Phaëton

The Official Newsletter of the
Maryland Entomological Society

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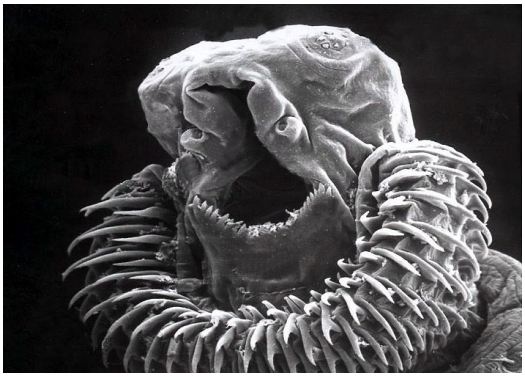
MARYLAND ENTOMOLOGICAL SOCIETY
MARCH 2022 MEETING

Title: Tigers of the marsh: an overview of snail-killing flies (Diptera: Sciomyzidae)
Speaker: Bill Murphy, Research Collaborator, Department of Entomology, Smithsonian Institution



Abstract: If you scan cattail stems near the waterline in Maryland in summer, you'll often see half-inch-long, cinnamon-colored flies sitting head downwards, like tiny grasshoppers. These adult sciomyzids are harmless nectar feeders, but their larvae, floating below them, are voracious predators of snails. Larvae of some sciomyzids also attack slugs and fingernail clams. Sciomyzidae, with 540 extant species in 61 genera worldwide, is now biologically and taxonomically the best-known group of higher Diptera. Delmarva hosts 67 of the 197 species known from North America. This talk will cover sciomyzid taxonomy, life history, use in biological control of human and animal diseases, and current research.

Speaker Bio: Bill graduated from the University of Maryland in 1975. He credits Professor Don Messersmith for developing his interest in entomology. Bill's specialization in sciomyzids resulted from a decade of working with Lloyd Knutson, a world specialist on Sciomyzidae, in Beltsville at the USDA Insect Identification & Beneficial Insect Introduction Institute. Since retiring in 2007, Bill has authored or coauthored more than 25 papers and book chapters on sciomyzids, including two comprehensive surveys—Delmarva (2018) and Indiana (2020).

When: March 18th, 7:00 PM
Where:
https://us02web.zoom.us/j/82770990424?pwd=Qm04SlVVQlR3TnNsZWliTEZEbjdUUT09
Meeting ID: 827 7099 0424
Passcode: 593351
Dial in: +1 301 715 8592 US (Washington DC)

WELCOME TO NEW MEMBERS

MES welcomes the following new members to the Society:

Benjamin D. Jackson, & Isaac Baugher – Marriottsville, Maryland
T. Keith Philips – Bowling Green, Kentucky

HONORING MEMBER DONORS

MES wishes to honor the following members who made charitable donations along with their recent membership renewals. These donations help with the printing and mailing of *The Maryland Entomologist*.

Jeffrey W. Shultz

MINUTES OF THE 341ST MEETING OF THE MARYLAND ENTOMOLOGICAL SOCIETY

18 FEBRUARY 2022

The 341st meeting of the Maryland Entomological Society began at 7:05 PM, via 'ZOOM', with a welcome by President Fred Paras. The attendee count according to 'ZOOM' was 18, of which at least 14 were members. A brief business meeting preceded the lecture. Treasurer Ed Cohen reported a balance of $7157.67 in the Society's account. Gene Scarpulla, Editor of The Maryland Entomologist, reported that he will be submitting invoices for the publication of the 2022 issue, which is completed. He is now accepting articles for the 2023 issue. The business portion of the meeting ended at 7:10 PM and the lecture, which is summarized below, commenced at 7:11 PM. The lecture ended at approximately 8:00 PM, and was followed by a question/answer session and socialization. Logoff occurred at approximately 9:00 PM.

18 FEBRUARY 2022 MES LECTURE

Speaker: Dr. Mike Raupp, Researcher, Professor Emeritus, Department of Entomology, University of Maryland College Park

Title: Coming soon to your neighborhood, get ready for spotted lanternfly

Dr. Mike Raupp, MES member, was our speaker for the February 2022 meeting. An abstract and speaker biography appear in the February 2022 issue of the Phaëton.

The speaker commenced his talk by listing the various threats to contemporary urban forests, including a lack of biodiversity, exotic invasives, exotic plants substituting for native plants, climate change, an increase in impervious surfaces, and land clearing and development.

He showed photographs of entomologic invasives, including the spotted lanternfly (SLF), the emerald ash borer (EAB), and the brown marmorated stinkbug. Invasive species detections increased markedly beginning in the 1860's, due to changes in shipping from sail to steam and to the spread of railroads, both of which enabled goods to traverse great distances more quickly. This was accompanied by a slide displaying this increase in graph format.

Dr. Raupp then discussed the taxonomy of invasives, characteristics of hemiptera and of phloem tissue feeding, all illustrated with slides. He played a video of the life stages of the SLF and of honeydew excretion by the insects.

Damage caused by phloem tissue feeders includes tissue damage, discoloration and premature leaf drop, distorted growth, dieback, and honeydew depositon and sooty mold growth which attract other insects. Discussion ensued of damage to vineyards and of reduced harvestable fruit in other crops. The economic impact is significant as many native and highly valued species are host plants to SLF, including maples, elms, oaks, fruit trees, black walnut, hops, and grapevines.

He spoke of the potential benefit to honeybees of the honeydew deposition, and showed a slide of honeybees and other species feeding on the deposition. The SLF is not a food source for humans in its native China. Traditional Chinese medicine uses it as a topical treatment to reduce swelling. There have been reports of domestic animals, typically dogs, eating SLF and getting sick.

As noted in the meeting announcement, the SLF was first detected in Berks County, PA in 2014. The brown marmorated stinkbug was first detected in Allentown, PA. Dr. Raupp discussed and illustrated with a map, the highway and rail networks in the mid-Atlantic. The eastern terminus of Interstate 78 is Port Elizabeth, NJ, a major container port for the East Coast. This highway traverses the areas in which the SLF and brown marmorated stinkbug were first identified, and intersects with many other major transportation arteries. In February 2022, the SLF was identified in North Carolina - a spread of 500 miles in 8 years. The insect has been identified in MA, CT, NY, NJ, PA, MD, DE, VA, NC, OH, and IN. Another slide illustrated by county within these states the presence of the SLF. One attendee commented that some of the affected counties in PA, OH, and IN border the Ohio River, another transport artery.

He moved on to discuss effective and ineffective management approaches - culture management, use of resistant plants, mechanical removal of the pest, integrated pest management, and insecticide usage. Many homeowners and some yard service companies respond to a pest infestation by fertilizing affected plantings. Fertilization, especially of high nitrogen formulations, increases plant growth, resulting in increased herbivore feeding. He displayed a graph of herbivore response to nitrogen fertilization, indicating an increase in such activity.

Mechanical removal is a less effective means of control. Removal of egg masses by scraping is difficult for reasons of access and sheer volume. Banding of tree trunks with sticky substances results in birds getting stuck, and in areas of high infestation, individual pests crawl over dead bodies and are

not captured. The best time for removal is when the nymph stage is prevalent.

Spiders, mantises, assassin bugs, and stinkbugs feed on SLF. A species of wasp imported in 1908 in an attempt at gypsy moth control, is parasitizing the SLF. Additionally, two naturally occurring fungi, Batkoa major and Beauveria bassiana have been observed colonizing SLF.

He discussed several insecticides with regard to their effectiveness against SLF versus adverse effects on pollinators.

Ailanthus altissima, aka tree of heaven (TOH), another invasive species, is also a host plant for SLF. He described the trap tree method using the TOH as bait. All but one plant are removed from a stand of plants. The remaining individual plant attracts the SLF, thus enabling removal.

The lecture ended at approximately 8:00 PM and was followed by informal discussion and conversation.

Respectfully submitted,
Janet A. Lydon, MES Secretary

VOLUNTEERS WANTED FOR PLANT/BUMBLE BEE SURVEY

Native Bee Inventory and Monitoring Lab
Eastern Ecological Science Center
at Patuxent Research Refuge

The Native Bee Lab has developed a simple Plant/Bumble Bee Survey that permits anyone to survey what plants Bumble Bees use anywhere there are Bumble Bees (literally). We call it "Ask a Bumble Bee."

We are recruiting individuals and networks such as Master Naturalists, Master Gardeners, State and Federal biologists and similar entities to encourage and redistribute this call for volunteers to their members.

Our goal is to quantify which plants native bumble bees use, rank the plants by that use, and also identify which plants they don't use. (You would think we would already know this, but we mostly have anecdotal and scattered studies that largely don't quantify the plants the bees don't use). See below for plant data from a pilot study in 2021.

• You don't need to identify specific bumble bee species (though our goal is to get you there!).
• Everything is non-lethal.
• You only need a cellphone (for taking pictures of plants), pencil, paper.
• You can survey any location where bumble bees occur.
• Your garden, arboretums, parks, plantings, natural areas, refuges, urban, suburban, farm, wilderness, roadsides, and weedy patches are all places that the Bee Lab would like you to survey. The richer the plant diversity, the more plants are competing for bumble bees and clearer the preferences will be.
• You can survey a site repeatedly throughout the year.

The target region consists of Maryland and these other states: ME, NH, VT, CT, MA, RI, NY, NJ, PA, DE, VA, DC, WV. What if you are not in those states or are in Canada, can you participate? Yes! And we will process data from the primary states first and those outside later.

Basic instructions (see links below for more details).

• Half-hour walk.
• You can take whatever path you like, anywhere you like.
• Take notes about all the blooming plants to 10 feet on either side of that path (yes, including invasives and garden flowering plants that are not native).
• Count all the bumble bees (and carpenter bees!) along this route and note what flowers they are on.
• Take pictures of all the flowering species (so that we can check ids).
• Take pictures of your field sheets and upload all the pictures using your phone (no apps to download!).
• Done! (but we really want you do more than one survey!)

How will this help anything?

• It allows us to quantify what flowers Bumble Bees use (by species) and don't use.
• Plant use information can be plugged into planting guides.
• We can look at differences among regions and plant combinations.
• We can identify overlooked bumble bee plants.
• We can look at non-native and native plants.
• We can downvote currently favored bumble bee plants (if they get a low score).
• We can compare use across states, urban/non-urban, parks, etc.
• We can look at bumble bee counts and their relationship to location and the plants at that location.
• You can get copies of all the data and use it however you like (for example, you might want to compare bumble bees' use of an area that you have begun planting to one that you have not).
• Researchers can play with these data in any way they like.
• We can assign your area (for example a park or a group of people like MD Master Gardeners) a project code and generate separate reports of results just for you.

How can you get involved? Just email Jenan El-Hifnawi at bumblebeecount@gmail.com, our fabulous coordinator, and she will sign you up and can answer detailed questions.

When do things start? Once you see the first bumble bee, of course. We are particularly interested in what flowers are used by emerging queens. The poor things have been sitting underground all winter and are vulnerable to starvation if there are no plants to feed on. No queens, no bumble bees. So, we want to figure out what good queen food is.

Please see the attached document for pilot results and additional resources.

AMERICAN ENTOMOLOGICAL SOCIETY MARCH MEETING

Wednesday, March 23rd, 4 PM
Using emergence traps to study ground-nesting bees: insights from field experiments and advice for future research
Julia Brokaw, PhD Candidate, Department of Entomology, University of Minnesota

The nesting biology of ground-nesting bees is woefully understudied compared to research on bee foraging preferences, despite that over 70 percent of all bee species are ground-nesting bees. This information is desperately needed to better inform conservation actions that address both food and nesting requirements for bees. However, most studies on ground-nesting bee nesting focus on bees that nest in open, bare soil or in large aggregations, thus biasing our subsequent recommendations regarding nesting habitat availability. Emergence trapping is a relatively new methodology to study ground-nesting bees, in which small tents with an open bottom and bottle at the top are secured to the ground to catch emerging insects. Emergence traps allow for the detection of bee nests that may otherwise go unnoticed in dense vegetation or underneath leaf litter.

This talk will cover an introduction to ground-nesting bee ecology and conservation and insights from multiple experiments using emergence traps to examine bee nesting in various habitats – from blueberry fields, remnant tallgrass prairie, and effects of prescribed burning management. Advice and insights on building and using cost-effective custom designed emergence traps to study ground-nesting bees will be shared to support future research efforts that plan to employ this methodology.

Zoom link:
https://drexel.zoom.us/j/86817579465?pwd=UCs1K2ZOZXcrb0QxamloVnU0MGlhQT09

Meeting ID: 868 1757 9465
Passcode: 587601

BEES IN WINTER WORKSHOP

A workshop exploring climate change impacts on diapause physiology in wild and managed bees.

When: Thursday April 7th & Friday April 8th, 1 PM – 5 PM EST

Co-organized by: Hollis Woodard (UC Riverside), Vanessa Corby-Harris (USDA-ARS), and Gloria DeGrandi-Hoffman (USDA-ARS)

Climate change threatens all wild and managed bee species, in part by changing conditions during winter, when most bees are in diapause. This two-day mini-workshop is a first step towards establishing a network of bee researchers working on diapause, overwintering, and/or climate change effects on bees. Day one of the workshop will feature talks on the biology of insect overwintering and diapause (Daniel Hahn) and bees in winter (Priscila Santos, Etya Amsalem, Mehmet Döke, and George Yocum/Joe Rinehart), followed by additional lightening talks from the research community. Day two of the workshop will feature discussions on how climate change is predicted to impact bee populations, specifically through impacts on overwintering, with the goals of setting priorities for future research and policy directions. Last, we will discuss composing a synthesis paper on this topic.

Register at:
https://docs.google.com/forms/d/e/1FAIpQLSemaH6yGp3EcDhl_Y9sWSQEp_7SKmcdROsIS_3C77ZriM-1Ig/viewform

ENTOMOLOGICAL SOCIETY OF AMERICA
SHARING INSECT SCIENCE GLOBALLY

UPCOMING WEBINARS

Tuesday, March 15th, 1 PM
Membership Webinar: The 5 P's of ESA

Wednesday, March 16th, 2 PM
Early Career Professionals Town Hall Meeting

Tuesday, May 10th, 2 PM
On the Horizon: New findings in tick biology, ecology, and control

Find more information and register at:
https://www.entsoc.org/events/webinars/upcoming

THE OHIO STATE UNIVERSITY

BUMBLEBEE SHORT COURSE FOR COMMUNITY SCIENTISTS

All sessions are from 1 - 2:30 PM on six consecutive Fridays from March 18th to April 22nd

March 18: Jamie Strange, The Ohio State University
Bumble bee biology, Part 1

March 25: Jamie Strange, The Ohio State University
Bumble bee biology, Part 2 – Queens and endangered bumbles

April 1: **Bumble bee identification**
1 – 2:30 Eastern North America, Karen Goodell, The Ohio State University
3 – 4:30 Western North America, Lincoln Best, Oregon State University

April 8: Randy Mitchell, The University of Akron
Bumble bee botany

April 15: Hollis Woodard, University of California, Riverside
Threats and opportunities for conservation

April 22: Sam Droege and Jenan El-Hifnawi, USGS
You can make a difference for bumble bees: Programs to document bumble bees in yards, parks, gardens, and natural areas and what plants they use

Find more information and register at:
https://u.osu.edu/thebumblebeeshortcourse/

YORK U

CENTER FOR BEE ECOLOGY, EVOLUTION, AND CONSERVATION: BEE BIOGEOGRAPHY AND SYSTEMATICS TALKS

Wednesday, March 30th, 11 AM
Phylogeny and biogeography of cleptoparasitic nomadine bees: Epeolini and *Nomada*
Katherine Odanaka (PhD Researcher) and Dr. Thomas Onuferko (Postdoctoral Visitor), York University

Wednesday, April 27th, 11 AM
The biology and evolution of the subfamily Anthophorinae (Apidae)
Dr. Michael Orr, Assistant Professor, Institute of Zoology, Chinese Academy of Sciences

For recordings of previous talks, visit:
https://www.youtube.com/channel/UCB0ZDMNcqIJam-zHU--bLZA

Find more information and register at:
https://www.yorku.ca/bees/packer/

FLORIDA MUSEUM

THE MCGUIRE CENTER SEMINAR SERIES

Tuesday, March 15th, 12 PM
The butterflies of Honduras
Robert Gallardo, Pro Nature Honduras Foundation, 'Emerald Valley', Honduras

Tuesday, April 12th, 12 PM
Insect decline in the Anthropocene: Death by a thousand cuts
David Wagner, Department of Ecology & Evolutionary Biology, University of Connecticut

For seminar schedule, zoom information and recordings of previous lectures, visit:
https://www.floridamuseum.ufl.edu/mcguire/events/

VT COLLEGE OF AGRICULTURE AND LIFE SCIENCES ENTOMOLOGY VIRGINIA TECH

SPRING 2022 SEMINAR SERIES

Thursday, March 17th, 3 PM
Why and how *Aedes aegypti* mosquitoes selectively target humans
Lindy McBride, Princeton University

Thursday, March 24th, 3 PM
Social insect use of private and public information in foraging strategies
Christoph Grüter, University of Bristol, England

Thursday, April 17th, 3 PM
Of limpkins, apple snails and mayfly mass emergence: Invasive species, novel ecosystems, and an uncertain future
Steve Golladay, The Jones Center at Ichauway

All seminars are scheduled for Thursday 3:00 – 4:00 P.M. All seminars will have a virtual component for people who want to participate virtually. If you are interested in attending these seminars virtually you may register here to receive the Zoom links and calendar reminders automatically.

Find more information and recordings of previous seminars at:
https://www.ento.vt.edu/seminar.html

NATURAL HISTORY SOCIETY of Maryland

CATERPILLARS COUNT! BUGS ON BRANCHES AS CANARIES IN THE COALMINE FOR GLOBAL CHANGE

NHSM Lep Club March Meeting

When: Wednesday, March 23rd, 7 PM via Zoom
Speaker: Dr. Allen Hurlbert, Professor of Biology, University of North Carolina at Chapel Hill

Learn about how global change may be impacting arthropod communities, and about the citizen science project Caterpillars Count! which seeks to develop long-term monitoring sites for better understanding those impacts. You will learn how to explore patterns of arthropod abundance and phenology on our website, and how to set up your own monitoring site.

Caterpillars Count! is a citizen science project for measuring the seasonal variation, also known as phenology, and abundance of arthropods like caterpillars, beetles, and spiders found on the foliage of trees and shrubs. The data you collect on the abundance and phenology of caterpillars and other insects during the growing season (spring and summer) is used by researchers to relate trends in arthropod populations to bird population trends in those same areas, and to better understand how changes in climate and land use impact the plants and animals around us.

Find more information and register at:
https://www.marylandnature.org/get-involved/events/event/caterpillars-count-bugs-on-branches-as-canaries-in-the-coalmine-for-global-change/

NATURAL HISTORY SOCIETY of Maryland

THE BELTSVILLE VIRTUAL EXPERIENCE – 7000 ACRES IN ONE HOUR

When: Thursday, April 7th, 7 PM via Zoom
Speaker: Jay Green, Technical Information Specialist, USDA ARS

Sit back and enjoy virtually touring the world's largest, most comprehensive agricultural research center on ~ 7,000 acres in Beltsville, Maryland – also home to the world's largest National Agricultural Library. Jay Green will be your pilot and guide for this 1-hour informative, educational and engaging virtual experience via a virtual flying green bus.

The mission of the Beltsville Agricultural Research Center is to provide the American public with an exceptionally talented, highly interdisciplinary scientific community in the USDA's largest scientific installation, and leverage these resources to envision, create, and improve knowledge and technologies that enhance the capacity of the nation – and the world – to provide its people with healthy crops and animals; clean and renewable natural resources; sustainable agricultural systems; and agricultural commodities and products that are abundant, high-quality, and safe.

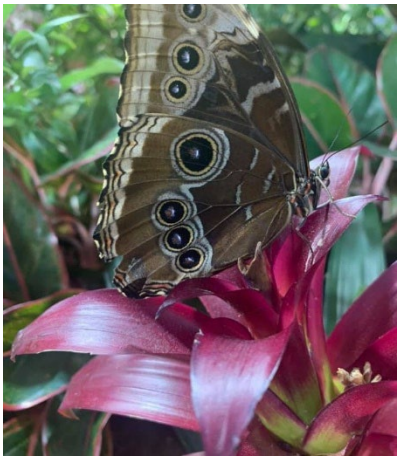
Find more information and register at:
https://www.marylandnature.org/get-involved/events/event/the-beltsville-virtual-experience/

NATURAL HISTORY SOCIETY of Maryland

PRIVATE TOUR OF HERSHEY GARDENS' BUTTERFLY ATRIUM AND LAB

When: Saturday, April 9th, 4 PM – 6 PM

In 1937, Milton Hershey had built a 3.5 acre rose garden. Today, it is a 23-acre paradise full of education and wonder. Features include 11 themed garden, a children's garden, conservatory, the welcome pavilion, educational and horticultural wing, garden shop, bugzone, and the butterfly atrium.



NHSM has the opportunity to explore all that Hershey Gardens' attractions including the Butterfly Atrium, The Atrium is home to a multitude of local and international species. Species change throughout the year, with over 300 species possible in any given year. Possible species include common morpho, pearl charaxes, great Mormon, leopard lacewing, paperkite, postman, common birdwing, and great orange tip.

After hours, we will be embark on a behind the scenes tour of the atrium and it's corresponding lab. Enjoy the luxury of a small group led by a seasoned staff member.

Find more information and register at:
https://www.marylandnature.org/get-involved/events/event/private-tour-of-hershey-gardens-butterfly-atrium-lep-club-only/

NATURAL HISTORY SOCIETY of Maryland

NHSM MARCH 2022 RAFFLE

This month we are offering a chance to win a guided fossil trip on a private Chesapeake Bay beach

As an NHSM Lifetime Membership (value $750) member you will receive discounts on many of our programs—from lectures, workshops, and courses offered in our museum—to canoe trips, nature walks, and fossil hunts in the great outdoors.

PLUS

This month we are raffling a personalized one day guided fossil hunting trip for a Covid-19 compatible group (presume one family/one car) to a restricted access beach in Calvert County, Maryland. This site is known for an abundance of Miocene Calvert Formation fossils, in particular a large variety of teeth and shells. Large Otodus (Carcharodon/Carcharocles) megalodon teeth (megs) have been found at this site, along with fossils and teeth from whales, dolphins, rays and many other sharks.

We will provide directions and meet you at the site. Parking space is limited and restricted on this private property, hence the one car limit.

The trip will take place on a mutually agreed upon Spring 2022 weekend day when all parties are available and when the tides are low and hopefully the weather cooperates.

You can keep what you find, and we promise a unique fun and educational experience. As a bonus, we will probably see Osprey and maybe a Bald Eagle. No extra charge!

About Your Guides
Adrien Malick is a fossil curator at NHSM who grew up collecting fossils on Chesapeake Bay beaches.

Nick Spero is a biologist who is a walking talking encyclopedia of the fossils you'll be looking for and the nature you will encounter.

Tickets are $5 and buying more than one ticket increases your chances of winning. Only 1000 tickets will be sold to benefit the Natural History Society of Maryland. Cut-off date to be entered is March 31st at noon.

Get more information and purchase your tickets here.

2021/2022 PROPOSED MES EVENT SCHEDULE

Due to the COVID-19 pandemic, regular MES lecture/meetings are currently being held virtually on Zoom at 7:00 p.m. on the 3rd Friday of each of 6 months coinciding with UMBC's academic year. Proposed events for the current MES membership year are:

Date	Speaker	Topic
Oct 15	Ted C. MacRae	Highlights from Nearly 20 Years of Chasing Tiger Beetles in Missouri
Nov 19	Ian Emanuel	Insect interactions with Jack-in-the-pulpit plants
Feb 18	Mike Raupp	Spotted Lanternfly
Mar 18	Bill Murphy	Tigers of the marsh: an overview of snail-killing flies (Diptera: Sciomyzidae)
Apr 15	TBA	TBA
May 22	Members Presentations	

OCT 2021-SEP 2022 MES MEMBERSHIP YEAR OFFICERS

President	Frederick Paras
Vice President	(vacant)
Secretary	Janet A. Lydon
Treasurer	Edgar A. Cohen, Jr.
Historian	(vacant)
Faculty Sponsor	Frank E. Hanson
Journal Editor	Eugene J. Scarpulla
E-newsletter Editor	Aditi Dubey

SUBMITTAL DEADLINES

April 2022 issue of the ***Phaëton***:
Please send items by Sunday 10th April 2022 to Addie at aditid26@gmail.com.

September 2022 issue of *The Maryland Entomologist*:
Please send first drafts of articles and notes by 1st April 2022. Send drafts to Gene Scarpulla at ejscarp@comcast.net.

THE MOWER TO THE GLOW-WORMS
by Andrew Marvell

Ye living lamps, by whose dear light
The nightingale does sit so late,
And studying all the summer night,
Her matchless songs does meditate;

Ye country comets, that portend
No war nor prince's funeral,
Shining unto no higher end
Than to presage the grass's fall;

Ye glow-worms, whose officious flame
To wand'ring mowers shows the way,
That in the night have lost their aim,
And after foolish fires do stray;

Your courteous lights in vain you waste,
Since Juliana here is come,
For she my mind hath so displac'd
That I shall never find my home.