby scarabs that should be readily available and I'm already recovering! Last week I caught *Popillia japonica* by the hundreds. (*Editor Barney's Note: See any Aphodius lividus? I still need this one!*) Next week I'll move away from home a short distance and look for *Cyclocephala* or maybe *Phyllophaga*!

If you have driven long distances on "borrowed" money; have been so tired upon your return the "Honey Do" list went unfinished; had in-laws **still** there upon your return; managed to miss an anniversary/birthday because it was timed inappropriately (or at least in conflict with an "important" beetle emergence); and after all that you got **SKUNKED**, you too might have the dreaded CSV. I believe the virus has reached as far north as Washington as I have yet to see, after almost five years, *Coenonycha globosa* from Dr. Smith, or anything else, for that matter! If anyone else appears to have suffered similar experiences, please let the editors know so we can begin tracking this horrible affliction! Thank you.

Because of the efforts of Rich Cunningham, Larry Bezark and Dr. Arthur Evans, Ph.D., I have had a very successful first campaign with the goal of securing, live,

all 28 currently described North American *Polyphylla* species.

To date, our first summer has produced: *Polyphylla anteronivea*, *P. cavifrons*, *P. erratica*, *P. barbata*, *P. crinita*, *P. diffracta*, *P. mescalarensis*, *P. nigra*, *P. nubila*, *P. pottorum*, *P. stellata*, *P. decimlineata* and *P. monahansensis*. Thirteen species (!) with a number of different populations of several, plus a new species from the Kelso Dunes in California.

Rich Cunningham has been tremendous in his efforts. His New Mexico-Texas run and local collecting in Southern California has been invaluable.

Anyone who can contribute any of the eastern species *Polyphylla comes*, *P. gracilis*, *P. occidentalis* or *P. variolosa* please contact me or the editors.

Also, does anyone know of any *Polyphylla brownae* that have been collected since the original three? I can be reached at 603 Glenview Drive, Oxford, Ohio 45056.

Sony GPS System (Pyxis)

If you like extremely accurate locality labels, say to within 30 meters anywhere on the planet's surface, you may be interested in the Sony GPS System.

Using a 4-satellite positioning framework, it provides longitude, latitude, altitude and velocity. Called Pyxis, it is one of the most advanced navigational devices in the world today. Weighing in at just 1 lb. 5 oz., it is easily handheld. However, collectors most often leave it in their vehicle where it can be left plugged into the cigarette lighter outlet. The Pyxis features 3-dimensional fix for exact altitude, and is completely portable.

The cost of this sophisticated unit has steadily dropped over the last several months. It has been listed for a paltry \$599.90 (order no. MAG9434) from Tiger Software, 800 Douglas Entrance, Executive Tower, 7th Floor, Coral Gables, Florida 33134, or call (800) 666-2562. Further, they now sell three other GPS units.

Buying Books

by Don Frack

Ed. Note: In January of 1993, a small group of amateur biologists from the Southern California area met to discuss topics of common interest related to biology, taxonomy and natural history. Headed by lepidopterist (his masters thesis on yucca moths is, in a word, astounding) and bibliophile (over 3,000 volumes and counting!) Don Frack, the group managed to ensnare two of your editors, Alex Reifschneider, Doctor Arthur V. Evans, Ph.D., James Saulnier, Ron Alten and others. This group was christened the X Club (or X II Club) in honor of the original X Club which consisted of a select group of influential members of the Royal Society in the last century.

The following is adapted from a handout given to us at the October, 1993 meeting. It is directed at Southern California naturalists, but contains good general information as well. Thank you, Don, for allowing us to reprint it here.

New Books

Vromen's on Colorado Blvd. west of Lake Ave. in Pasadena is the largest new book store I know of in this area. They carry a considerable number of recent books in the sciences. They will order, but charge a fee. There are also three used book stores just to the west, in walking distance, on Colorado Blvd.

Waldenbooks, in most malls, do not carry a very good selection. However, they have a liberal ordering policy and no fee.

University and college bookstores used to carry a good selection of science books in a variety of fields, but tight money seems to have affected the selection offered by many. The Huntley Bookstore at Claremont College still has a great selection.

Used Books

Book Finder lists "over 500 used bookstores in Southern California, Arizona and Nevada." It is geographically based

with an alphabetical index. It lists address, phone, hours and descriptions of "Stock" and "Specialties." (This book has cost me more than any other I ever bought!) There are separate editions for Northern and Southern California. The 1992 edition can be found in some bookstores for \$7.95, or either one can be purchased from the author for \$10.00 (includes tax and postage): Jules Greenblatt, 1050 Crestview Drive No. 5, Mountain View, CA 94040.

Natural History Booksellers (in California and Arizona)

The dealers listed below are ones known to me. They gladly accept want lists.

Natural History Books
P.O. Box 1004
Cottonwood, AZ 86326
(602) 634-5016 (voice)
(602) 634-1217 (FAX)

Mail order and book fairs only. Owned by Donald Hahn, a well known, major western U.S. dealer. He always brings good stuff the California Book Fairs.

Don Conner Fine Books
1311 21st Street
Sacramento, CA 95814
(916) 443-2223 (voice)
Usually at the California Book Fairs.

Jeff Webber Rare Books
1923 Foothill Drive
Glendale, CA 91201-1242
(818) 848-9704 (voice)
Mr. Webber works by appointment from his home. He is nearly always at the California Book Fairs, and is aggressively building a natural history/history of science catalog. Most selections are truly antiquarian.

R. W. Sabbot Natural History Books
6821 Babcock Avenue
North Hollywood, CA 91605
(818) 982-4911 (voice)
Deals in both new and used books. Sometimes present at the California Book Fairs.

Book Fairs

California International Antiquarian Book Fair is sponsored by the Antiquarian Booksellers Association of America. This is usually held at the Los Angeles

Airport Hilton and Towers Hotel one weekend in February of even years, with the odd years in San Francisco. This is a *real* antiquarian book fair. Expect early twentieth century back to the invention of the printing press at prices ranging from \$100 to \$50,000. Dealers are from around the world. Entry is about \$5 to \$7 with the same (or more) for parking. This fair is like walking through a museum. First editions of *Origin of Species* (at about \$15,000) and beautifully illustrated renaissance anatomy books are among the sights that make this fair a worthwhile experience even if you don't intend to buy. Lectures on book collecting and related topics are ongoing each day.

California Book Fair is sponsored by California Book Fair Associates, 424 E. Main Street, Ventura, CA 93001, (805) 643-3407 (voice) (805) 643-4854 (FAX). Locations vary. This used to be called the Glendale Book Fair, but is now in Burbank, Santa Monica, San Diego, etc. At one time it occurred quarterly. Now it is held irregularly 2-3 times per year. Entry is usually \$5. Parking cost depends on the location. There are usually about 150-200 dealers of all persuasions (science fiction, cook books, Americana, etc.). There is often good material from the dealers listed above, and sometimes there are great deals elsewhere. However, do not expect too many great deals as the dealers scout each other the night before the fair.

Book Hunting Locations

There are several geographical areas with several book stores close to one another. Three to six stores may be within walking distance at locations in Pasadena, Long Beach, Hollywood, Santa Monica and San Diego. Check the *Book Finder* for others. Used book dealers in San Diego distribute a map listing over ninety locations throughout the area. Within 20 miles of downtown there are probably two dozen dealers who carry significant numbers of science and natural history books.

Prices: In Print Books

Used copies of books in print are worth buying only if they are in good condition and substantially below new prices. A

good deal is 50% or less of the original retail price.

Caution: a few dealers have these books marked at or near retail, with original prices sometimes removed or obliterated. If the price seems *too* good, check for damage or markings, such as underlining or highlighting.

Prices: Out of Print Books

Once a book is out of print (not listed in *Books in Print*), prices are controlled by dealer philosophy and what the market will bear. Most dealers not specializing in science or natural history books have little idea what some books are worth, but always expect to pay top (reasonable) price to a specialist dealer. Non-specialist dealers may want \$5.00 for a very valuable (to you) book or \$50.00 for one you feel is worth only half that. A book that went through only one printing may be marked up as a "first edition."

You must decide what the book is worth to you. Original price may have nothing to do with current price, and do not expect prices printed on older books to matter.

In Summary

The ultimate arbiter is Do you REALLY want the book? Are you willing to risk not finding it again? In the last five to ten years, the number of book collectors has exploded and the supply of quality books has dwindled. Older natural history books that were commonly had for only \$10.00 ten years ago are now often scarce and go for \$100.00 and up.

I have rummaged through a great number of book stores in the last fifteen years and have gone to many book fairs. I have rarely lamented paying a little extra for some unusual book, but I have regretted books I let go "this time" and never saw again.

If you have been looking for Arnett's *Beetles of the United States*, and it is offered in acceptable condition, take it! There are far more collectors of well-known books of this type than there are copies for sale. If the book is in a used book catalog, call and charge it on your credit card or you will probably lose out.

UC Riverside Hosts Scarab Workshop

by Doctor Arthur V. Evans, Ph.D.

A scarab workshop was organized by Michael Klein of the Horticultural Insects Research Laboratory, USDA, and held on the campus of University of California, Riverside on October 25-26, 1993. More than 30 government and private researchers attended this groundbreaking event. Informal discussion topics included scarab systematics, literature, lures, surveys, forecasting, rearing and storage techniques, bioassays and pathogens.

I led a discussion on scarab systematics with Kerry Katovich of Madison, Wisconsin. Kerry is a graduate student doing research on the *Phyllophaga* of Wisconsin and plans to do a key to the larvae. We presented a look at some of the more recent literature in scarab systematics, as well as classic works dealing with some of North America's most pestiferous scarab genera.

We also discussed the more "conservative" North American view of higher classification in contrast to the somewhat more "progressive" views followed by many European workers. One of the most fundamental problems faced by scarab researchers working in economic entomology is obtaining reliable identifications of adult and larval scarabs.

Ed. Note: We received letters from world-famous scarab researchers that were critical of the higher classification Dr. Evans, Ph.D. used in his checklist of the California scarabs (Scarabs #7). Perhaps the term Dr. Evans uses to describe the European scheme (which is but one of many such schemes proposed by the Europeans) which he advocates is inappropriate. Because the leading experts in this part of the world disagree with the various European schemes which seek to splinter the Scarabaeidae into various families, it is difficult to concur that any one of these schemes can be labeled "progressive."

Walter Leal presented some of his research on pheromones of *Anomala* and *Popillia* in Japan. He has isolated the

pheromones of several species and has identified their chemical structures. It was interesting to note that these structures are remarkably similar to one another within genera and it occurred to me (as I know it has occurred to others, like Dave Russell) that scarab chemistry might be used as another set of characters for the higher classification of scarabs. Walter passed along the fact that the species *Anomala orientalis* is now placed in the genus *Exomala*.

Isolating pheromones is simply the first step in developing effective scarab lures. It is essential to determine the proper levels to use (sometimes more is just more) and study the possible negative synergistic effects of using two or more pheromones simultaneously.

There were numerous excellent slides presented, such as *Popillia japonica* attempting to mate with *Pelidnota punctata*, *Protaetia orientalis* responding to the pheromone of *Holotrichia* and exposed *Cyclocephala lurida* grubs attracting adults. Another set of slides demonstrated that a brand of cigarettes from Japan contains compounds very attractive to some species of *Anomala*.

Other researchers discussed their work with developing traps for monitoring pest populations in order to forecast the presence of various life stages. One of the problems faced by researchers is their ability to raise or collect enough specimens of pest species to test lures and pathogens. Gary Bernon of the USDA suggested that Japanese beetles could be reared in mass much the same way gypsy moths are raised today. Techniques and materials were presented to facilitate the mass rearing of scarabs.

Tachinid flies and tiphiid wasps are being studied to determine their effectiveness in scarab control programs. Richard McDonald from North Carolina has noted that *Tiphia* spp. are species specific in selecting their oviposition site on scarab grubs. He is very interested in breeding and identifying tiphiids collected in association with scarab grubs.

Trevor Jackson of New Zealand, who written a book entitled *Use of Pathogens in Scarab Pest Management*, discussed his research in controlling scarab popula-

tions with inundative controls using naturally occurring pathogens. His team collected pathogens from scarab grubs and adults, identified them, developed cultures and devised storage techniques. Considerable research went into developing ways in which the pathogens could be applied in the field without reducing their efficacy. Infected larvae and adults serve as reservoirs through which the next generation of scarabs become inoculated. He is working with viruses, protozoans, rickettsiae, nematodes, fungi and bacteria. Jackson is convinced that microbes are a valuable resource when developing biological control agents and that novel organisms are awaiting discovery and development. Microbial control can provide an economic and sustainable solution to many pest problems. Research has shown that the synergistic effects to two or more pathogens may increase their overall effectiveness.

Paul Robbins of Cornell University provided a fascinating video highlighting his lab's work on the cranberry white grub, *Lichnanthe vulpina*. Researchers are exploring biological control methods for this species since chemical controls are not registered for use on cranberries. The presence of a pheromone in this species of *Lichnanthe* was determined by placing a Kimwipe cleaned with hexane in a container of male beetles. Their excited behavior clearly established that an attractant pheromone was present. Experiments were also conducted in wind tunnels to determine the attractiveness of varying pheromone concentrations on male beetles.

Mike Villani of Cornell presented research into the genetic manipulation of soy beans and cabbage to include metabolic inhibitors of insects.

The second day of discussions were followed by three concurrent field trips. One group visited the Chino site of the White-Fringed Beetle, while another scoured the lawns and compost heaps of greater Riverside in search of larval *Cyclocephala* and *Cotinus*. I accompanied Richard Cowles of UCR to Palm Desert, where we carefully peeled back golf greens in search of *Ataenius spretulus*. Our efforts were quickly rewarded with the discovery of larvae, pupae and adults.

Scarabs readers who would like to be notified of future workshops should send their name, address and interest in scarabs to Michael Klein, Horticultural Insects Research Laboratory, USDA/ARS, Ohio Agricultural Research and Development Center, Wooster, Ohio 44691, (216) 263-3896 (office), (216) 263-3696 (FAX). Let Michael know if you are interested in identifying adult and/or larval samples and he will pass your information on to other scarab workers.

Source for Worldwide Maps

At a recent X II Club Meeting (see article on Buying Books in this issue for an explanation), noted Odonata expert Rosser Garrison showed everyone an impressive catalog of "Travel maps and books for the entire world." This certainly must be the largest dealer on the west coast, and perhaps the country. For a copy of their catalog, contact: Map Link, 25 East Mason Street, Santa Barbara, CA 93101 U.S.A. Their telephone numbers are (805) 965-4402 (voice) and (805) 962-0884 (FAX).

Another good source for maps is Omni Resources, P. O. Box 2096, Burlington, North Carolina. Their telephone numbers are (800) 742-2677 (voice) and (919) 227-3748 (FAX).

Collector Psychology

Source: Maurice Rheims, *Le Vie Atrange Des Ovjets*, 1961.

Translated from French to English by an anonymous Southern California cerambycid collector. Comments are by the same person.

Collecting is part of human nature. From the earliest years, a child exhibits the instinctive actions of a collector. It clings to bits of material, dolls, tin soldiers etc. These objects are its playthings, offering security as the only tangible matter in its universe. While a child's taste develops, so does its spirit of competition. This allows a child to express its deeply felt need to rationalize its external world.

To be a collector is to advance in the social scale at a great pace. Like huntsman, collectors weave the stories of their exploits with fantasies.

A normal man with no complexes is unlikely to become a great collector. (*Ed. note: Barney's collection is minuscule compared to Rich's, and Rich's collection is anemic when compared to Bill's*) On the other hand, the more tortured a man is, the more liable he is to develop into a collector and a perfectionist.

The prime motives of a collector are:

- The need for possession
- The need for spontaneous activity
- The impulse to self-advancement
- The tendency to classify and regularize things.

Some men have a natural affinity for what is beautiful and a personal need for esthetics and harmony.

Some collectors prefer to validate themselves by selling their work in their own lifetime. If the sale is a success, they are likely to start fresh.

Please forgive the somewhat disjointed observations on collector psychology, which are presented here roughly in the order they appear in the book. I trust we can see a lot of ourselves and our colleagues described by these observations.

One sentence in particular deserves comment: "A normal man with no complexes is unlikely to become a great collector." My belief is that a "normal man with no complexes" will never, ever amount to *anything*, collector or not. So, do not let that one bother you.

It is interesting how collector psychology is reflected in nature. Perhaps it would be more appropriate to say that primitive animal instinct can easily be seen in collector psychology.

Most anybody who has been to Chiapas, Mexico has stayed at the famous Hotel Paty because of the tremendous collecting right there at the hotel lights. Visitors

are plagued, though, by scroungy, mongrel dogs that belong to the family that runs the place.

Once, just for the fun of it, I threw a partially-eaten chicken from my dinner plate up into the air. As it went up, so did the dogs. By the time the dogs hit the ground, the chicken had disappeared.

What does this have to do with collector psychology?

Well, I recently had the opportunity to accompany two scarab collectors (who shall remain anonymous) on a collecting trip to Utah. One I shall call Dr. ..., Ph.D. and the other is an editor of this newsletter, the most handsome and athletic of the three.

At the Coral Dunes there is a rare *Polyphylla* that may be a new species—I don't know—I collect cerambycids. I happened to collect the first specimen. Now, Dr. ..., Ph.D. and this editor thought at the time this might be the only specimen we would take on the entire trip. As it turned out it wasn't, but that is beside the point. Anyway, just for the fun of it, I removed the beetle from my kill jar, teased them with a quick glimpse of it (this could be a future paratype, after all), then threw the beast high into the air.

I watched in utter awe and fascination—bordering on admiration—as Dr. ..., Ph.D. and the editor simultaneously left the ground like two aggressive, twisting skyrockets, or rather deadly, relentless missiles closing on a hapless target. How two objects on such ursine weight and bulk could explode off the ground so abruptly, clawing and furiously grappling at each other like starving Mexican dogs as they pumped themselves into the heavens, and then achieve the panoramic heights they did was absolutely astounding, if not downright breathtaking.

When these two celestial objects crashed back to earth, the beetle had disappeared like some Chiapas Chicken! The expression on each face revealed which of the two had satisfied his need for collecting and which one had not. One face was angelic, rotund, content, joyous and beaming; the other was tortured, strained, furrowed, restless, distraught and demonic.

This makes one wonder what may happen to collector psychology in the future. When a machine exists that can duplicate objects, like the one on Starship Enterprise, will the need to collect survive? Only time will tell. I hope I am not around to see it, because I enjoy throwing rare scarabs into the air to see what happens.

Venturi Aspirator Follow-up

Who would have thought that a rash of scarabaeologists would actually go and construct Venturi aspirators? Moreover, who would have predicted that some competitiveness would develop regarding their use?

After an action-packed night of black lighting, a group of collectors in Arizona dumped the contents of their aspirators to show off their collecting prowess and lung capacity. The first jar was uncorked, and out spilled several large and scarce Aphodiines. The next collector spilled out some *Diplotaxis*. With each spill, the beetle body count and size range grew larger.

The contest was put to rest when “Wee Whiddle Willie Warner” dumped out of his aspirator a major male *Strategus*, still alive, crawling through what appeared to be fragments of trailer hitch chrome.

On a serious note, Bruce Gill sent in a communication that appeared in the June 4, 1954, Volume 119, issue of *Science*. Submitted by Paul D. Hurd, Jr., it is entitled “‘Myiasis’ Resulting from the Use of the Aspirator Method in the Collection of Insects.” Listed in the note are various insects (three adult rove beetles, 13 fungus gnat larvae, three egg parasite wasps, and about 50 springtails) which were passed alive from the left antrum of the author's sinus after he became ill.

This happened about two months after completion of research involving 4 to 6 hours of aspiration daily. It is believed the eggs of the insects were aspirated into the sinus cavity (where they underwent metamorphosis) because the retrieved specimens were larger than the fine mesh screen of the aspirator.

Therefore, heed the advice of Billy Bob and use a venturi aspirator to eliminate this hazard.

L.A. Out-of-Print, On-Demand Publishing, Inc.

From time to time, we will mention certain natural history books republished in facsimile form by this new company. Editor Rich constitutes a portion of the people involved with this company, while Editor Barney can be thought of as a friend of the company. *Scarabs* may prostitute itself with announcements of available books. We apologize beforehand if any of the readership takes offense at this blatant commercialism.

Scarabs High Command Celebrates Tenth Issue

This past January, all three of your editors met at the Tenderloin restaurant in La Verne, California to reflect on the high and low points of past issues, and to plan future issues.

We agreed on many things: gee, it sure does take a lot to fill eight pages, and we never know how we are going to fill out an issue, but something always seems to float our way... we never thought we would get to Issue #11... we never thought the newsletter would be mailed to so many subscribers—in foreign countries no less. In short, the three of us got a little teary-eyed and emotional as we reflected back on our baby, *Scarabs*.

How can we thank all those who contributed articles and information? Writers Dave Russell, Scott Haskins, Paul Skelly, Chuck Wirth, Ron Alten, Delbert La Rue, Doctor Art Evans, Ph.D., Ron McPeak, Don Frack, Enio Cano and Don Thomas—Thank You!!!

Many thanks also to the numerous readers who sent in tidbits of information or words of advice. Special thanks should go to Doctor Art Evans, Ph.D. for graciously putting up with one of the few running jokes we have.

Barney and Bill agreed that Rich also deserves special praise for editing a newsletter that unceasingly aims to destroy what little good reputation Rich has left in the scarab world. So, let us set the record straight: Rich is one heck of a swell guy, a semi-great collector, fairly knowledgeable and an decent collecting partner. Moreover, he must be the most handsome and athletic of the three editors—hands down.

An End To *Scarabs*???

The future of *Scarabs* will be interesting indeed. As can be seen from the front page, editor Barney has moved east to earn an endodontic certificate at Boston University. His two-year residency will take him out of serious collecting, for the most part. This move has brought out some fears that *Scarabs* may die as a result. We anticipate this will not affect our irregular publication schedule. We will still be irregular, and are happy to report we have some promising new contributors lined up, and look forward to any and all submissions.

Addendum To Dung Trapping

If you are on the cutting edge of scarabaeology, you already know how productive dung-baited pitfall traps are for collecting Scarabaeinae. If so, you may be interested in the discussion that took place at the Editor's Meeting mentioned above.

Barney boasted that one of his "bag" traps attracted a vulture in El Valle, Panama. Bill said that was unlikely—until Barney displayed a photographic slide as proof of the incident. Bill did not budge: "Most likely the poor thing flew over the plume of stench and simply wilted in midair and fell helpless to the ground. Attracted? No way!"

Rich added "A plausible explanation, Barney, since your dung has no down wind side."

The discussion moved on to possible enhancements to the techniques Bill

described in *Scarabs* Occasional Issue #2. To refresh your memory, Bill described putting dung in a cheesecloth bag suspended on a stick over the cup, as well as a dung-packed condiment cup held over the cup by a wire loop. There are pros and cons to each method. The cheesecloth has a higher surface area exposed to air, which should make it more attractive than the condiment cup. However, it is more subject to desiccation and rain damage than the cup. Both kinds of traps will fail if rain-drenched leaves fall into the pitfall, as any trapped beetles will climb aboard and fly away.

Here is a solution. At home, divide the dung bait into bite-sized morsels, put them into a one-gallon Zip-Loc storage bag, seal and stash these flat in an airtight container.

Set the pitfall cup in the normal fashion. Smear the dung inside the storage bag so that there is a beautiful fudge-brown coating inside the entire bag. Drive a stick through the middle, bottom portion of the bag, open the bag wide, and suspend the inverted bag over the cup, using the stick. It was not generally necessary to prop the bag open with a stick, because the bag always seemed to stay open on its own. Not very much space is needed between the edge of the bag and the ground—as little as one inch will do:

The advantages to the "Barney Bag" are:

- 1.) It is fast to set up.
- 2.) You do not have to deal directly with dung deployment in the field.
- 3.) There is a tremendously large surface area of exposed dung open to the air to attract beetles.
- 4.) The inside of the bag, where the dung is, is protected from desiccation. Water vapor from the dung itself cannot escape the bag, nor can condensed water that evaporated upwards from the cup. Therefore, this trap has greater longevity.
- 5.) The dung is protected from rain by the bag.
- 6.) The pitfall is protected from rain and falling leaves by the bag suspended over it.

This superior, refined method was discovered by accident. When dung was brought on a plane trip, big logs were carried in these one-gallon bags. After retrieving all the bait one could scrape out, the bag still stunk to high heaven. One thought "What a pity to throw such a wonderfully stinky bag away!" So, the "empty" bag technique was tried, with superior results. In every instance where this technique was used in an identical microhabitat, it outdrew the cheesecloth/caca-on-a-stick method. The difference was even more noticeable if the traps were left unattended for a few days.

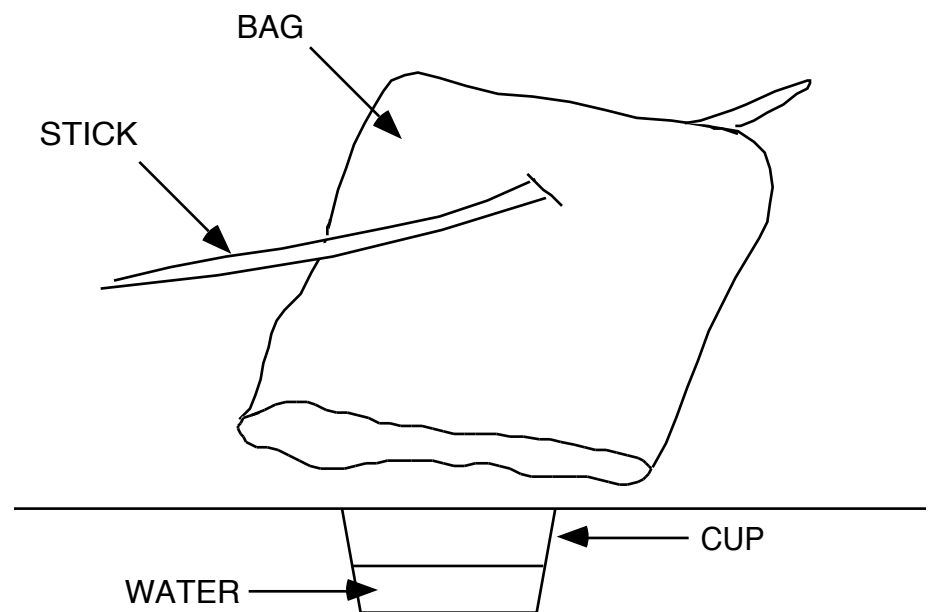


Figure 1.