

The University of California, Riverside Botanic Gardens UCRDBG Newsletter

Volume 34, Number 4, Winter 2014

A GLIMPSE AT THE MARINE BLUE BUTTERFLY

Article and Photos by Ann Platzer

The Marine Blue, *Leptotes marina*, belongs to one of the largest families of butterflies, the Gossamer wings, (Lycaenidae), a family that includes the smallest butterflies. With over 6,000 species identified worldwide, entomologists are still counting. The Marine Blue is small, with a wing span of about one inch, and fragile-looking wings, hence the name Gossamer wings.

The Marine Blue's under (ventral) wings have unique tan and white "zebra-stripes" with two iridescent eyespots near the tip of each hind wing (Photo 1). The upper (dorsal) wing surfaces differ in the male and female. The male has a colorful blue-violet dorsal wing surface (Photo 2) while the female has less blue on its mostly mottled pale brown upper wings.

This widespread Lycaenid butterfly ranges from Guatemala to the southwestern United States. In southern California it occurs in the lowlands but rarely above 5,000 feet. Ecologically versatile, it occurs in a wide range of habitats including mesquite scrub, xeric deserts, alfalfa fields, waste areas and city gardens. Because it is mul-

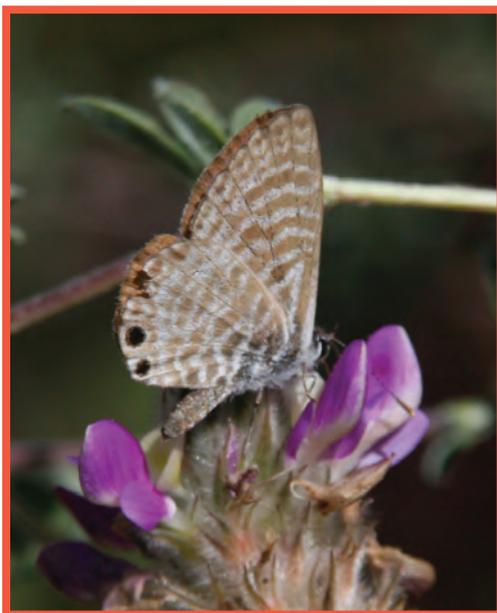


Photo 1: Ventral view, on *Dalea greggii*

tivoltine (many broods), it occurs all year, but is most numerous from March through October.

The **egg**, which is laid singly on the host flower buds is turban shaped and pale green but turns white with age.

The young **larva** is light green or brown with dark bands and diagonal stripes, while the mature larva is variable in color and pattern. I read recently that the young larva bores a hole in the developing buds of host plants, while later instars

devour buds but rarely eat flowers and petals. No wonder I never found any eggs and larvae. I was looking in the wrong place!!

The **pupa** is pale ochre-brown with gray wing cases and spots of darker brown.

The larval food includes a variety of host plants such as mesquite, (*Prosopis* spp.), alfalfa (*Medicago* spp.), pea (*Lathyrus* spp.), rattleweed, (*Astragalus* spp.), deerweed (*Lotus scoparius*), trailing indigo bush (*Dalea greggii*), indigo bush (*Dalea pulchra*), and cape plumbago (*Plumbago auriculata*).



Photo 2. Male, dorsal view, on *Dalea pulchra*

When cape plumbago (*Plumbago auriculata*), a South African ornamental shrub, was introduced into the California landscape the Marine Blue began to use it as a host plant. With the extensive planting of plumbago along freeways and in urban gardens, the butterfly also became more abundant. In fact, cape plumbago has become the primary host plant of the Marine Blue in urban environments because it blooms almost year round and thus provides larval resources throughout the year.

There is a second reason why the Marine Blue is so successful. It has a **facultative mutualistic association** with ants. We already know

that, during their developing stages, many butterflies possess morphological and behavioral adaptations that protect them against predation and parasitism. These adaptations include camouflage, warning coloration, and distastefulness. For the ant-larva interaction to work, these larvae don't thrash around when disturbed by ants, they possess an extra-thick cuticle in case bitten by an ant, but most importantly, the larvae reward the attending ants by producing (yummy) secretions from specialized glands. The ants, in turn, protect the Marine Blue larvae from predators and parasites.

It is now December and trailing indigo bush, indigo bush (the

upright plant) and cape plumbago are still blooming and attracting Marine Blues. So why not add these host/nectar plants to your butterfly garden along with nectar plants such as star flowers (*Pentas lanceolata*) which are displaying red, white or pink blooms that also attract **Monarchs, Queens, Cloudless Sulfurs, Gulf Fritillaries, and Fiery Skippers**.

Happy Butterfly Gardening!

 AP

Thanks to Gordon Pratt for verifying the ant-larva association and to Ed Platzer for reviewing this article.

State of the Gardens

PLANTS TO SEE: Plants to See: Aloes and ice plants on the South African slope in December through March; winter-flowering plants located in the California desert garden and on the cactus knoll; some winter flowering species planted in the Herb Garden; winter-blooming plants that are attractive to insects and hummingbirds in the Butterfly Garden; the Boysie Day Memorial Baja California Garden along the west fence line.

PLANT SALE ATTENDANCE: Over 2223 people visited the Gardens during the Friends Fall Plant Sale October 25 and 26. Friends numbered 245 between 8:00 AM and 10:59 AM, Saturday. 155 members of the general public entered at 11:00 AM, and by noon 764 people had entered the gates.

At 1:00 PM a further 221 people had walked in and at 4:00 PM when the sale closed for the day, the total was 1408. Sunday started slowly at 9:00 AM with 103 people wishing to buy by 10:00 AM. Sunday morning and afternoon saw many families with strollers attending. By Sunday noon, 402 people had arrived and by 3:00 PM when the sale closed 815 folks had visited, for a two day total of 2223. The lines of people at the tills were heavy between 11:15 AM and 1:15 PM Saturday, but overall, the new arrangement of pay stations worked well. Because many people who bought plants at the sale are not members of the Friends, and we do not know their names and addresses, this suggests we need to do a better job at marketing the sales. A few years ago we copied names and addresses from checks, but new check-deposit procedures and credit

card sales prevent our doing that. We need to think of ways to market plant sales to past customers.

Nursery in the Grove: Due to a fee increase to rent bench space in lath houses on campus, a new nursery area is being set up in the Subtropical Fruit Grove. With a generous donation from an anonymous donor to buy metal benches and concrete blocks, salvia and lilac mother and propagated plants were moved to this location around Thanksgiving. These include tissue-culture propagated Hyacinthiflora lilac 'Ramona' selected by Dr. Louis Erickson many years ago. This three-foot-tall, semi-dwarf cultivar appears to be resistant to Pierce's disease. Ramona flowers in mid-February, which is about a month earlier than other lilacs. It is not the earliest lilac to bloom, one experi-

mental selection flowers in mid-January. This illustrates the possibility of selecting different lilacs for the Inland Empire that will flower over many months of a year. If Ramona and some other Hyacinthiflora lilacs are heat or drought stressed in summer, they tend to drop their leaves. With further watering a new flush of leaves develops, and sometimes new flowers. These summer flowers are usually lighter in color than winter-spring flowers, but they are fragrant. The Gardens also propagate cuttings of Salvia species and hybrids, especially the Garden's own selections of autumn sages in several attractive colors. The model for this new growing area is the Horticulture Teaching Nursery built at UC Davis Arboretum three years ago. At present the UCR Botanic Gardens only has benches, but it is hoped further donations will allow the construction of a screen house to shield the plants from wind and intense summer sun, a potting bench and more benches for plants. If anyone visits the UC Davis campus, they might also look at the Teaching Nursery near the Veterinary School on Garrod Dr. Included in the teaching nursery is an Arboretum All-Stars Cultivar Garden donated by Professor Eric Conn in memory of his wife and deceased Friends.

TREE WORK: Before the Fall plant sale, Los Gatos Inc. arborists removed a dead white alder and several eucalyptus from the Gardens. With plantings now over 50 years old, and white alders which have an expected life of only 35 to 40 years, the Gardens has to budget at least \$10,000 a year to attend to aging

trees. Trees and shrubs grow old and need to be replaced.

REMODELING: Campus Physical Plant continues to work on resurfacing the greenhouse with material that will allow more light into the structure to grow healthier plants. Remodeling of the Gatehouse at the entrance is progressing, while additional refurbishment of the Conference Room kitchen is next in line.

Descanso Gardens implements 90 mile exclusion

option: David Brown, Director of Descanso Gardens, sent a letter last week that said they had monitored reciprocal admission users to Descanso for two years. They have data that says 50% of reciprocal users visit Descanso Gardens two or more times per year. A significant percentage visited more often than monthly; some weekly; and some multiple times per week. They also now know that some 2,000 households fall in this category. This admission-free usage of Descanso Gardens does not represent "garden tourism," the original and principal intent of the reciprocal admissions program in the 1950s. Their estimate of the impact of the change in admissions revenue approaches \$100,000 per year. As a Los Angeles County-owned facility, Descanso is open to all free of admission, 12 times a year, on the third Tuesday of every month.

Conditions at UCR Botanic Gardens are somewhat different. Admission to the Gardens is free to students and Friends. We ask other visitors, on the honor system, to make a donation of \$5.00 per person per visit to help maintain the

Gardens. The campus pays for utilities and the salaries/benefits of 3.25 full time staff. After compulsory communication fees and insurance are paid, only \$1,300 remains annually to maintain the 40 acre museum. The rest of the \$100,000 required to run the Gardens, to pay temporary workers and student assistants, comes from entrance donations, plant sales, payout from endowments, donations from Friends, and other fund raising activities.

UCR HERBARIUM NEWS:

A second installment of a National Science Foundation funded grant, through Rancho Santa Ana Botanic Gardens, "Harnessing the Power of Herbaria to Understand the Changing Flora of California" has begun with Andy Sanders, Teresa Salvato and Ed Plummer entering collection data into the Consortium of California Herbaria web site.

Andrew Sanders is also involved in a US Navy project, run through the University of Arizona, Tucson, to monitor endangered plant species in Navy reserves in the Chocolate Mtns. and the Yuma Desert. Field people are hoping for a wet winter season.

Kerry Knudson was awarded a grant from the US Fish and Wildlife Service to collect lichens and protect *Dudleya verityi* at locations in the Santa Monica Mtns.

DONATIONS:

I wish to thank the following donors who generously contributed to the upkeep and development of the UCR Botanic Gardens. If I failed to mention your name, please forgive me and let me know.

Botanic Gardens General Fund:

David Blodgett, Elizabeth Cohen, Lewis Cohen, Ronald Castro, Gregg Daffin, Dibblers Garden Club, Claire & Brian Federici, Rita Chenoweth, Tracy Kahn & Norman Ellstrand, Ellen Long, Brian Maxon, Mr. & Mrs. Bob McKenzie, Sharon Muro, Dewitt Ortuno-Davari, Susan Paasch-Williams, LaWanda Pennels, Patricia Skotty, Jeffrey Simmons, Mary Thrasher, J.G. Waines, Eva Yakutis, Laurie Zellweger

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Fund: Peter Stocks

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Friends Botanic Gardens Endowment: Georgeanne Beers, Teresa Gutierrez, Nancy Winn

UCR Herbarium Endowment:

Frank & Maxine Vasek, Jodie Holt, J.G. Waines

In this season of giving, tax-deductible donations may be made to any of the above Botanic Gardens or Herbarium Funds through the UCR Foundation, either by check, or online, at

www.ucrfoundation.edu.

The Botanic Gardens and Herbarium Museums will be very grateful for your gifts. In the case of the Gardens, gifts will help maintain the only museum on the main

campus that is open on weekends and 360 days a year from 8.00 AM to 5.00 PM. May Steve, Theresa, Abe and I wish you all an enjoyable holiday season. 🍀GW

FRIENDS ANNUAL SEED LIST FOR 2014

The Annual Seed List is just one of the many benefits of being a Friend of UCRBG. To place your request, circle the number of any three varieties of seed on the tear-off form, list possible substitutes, and send it to Steve Morgan/Annual Seed List, Botanic Gardens, University of California, Riverside, CA 92521-0124. You may also e-mail your choices to ucrbg@ucr.edu but be sure to include substitutes and your postal address. The seed packets include instructions for growing. Thank you to Brenda Bowers, Barbara Hayes, Ann Platzer, Doris

Rhine and Katie Shea who collected, donated and/or processed seeds for the list. Have fun! 🍀SM

1. Alcea rosea (single, mixed), hollyhock

An easy, old-fashioned favorite biennial with bold, rounded leaves and tall spires of bowl-shaped, single flowers in satiny mixed colors. Sow any time.

2. Amaranthus cruentus, red amaranth or prince's feather

You have probably seen this conspicuous plant growing here

List continued on page 5



FRIENDS ANNUAL SEED LIST 2014 ORDER FORM

Circle the number of any three varieties of seed on the tear-off form, list possible substitutes in order of preference, and send it to Steve Morgan/Annual Seed List, Botanic Gardens, University of California, Riverside, CA 92521. Since we must use a special envelope to return your order, DO NOT enclose a self-addressed, stamped envelope. You may also e-mail your choices to ucrbg@ucr.edu but be sure to include substitutes and your postal address.

1 2 3 4 5 6 7 8

9 10 11 12 13 14 15 16

NAME: _____

Please list substitute numbers here: _____

ADDRESS: _____

and there around the Gardens through the years, where it has seeded itself. It grows three to six feet tall with burgundy-red foliage and dense, pendant plumes of burgundy-red



Aristolochia fimbriata, white-veined Dutchman's pipe, photo by C. T. Johansson

flowers; the new growth is used as a pot herb. Sow in late spring or early summer.

3. *Anomatheca cruenta*

(*Lapeirousia laxa*), *lapeirousia*
Lapeirousia is a dainty, summer dormant freesia relative with fan-shaped clusters of leaves and one-sided spikes of pretty, flat-faced, coral red flowers with darker markings; it volunteers around the garden and some people find this annoying. Best with part or light shade. Sow in fall or winter.



Aristolochia trilobata, Dutchman's pipe

4. *Aristolochia fimbriata*, white-veined Dutchman's pipe

A curious, low perennial with pretty, kidney-shaped, gray-green leaves that are conspicuously, lighter veined and unusual, u-shaped, tubular flowers with the opening flared

and surrounded by hairs. It dies back to its tuberous root in cold climates and is a larval host for the Pipevine

Swallowtail butterfly. Sow in spring.

5. *Aristolochia trilobata* (*A. macroura*), Dutchman's pipe

An evergreen, twining or clambering vine with

some, shiny, lobed leaves and curious, pipe-like, chocolate-brown flowers with a long, rat-like tail. It is a larval host for the Pipevine Swallowtail butterfly. We've not tried to germinate seeds of this species before, so let us know how they do for you. Sow in spring.

6. *Asclepias curassavica*, bloodflower

A favorite larval host plant for Monarch butterflies. Bloodflower is an easy-to-grow, shrubby, four-foot perennial with clusters of red and yellow-orange, crown-shaped flowers throughout warm weather.

Sow in spring.

7. *Asclepias curassavica* 'Silky Gold', bloodflower

This is a golden-yellow-flowered form of a favorite larval host plant



Asclepias curassavica, bloodflower



Asclepias physocarpa, swan plant, photo by Tau'olunga

for Monarch butterflies. Bloodflower is an easy-to-grow, shrubby, four-foot perennial with clusters of distinctive, crown shaped flowers

throughout warm weather. Sow in spring.

8. *Asclepias physocarpa*, swan plant

Summer annual or short-lived, evergreen perennial with wand-like stems lined with narrow leaves and clusters of waxy white flowers followed by bristly, inflated pods prized for flower arrangements. A favorite larval host plant for Monarch butterflies. Sow in spring.

9. *Baileya multiradiata*, desert marigold

A desert perennial to two feet in height, with gray, woolly foliage

and 1.5-inch, yellow daisy heads over a long season in both spring and fall. It is best grown in well-drained soil or on slopes. Sow in fall or winter.

10. *Chasmanthe floribunda*, African flag

A vigorous and prolific gladiolus relative that dies down to a corm in summer. In late winter, it produces four-foot, branching spikes of two-inch, orange, tubular flowers with flared petals. It spreads rather vigorously by seed and by multiplying corms. The flowers are loved by hummingbirds and last well in arrangements. Sow in fall or winter.

11. *Ebenopsis ebano* (*Pithecellobium flexicaule*), Texas ebony

An underused, slow-growing, desert tree to 25 feet tall, or more, with zig-zag, short-spined, white branches densely clothed in dark green, ferny leaves, fluffy spikes of fragrant, creamy yellow flowers produced in summer followed by dark brown, six-inch, woody pods; native to Texas and Mexico; can be used as a bonsai subject. Sow in spring.

12. *Grindelia stricta*, Oregon gumweed

Oregon gumweed is a perennial



Baileya multiradiata,
desert marigold

native to coastal North America from Alaska to California. It is a mounding plant with coarse leaves, interesting bur-like buds and yellow, daisy-like flower heads. Sow in fall or early winter.

13. *Limonium perezii*, sea lavender

A bold, water efficient perennial

with large, leathery, rounded leaves and long-stemmed, many-branched clusters of tiny white flowers, each surrounded by papery, purple bracts. The flowers are long lasting either fresh or dry in arrangements and are attractive to butterflies.

Sow anytime.

14. *Penstemon spectabilis*, showy penstemon

Showy penstemon is one of



Limonium perezii, sea lavender;
photo by Stan Shebs

conspicuous, bright green seed pods. Sow in spring.

16. *Stanleya pinnata*, prince's plume

California

desert native, drought tolerant, shrubby perennial growing from three to five feet tall with narrow, gray green leaves and tall, fluffy spikes of yellow flowers in spring; needs good drainage. Sow fall to early spring. 🌱SM



Ebenopsis ebano, Texas ebony

California's most striking native perennials. It has waxy, grey-green foliage and tall spikes of tubular flowers. Showy penstemon needs perfect drainage and little if any,



Chasmanthe floribunda, African flag



Stanleya pinnata, prince's plume; photo by Robb Hannawacker

Note from the President

I wish to extend to all our Friends greetings and best wishes for the Holiday Season and for a prosperous New Year!

The **Friends Fall Plant Sale and Art in the Gardens** were two highly successful events this fall. These events generated funds for the Gardens and raised the profile of the Gardens in the community. Many people were first time visitors at these events and discovered the beauty of the Gardens. There is a multitude of people to thank for these two events, but I want to especially thank Tammi Meeks, Rebecca Levers and Karen Fleischer for their substantial efforts in making the events successful.

We participated this year in the **Festival of Trees** and had a table at the event, where children colored Holiday pictures and their parents received information about the Gardens. This was a great way

to inform the community of the existence of the Gardens and extend an invitation to visit. Thank you to all of the volunteers, who manned the tables and helped the children with their pictures. Special thanks go to Amber Jones for all of her help on this event.

I want to thank all of our volunteers at **Keep Our Gardens Clean and Beautiful**. Special thanks goes out to Siu Yui Yo Hung (Yo-Yo), our Student Board member who rounded up over 60 students to help clean up the Gardens. It was encouraging to see so many young people helping in the Gardens. Many were first time visitors and became enchanted with what the Gardens had to offer.

We have a dedicated group of volunteers who contribute many hours to our Gardens on a weekly basis. Their help is essential in maintaining the beauty of

the Gardens. These wonderful people help in the Gardens, because they enjoy the Gardens, but I want to thank them for all of their hard work.

The Gardens not only need volunteer workers, but monetary contributions as well. Please give the Gardens some consideration as you do your year end tax planning. Your contributions will go a long way to improving the Gardens.

Some exciting times are coming up after the New Year. You will hear more about future events, but I want to remind you of our **Rose Pruning Demonstration** on January 11. You can either learn how to prune roses or help us prune our roses. Make sure you save the dates for our **Spring Plant Sale** March 28 and **Primavera in the Gardens** on May 17.

See you in the Gardens,

Dennis

Volunteer News

by Karen Fleisher

Volunteers are one of the great strengths of our Gardens, serving as an invaluable resource. They provide the Gardens with vital support by guiding visitors through the Gardens, helping at special events, and maintaining the Gardens, and behind the scenes through a host of other activities. They share their time, their love for gardening and plants and their dedication to the community.

Our volunteers were busy this fall, providing hundreds of volunteer hours in preparation for and during the annual fall plant sale. Our volunteer team of UCR students, UCCE Master Gardeners and community volunteers during the plant sale was coordinated by Theresa McLemore, Gardens Manager, with the assistance of Rebecca Levers and Chad Young. They were an awesome team! A sincere thank you to all the volunteers who worked so hard to make the plant sale a success.

Our Visitor Information volunteer

project is growing! Debbie Cochran, Dolores Purther, Marcille Christian, Debra Jensen, David Brodie and George Spiliotis have joined the team this fall. With a total of 13 members, Peter Stocks, coordinator, is hoping to have greeters at the entrance to the gardens each weekend to answer questions and assist visitors.

We continue to hold Volunteer Orientations on the second Tuesday of

of each month, meeting at the entrance to the Gardens at 9 a.m. Please join us and enjoy the beauty of the Gardens and the rewards and camaraderie of being a part of our team of dedicated volunteers.

Please contact Karen Fleisher at volunteerucrbg@gmail.com or 951-452-8501 for more information.

 KF

U C Riverside Botanic Gardens

The UCR Botanic Gardens Newsletter is a quarterly journal published by the Friends of the UCR Botanic Gardens, UC Riverside Foundation, 900 University Ave., Riverside, CA 92521, and is one of the benefits of membership. Articles on various aspects of horticulture and its practice, history, or related subjects, especially as they apply to inland Southern California are welcomed. The selection of copy to print is at the discretion of the editors. Send copy to Steve Morgan, Botanic Gardens, University of California, Riverside, CA 92521-0124, call 951.784.6962, e-mail Stephen.morgan@ucr.edu or visit our website at www.gardens.ucr.edu for information.

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Calling All Artists

The UCR Botanic Gardens invites artists to
participate in the

Primavera in the Gardens

ART CONTEST

Deadline March 6, 2015

More information can be found at:

<http://gardens.ucr.edu/events/art.html>

Floral Arranging Class

Saturday, February 21, from 9 a.m. to noon

Join us for a very special event, taught by

Joyce Dean of the *Garden and Floral Arrangers Guild* in Redlands

Materials will be supplied; cost is \$25 for Friends, and \$35 for non-members. Reservations and advance payment required by February 13. Please RSVP to the Gardens office at 951-784-6962. For more information, contact Karen Fleisher at 951-452-8501

UPCOMING EVENTS

January 11, Sunday, 1 - 3 p.m. ROSE PRUNING (Rain Date January 18)

February 21, Saturday, 9 a.m. to noon SPRING FLORAL ARRANGING CLASS

March 28 & 29, Saturday and Sunday SPRING PLANT SALE

May 17, Sunday PRIMAVERA IN THE GARDENS

For more information, visit our website at <http://gardens.ucr.edu>