

the adults screams aposematic (warning) coloration, and it is reasonable to assume that they accumulate in their bodies for defensive purposes the cyanogenic glucosides produced by elderberry plants (Huxel 2000). Even their movements are those of a chemically protected model - lumbering and clumsy, without the alert evasiveness usually seen with other flower longhorn species. Presumably this species participates in a Müllerian mimicry complex involving netwinged beetles (family Lycidae, particularly species in the genus *Calopteron*) and perhaps *Pyromorpha dimidiata* (orange-patched smoky moth, family Zygaenidae) as well, and it may serve as a Batesian model for the equally colorful but completely innocuous *Lycomorpha pholus* (black-and-yellow lichen moth, family Arctiidae).

REFERENCE:

Huxel, G. R. 2000. The effect of the Argentine ant on the threatened valley elderberry longhorn beetle. *Biological Invasions* 2:81–85.



North America’s Largest Stag Beetle

Ted C. MacRae¹



The insect in these photos is, of course, a fine example of a male *Lucanus elaphus* – the giant stag beetle (family Lucanidae). This striking insect is easily among North America’s most distinctive and recognizable species by virtue of the enormously fearsome appearance belies the true nature of this harmless beetle, which spends its days feeding on



sap that flows from wounds on the trunks and roots of trees. Males use their massive mandibles in combat with other males, not for “biting,” but rather as tools to pry and lift their adversaries before dropping them to the ground. Some marvelous photos of this behavior in a related super-sized mandibles sported by the males. Its European species can be seen at [Stag Beetles Lucanus cervus Mating Behaviour](#).

I collected this specimen many years ago at an ultraviolet light (“blacklight”) that I had setup in the pine/oak forests at Pinewoods Lake, Carter Co., in the southeastern Ozarks – one of my favorite 1980's beetle collecting spots. This was in my early days of studying beetles, during which time I was actively collecting material as part of my statewide surveys for the families Buprestidae (MacRae 1991) and Cerambycidae (MacRae 1994). *Lucanus elaphus* is not a commonly encountered species, especially in the western reaches of its distribution here in Missouri, and I’ll never forget my rabid excitement when I encountered this fine major male at my blacklight sheet. For many years afterward it remained the only individual that I had ever encountered, until a few years ago when I came across a group of two males and one female feeding on a sap flow in a wet bottomland forest along the Mississippi River in the lowlands of southeastern Missouri. I encountered another male the following year at a nearby location “rafting” on debris in floodwaters from the nearby river, and two weeks later at that same site I picked up several males and females in a fermenting bait trap.² Like most “uncommon” species with broad distribution across the eastern U.S., I suspect that

¹ Modified from an article posted December 30, 2010 at <http://beetlesinthebush.wordpress.com>. Photos by TCM.

² I have used fermenting bait traps to collect a wide variety of beetles, but especially longhorned beetles. My recipe is based



its apparent rarity is an artifact due to habits that make it infrequently encountered rather than being truly scarce.

REFERENCES:

Champlain, A. B. and J. N. Knull. 1932. Fermenting bait traps for trapping Elateridae and Cerambycidae (Coleop.). *Entomological News* 43(10):253–257.

MacRae, T. C. 1991. The Buprestidae (Coleoptera) of Missouri. *Insecta Mundi* 5(2):101–126.

MacRae, T. C. 1994. Annotated checklist of the longhorned beetles (Coleoptera: Cerambycidae and Disteniidae) known to occur in Missouri. *Insecta Mundi* 7(4) (1993):223–252.

New Book Celebrates 85th Anniversary of Shaw Nature Reserve

The Missouri Botanical Garden has released a new book titled, **“The Missouri Botanical Garden’s Shaw Nature Reserve: 85 Years of Natural Wonders,”** by Cindy Gilberg and Barbara Perry

on that described by Champlain and Knull (1932) – bring 12 oz. dark molasses and 12 oz. beer up to 1 gal. with water, mix well and add a packet of dry baker’s yeast to get the fermentation started. Hang a 1/2-gallon milk jug with big holes cut in the sides in a tree along the edge of a woods and add ~1 quart of fresh liquid. It generally takes 2-3 days for the liquid to really start fermenting and become attractive, and it will remain so for about another week or so. Check traps every 2-3 days by pouring the liquid through a kitchen strainer into another container – reuse or replace as necessary. Place the collected specimens in vials of water to wash off the molasses residues, and either pin immediately afterward or transfer to 70% ethanol for longer term storage. Some of the more desirable species I’ve collected in this manner, besides *L. elaphus*, are *Plinthocoelium suaveolens*, *Purpuricenus axillaris*, *P. humeralis*, *P. paraxillaris*, *Stenocorus cylindricollis*, *S. shaumii*, *Sarosesthes fulminans*, *Stenelytrana emarginata* [= *Leptura emarginata*], and *S. gigas* [= *Leptura gigas*].

Lawton. The book celebrates the 85th anniversary of this 2,400-acre refuge for plant and animal diversity, environmental education and recreation through a detailed, illustrated exploration of the land, its history and natural beauty from before the Reserve’s founding to present day.

The book costs \$19.95 and can be purchased at the Missouri Botanical Garden’s Garden Gate Shop, 4344 Shaw Blvd., St. Louis or the Shaw Nature Reserve Visitor Center, Interstate 44 at exit #253, Gray Summit. For more information, contact the Garden Gate Shop at (314) 577-0865 or www.gardengateshop.org, or Shaw Nature Reserve at www.shawnature.org/gifts.aspx.

St. Louis Wild Ones February Lecture

Wednesday, February 2; 7 p.m.

Creating habitat for pollinators in your yard – Jennifer Hopwood, Midwest Pollinator Outreach Coordinator, The Xerces Society for Invertebrate Conservation. Jennifer will give an introduction to native pollinators, a quick overview of bees, and will present ways to protect or create habitat for pollinators in gardens. The program will be held at Powder Valley Nature Center, rooms A & B. Sponsored by the St. Louis Chapter of Wild Ones: Native Plants, Natural Landscapes. Wild Ones is a not-for-profit environmental, educational, and advocacy organization that promotes environmentally sound landscaping practices to encourage biodiversity through the preservation, restoration and establishment of native plant communities.

TNC Spring 2011 Conservation Speaker Series

The Nature Conservancy has announced their **Spring 2011 Conservation Speaker Series**. Mark your calendars – all talks are free & open to the public and are held at Schlafly Bottleworks in Maplewood.