

SCARABS

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You've finally hit that once in a lifetime spot in Arizona. A leafy, pristine canyon, uncollected, known only to you. Today happens once every thirty years or so... everything is in bloom and the conditions are perfect. What heat... and the humidity is killing you. Scarabs are flying everywhere. You're getting tired as your jars fill up. It starts to get dark. Now the good stuff is going to take wing. You pick a spot under some oak and sycamore trees and set up your mercury vapor light. But wait- 200 yards up the road is grassland, 200 yards the other way is mesquite and acacia, and down the hill from that ocotillo, yucca and sotol abound. A big pine forest is a short drive from where you are, just over yonder. You curse to yourself for your unpreparedness. You should have a light in each of these life zones.

Welcome to *Scarabs*. This is a very private newsletter mailed only to a small circle of scarab collectors. For now, you live in either Arizona or California. Most of us know each other. We hope *Scarabs* becomes what *Scarabaeus* is not: a bulletin board of collecting reports, collecting hints and methodology, theories, and informal anecdotes. We may even steal a little from *Scarabaeus*: if a particularly great paper comes out, it should be mentioned. If you know a great locality for a good scarab, send it to us. If you know of a locality that you feel is in need of collecting, send that too. If you know of any unique techniques, be it collecting, travel, rearing, curating, or whatever, send them in. If you want to arrange a trip to the tropics, and need buddies to go with, or need papers or specimens for research or exchanging, this publication can act as a bulletin board.

We will publish on an erratic basis: when we are sent enough material, and

have enough energy to type it up. We will attempt to write about scarabs that will be in season shortly after you receive *Scarabs*. Please send any neat reports, ideas or other good stuff to us at the above address. Our goal is to give us a place to share what we know so that we may become better friends and be more productive collectors. This letter needs contributions from all of us because our readership is so limited.

Now, back to our opening problem. The obvious solution is to place a 12 volt DC blacklite at each locality. If you were to buy a commercial unit, however, things could get a bit expensive. Another problem these lites have is that they are extremely unreliable. The weak link in the 12 volt system is the rectifier, because it heats up. If this component is encased in epoxy resin, which traps heat, its life is shortened. Here, then is the solution for cheap, portable, durable blacklites:

Power

We recommend the Interstate SRM-U1 Heavy Duty deep cycle battery at about \$38.00 dealer cost. It measures 6" H X 5" D X 7.5" W, and comes with a built-in handle. This is expensive for a little guy, so try and befriend a mechanic and get it for his cost. It has specs that sizzle. It is the smallest deep cycle they make, and has tremendous power for its size. If you don't buy this particular battery, make sure you get a deep cycle battery. This battery is small enough to carry into remote areas without stretching one arm longer than the other.

Make a wooden insulating pallet for the battery, and tie it on with a strap or rope. This will keep the battery from discharging when set on wet ground or a concrete garage floor.

Circuit Board

Thin-Lite Corporation makes beautiful 12 volt DC ballast assemblies. The rectifier is carefully heat-sunk on the aluminum mounting plate. These can be purchased from Mike Charman at Charman Enterprises, Inc., 967 TR 2206, Perrysville, Ohio 44864. They can be ordered by credit card by calling (800) 247-6324. In lots of 10, they cost \$15.26 apiece plus shipping. Order Thin-Lite Corp. Model 115 Replacement 12 volt DC ballast kit.

Incidentally, they make ballasts for a single 8 watt (#111), 20 watt (#151), and 40 watt (#153) lamps also. A wiring schematic comes with each kit.

Mount this in a Radio Shack Experimenter Box #270-627, \$2.69 apiece. You will need 3 small #6 bolts. If you use #8 bolts, drill the 3 holes on the circuit board out with an 11/64" bit. Drill 2 holes in the aluminum experimenter box plate for your wires, and place rubber grommets (also from Radio Shack) in them.

Run a 2 wire cable, about 3 feet long, to the black and white leads, and solder and tape. Solder a pair of Radio Shack battery clamps #270-343 at \$1.99 a pair onto the other end. A 5-wire thermostat cable about 10 feet long should work fine for the other cable. However, stranded wire is by far stronger and more durable. Cut one wire off, we only need four. Connect one pair to the blue leads, the other pair to the red leads.

Now The Tube

To connect the wires to the tube use 16-14 gage (blue) butt splices by Calterm, 47 cents for a packet of six at Home Depot. Snip the blue insulation off one end and crimp onto your BL tube. Crimp the wire lead into the other end. Nice plastic caps can be purchased from: Caplugs Division, Protective

Closures Co., Inc., 2150 Elmwood Ave., Buffalo, NY 14207.

Plastic netting (Naltex) to protect the tube can be purchased from Naltex, Nalle Plastics, Inc., 203 Colorado Street, Austin, Texas 78701-3998.

Charging Harness

If you plan to be out in the sticks for extended periods, rig up a charging harness so you can charge the batteries off your generator. This should be wired in parallel, not in series. In other words, each battery terminal should have its own clamp and individual wire running to the plug on the generator. To charge only one battery, you only need a DC plug and two battery clips connected together. Remember, the positive terminal on the generator goes to the positive terminal on the battery. For each succeeding battery to be charged, use two wires connected to two clamps. The end of each wire is skinned bare and clamped onto the corresponding terminal on the first battery. And so on. See Figure 1.

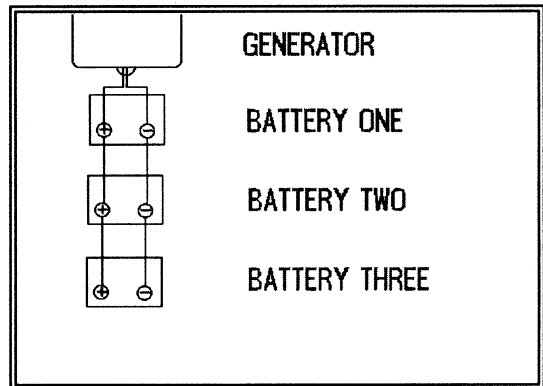


Figure 1.

If you had several of these units, you could easily work several life zones at once. Morning is the ideal time for charging your batteries. In the next issue, we will discuss other trapping methods for scarabs.

Wild Guess Dept.

Does anyone remember Linsley's almost mythical *Pleocomma trifoliata*? It of course could not come from Seward, Alaska. Would one of you Northern California guys please try Fort Seward in Humboldt County? This may not be such a long shot, since rain beetles seem to exhibit a clinal reduction in antennal plates as you go north. Any ideas why that is, Frank? Rich Cunningham thinks it is because scarabs (female rain beetles included) are easier to find as you go north. Thus, males need more plates down here in the south. This explains why the upstate scarab collectors seem so spoiled and sissified when they come to Southern California to collect. Down here you really have to scrounge for bugs, and they end up getting shut-out. Now, we get shut-out too, of course, and often, but we are used to it, so we don't act like babies and whine all the time. Anyway, this critter is probably just a northern form of the *behrensi-sonomae* complex. We'll never know until someone comes up with *P. trifoliata*.

Art Evans Dept.

Even before we went to press with this first issue, we were inundated with requests for Art Evans stories. The editors wish to satisfy the readership, but feel that we should milk Art for all the collecting data we can before we publish stories about him. If he takes these the wrong way, he may withhold valuable stuff from us, and not let us see his "secret" collection. Please, be patient.

Alcohol Tips

Here is a nifty tip on how to dilute 95% alcohol. If you want, say, a 70% alcohol, fill a graduate up to the 70 ml mark with 95% alcohol, and add distilled water to the 95 ml mark.

While we are on this subject, Dr. Ritcher described the classic way of

preserving scarab grubs: simply place them in near-boiling water for three minutes then store in 70% ethyl alcohol.

Rare Females!

The female of *Polyphylla anteronivea* Hardy and Andrews has now been collected. On a recent trip to the Saline Valley Dunes, the team of Rich Cunningham, Dave Russell, and Barney Streit lucked onto a mated pair by watching a second male land about two feet away. The pair were just on the face of the dune, under the plant that grows commonly there. No open burrows were evident, although digging showed some indications of burrows. Afterward, the plant was "Duffed." Now, perhaps we should stop right here and explain this term to those unfortunates still unfamiliar with it. It is named, with love, after one of us. Basically, it means to dig a huge hole. Or pit. For further reading on this interesting subject, refer to "A Description of the Larva of *Ceratophyus gopherinus* Cartwright with a Revised Key to the Larvae of North American Geotrupini and Notes on the Biology," *The Pan-Pacific Entomologist*, Vol. 47, April 1971, No. 2, pp.158-163, by Paul O. Ritcher and Robert Duff. These grubs were taken as deep as 1.5 m. That's almost five feet, guys. Can you guess which of the authors did the digging? Now, back to Saline Valley. "Duffing" proved fruitless. Perhaps only the master himself can do it right.

A "Hovore Hoax?"

Some time ago, Frank Hovore related an interesting way of collecting adults of *Ceratophyus*. Simply find a burrow, and dig away the pushup to form a crater around the burrow. Come back later (usually, the next morning) and the adults will be sitting in the craters. Apparently, once they reach the outside of the burrow, and find things different,

they become disoriented, and just sit there. Has anyone else tried this?

A "Wirth" Less Tip

When collecting *Phanaeus* or other dung beetles directly from dung, place them alive in a large jar with a couple of slightly moist pieces of paper towel. If it is hot, leave the lid open a little. Let them run around in this jar for 30 minutes or so before popping them. They will be beautifully clean. Thanks to Chuck Wirth for this tip.

Laser Printers

For those who may be interested, this newsletter was published using an IBM clone computer running Microsoft Word 5.5 under DOS. The printer is a Hewlett-Packard LaserJet III.

Although Hewlett-Packard does not recommend using papers thick enough for labels, they seem to run through with no trouble. The thickest paper they recommend is only 36 pounds, but we have run Basis 57 paper. The LaserJet III comes with two internal scalable fonts. That means you can get fonts from 1 to 127 points in size, adjustable in one-quarter point increments. Here is an example of a 4 point Univers font:

USA: Calif. Tulare Co.
Three Rivers Post Office
26-X-90
Terry W. Taylor, Collector

Of course, type fonts can be in combinations of bold, bold-italic, and different point sizes:

Aphodius
fucosus
Schmidt
Det. Alan Hardy

The above sample is 4 and 5 point Univers. Here is the same label in CGTimes:

Aphodius
fucosus
Schmidt
Det. Alan Hardy

If these samples are too big, they can be scaled to any size or style you like.

One tip: because these typefaces are proportional (different letters have different widths, unlike a typewriter) use tab stops (instead of spaces) when aligning labels on the screen. In this way, they will always line up. This system really comes into its own when you need only a few labels for a small series. Not only is it much nicer than labeling by hand, it is much faster. Further, individual labels of commonly collected species or localities can be kept on your computer disc for additional printouts with little modification, such as date, species, etc.

Tray labels and drawer labels can come out really nice also:

SUBFAMILYINAE Tribeini

Genus (Illiger, 1798)

species 1 (Author, 1980)

species 2 (Author, 1990)

We Need Your Help

If you know anybody who might like to receive this publication please send us his or even her address. Please send any of your comments, tips, collecting reports, special exchange requests, lists, anecdotes, or trivia as soon as possible. Because of the extended drought California is suffering, please send us any interesting collecting reports from past years.

Next Issue

Next issue: Trapping *a la* Bill Warner or "Dos Hermanos de Caca". Also, *Pleocoma* and *Coenonycha* collecting, and a sample of a form you can use to quickly take field notes and correlate these to your catch. Hopefully, we can find information on buying tropical rain forest more cheaply than the company that advertises in the magazines (\$100 per acre, \$58 per half acre). Photomacrography will be discussed in a future issue.