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California Turtle & Tortoise Club

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Cuora picturata, the Southern Vietnam box turtle. Photo by Torsten Blanck. Public domain.

featured species

Indochinese Box Turtles, *Cuora galbinifrons* species

The Indochinese Box Turtle Complex

by M. A. Cohen

Bourret's, or Central Vietnamese box turtle
(*Cuora bourreti* Obst & Reimann, 1994)

Indochinese, or North Vietnamese box turtle
(*Cuora galbinifrons* Bourret, 1939)

Southern Vietnamese box turtle
(*Cuora picturata* Lehr, Fritz & Obst, 1998)

Endemic to the forest highlands of Cambodia, China, Laos, and Vietnam, the Asian box turtles in the Indochinese box turtle complex are classified by some researchers as three subspecies, while others consider them to be a single species with geographic variations, and another group believes the "subspecies" are separate species altogether.

As the previous paragraph indicates, the taxonomy (classification) of the *Cuora galbinifrons* complex is a subject of debate within the chelonian community. In keeping with the current taxonomy, the *galbinifrons* complex will be considered three separate species for purposes of this article.

In 2002 herpetologist R. Bour published a paper expressing the opinion that the members of the *galbinifrons* complex should be transferred from the genus *Cuora* or the genus *Cistoclemmys*. This

CONTENTS

The Indochinese Box Turtle Complex by M. A. Cohen	1
Cuora head portraits: a photographic collage by Torsten Blanck	5
Mike's Turtle Net Picks by Michael J. Connor, Ph.D.	6
Sulcata Going Native by Robert Parker	8
Philippines Customs Find More Than 1,500 Live Turtles in Suitcases	9
Your Email Address is Changing...Now What?	11
Meetings and Programs	
The Turtle's Garden: Sweet Alyssum (*Lobularia maritima*)	12
Ban Sought on Commercial Wild Turtle Trapping in Maryland	13

taxonomic change is not yet widely accepted in the literature. Therefore, the genus name *Cuora* will be used in the current article.

The term *Cuora*, a local Indonesian name for the Amboina box turtle (*C. amboinensis*), is currently used as the genus name of a group of Asian box turtles with some 12 recognized species.

According to the Red List of the International Union for the Conservation of Nature, beginning in the year 2000, all members of the *galbinifrons* complex were listed as critically endangered with population trends that are decreasing.

Rarely observed in the wild, these populations have been severely affected by intensive collection for local consumption as well as for the pet trade and food markets, both national and international. Frequently used to find wild turtles, hunting dogs increase the severity of the collection impact.

In captivity females lay a single clutch of only one to three eggs each season, which is considered to be low fecundity.[1] Clutch size in the wild is unknown. Commercial exploitation for trade coupled with low fecundity place the *galbinifrons* complex at considerable risk for extinction.

Comparatively small breeding programs in Southeast Asia, Germany, and the United States exist, but their success has been limited because propagation of these species in captivity is challenging.

According to the Convention on International Trade in Endangered Species (CITES), since 2000 the *galbinifrons* complex is listed in Appendix II because of commercial demand. During the next CITES Conference of the Parties in Sri Lanka (23 May – 3 June 2019), a proposal will be introduced by Vietnam to transfer *C. picturata* from Appendix II to Appendix I.[2]

General Information

Cuora bourreti, *C. galbinifrons*, and *C picturata* are members of the Geoemydidae family, one of the largest and most diverse of all chelonian families. While it was once called the Bataguridae family, the Geoemydidae family is endemic to tropical and subtropical regions of Asia, Europe, and North Africa, with one genus—*Rhinoclemmys*—inhabiting Central and South America. Some 70 species comprise the family, including Eurasian pond and river turtles, and Neotropical wood turtles.

Preferred habitats of the family of geoemydids include freshwater ecosystems, coastal marine environments and tropical woodlands. Among the least aquatic members of the genus *Cuora,* members of the *galbinifrons* complex occupy terrestrial habitats, although they willingly enter water and sometimes feed in it.

Their ecosystems are typically described as cool upland woodlands and moist evergreen forests with closed canopies. Shy and secretive, members of the *galbinifrons* complex favor the protection of the dense understory brush in their forest habitats.

The Asian box turtles in the *galbinifrons* complex are medium-sized, reaching a carapace length of approximately 8 inches (20 centimeters). All members possess a domed carapace and a hinged plastron that allows their soft tissues to be completely enclosed within their hard shells, affording them protection from predators. The plastral hinge, which is absent in hatchlings, develops some time after two years of age.

Sexual dimorphism in the *galbinifrons* complex is minimal; the main difference in appearance between males and females is that males have somewhat thicker tails than females.

According to the Naturalis Biodiversity Center's website *Turtles of the World*, the diet of the *galbinifrons* complex in the wild is

[1] **fecundity:** the ability to produce an abundance of offspring.

[2] **CITES Appendix I:** this listing affords endangered species maximum protection from commercial exploitation, allowing trade only for scientific research and only when accompanied by valid import and export permits.

Top: Bourret's box turtle, *Cuora bourreti*, also known as the central Vietnamese flowerback box turtle which typically has a carapace that is dark in coloration. Photo by Torsten Blanck. Public domain.

Bottom: Plastral view of a Bourret's box turtle. Note the plastral hinge between the abdominal and femoral scutes. Photo © 2002 by Torsten Blanck. Source: Wikimedia Commons; license: CC BY-SA 3.0.

unknown. In captivity, the group is primarily carnivorous, feeding on earthworms, fish, beef, and canned dog food, and reportedly on mushrooms.

Species Descriptions

Bourret's, or Central Vietnamese box turtle, *Cuora bourreti*

Named in honor of French herpetologist René Léon Bourret (1884–1957), Bourret's box turtle is endemic to northern and central Vietnam and the adjacent nation of Laos (officially known as Lao People's Democratic Republic), and possibly northeast Cambodia.

Bourret's box turtle typically has a dark carapace with buff patterning or irregular striping on some scutes, although sometimes individuals have a carapace that is light-colored overall.

The plastron of the species is buff to yellow with a dark blotch on each plastral scute. The head of *C. bourreti* is usually buff, light yellow, pale green, or gray, and its limbs are generally gray or tan.

According to a 2017 press release from the Smithsonian National Zoo, researchers estimate that only 2,300 Bourret's box turtles exist in the wild. These populations "have declined more than 90% since the mid–1950s because of habitat deforestation and illegal trafficking in the food and pet trade."

While some scientists generally recognize Bourret's box turtle as a separate species as described in the 2004 paper by Stuart and Parham, others continue to hold the traditional view that *C. bourreti* is conspecific with *C. galbinifrons*, meaning they are members of the same species. The basis for this opinion is skeletal studies recounted in the 2006 paper by Fritz et al. Thus, its correct classification would be *C. galbinifrons bourreti*.

North Vietnamese, or Indochinese box turtle, *Cuora galbinifrons*

The specific name *galbinifrons* derives from Latin root words meaning "yellow-green front" and refers to the general coloration of individuals in the species.

Endemic to north Vietnam, Hainan Island and Yunnan and Guangxi provinces in China, *C. galbinifrons* is sometimes called the flowerback box turtle. This common name may be referring the delicate dark patterning that is often present on the light-colored, longitudinal bands that alternate with dark bands on the species' carapace. The Indochinese box turtle has a somewhat flattened and elongated carapace when compared to the other members of the *galbinifrons* complex.

The species' plastron is typically dark gray or black in color in younger turtles, and, as the individual ages, some overall lightening or lighter blotching may appear. The soft tissues of the limbs, head and tail are sometimes accented with bright red markings.

While *C. galbinifrons* is considered to be terrestrial, the ancestors of the contemporary *Cuora* were

Top: The carapace of the Northern Vietnamese box turtle, *Cuora galbinifrons*. Photo © 2007 by Torsten Blanck. Source: Wikimedia Commons; license: CC-BY-SA-3.0,2.5,2.0,1.0.

Bottom: The dark plastron of a *C. galbinifrons* male. Photo © 2007 by Torsten Blanck. Source: Wikimedia Commons; license: CC-BY-SA-3.0.

aquatic. According to a study by Natchev et al. that was published in 2010, the Indochinese box turtle retains the structures in its tongue, mouth, and jaws that allow aquatic feeding as well as terrestrial consumption of food items.

Southern Vietnamese, or Lesser Indochinese box turtle, *Cuora picturata*

Top: *Cuora picturata*. Photo by Adrian Pingstone. Public domain.

Bottom: The plastron of a male *C. picturata*. Photo © 2007 by Torsten Blanck. Source: Creative Commons; license: CC-BY-SA-3.0,2.5,2.0,1.0.

The carapace of the Southern Vietnamese box turtle has a higher dome than other *Cuora* species as an adult. Its plastron is buff to pale yellow with black blotches and irregular tan markings. The head of the species is pale yellow with a gray net-like pattern known as reticulation.

Genetic and morphological [3] studies confirm that, within the genus *Cuora*, *C. picturata* is most closely related to *C. bourreti* and *C. galbinifrons* while differing significantly enough from the others in the complex to be considered a separate species.

First described in 1998, *C. picturata* is often called the Southern Vietnamese box turtle because its comparatively small range is located in the mountains in south Vietnam. According to Ly et al., the species was known only from Asian food markets, and no individuals were observed in the wild until 2010.

From July 2010 to January 2011, the species was first recorded in the wild at three localities on the eastern slopes of the Langbian Plateau of southern Vietnam in moist forests at comparatively high altitudes. The range of *C. picturata,* according to the Asian Species Action Partnership, is estimated to be some 10 square miles (25,000 square kilometers). The total population of the species, according to IUCN, is estimated at 3,000 to 10,000 individuals.

The Langbian Plateau, the only verified habitat of *C. picturata*, is undergoing deforestation as the land is cleared for agriculture and coffee plantations. Such habitat loss is a dire threat to the ecosystem and all its inhabitants.

A small range, a declining population, deforestation, and exploitation due to intensive commercial demand pose serious threats to the survival of the species. Some researchers theorize that the Southern Vietnamese box turtle is already be extinct in the wild. Many believe that identifying the habitat of this rare species may lead to confirming the ranges of other uncommon *Cuora* species known only from the food and pet trades. ☯

[3] **morphology:** biological study of the form of living things and their structural relationships.

Hatchling Southern Vietnamese box turtle. Photo © 2015 by Ulrich Hennen. Source: Creative Commons; license: CC BY-SA 2.0.

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A head portrait comparison of the different *Cuora* species and their subspecies. Photographic collage © 2007 by Torsten Blanck. Source: Creative Commons; license: CC BY-SA 3.0.

Key to the images from left to right and top to bottom:
Row 1: *Cuora amboinensis amboinensis* (Sulawesi), *Cuora amboinensis kamaroma* (Thailand), *Cuora amboinensis* ssp. (unknown), *Cuora amboinensis* ssp. (Philippines). **Row 2:** *Cuora trifasciata* (Guangdong, China), *Cuora aurocapitata* (Anhui, China), *Cuora pani pani* (Shaanxi, China), *Cuora yunnanensis* (Yunnan, China).
Row 3: *Cuora cyclornata cyclornata* (Annam, central Vietnam), *Cuora cyclornata meieri* (north Vietnam), *Cuora mccordi* (Guangxi, China), *Cuora zhoui* (unknown). **Row 4:** *Cuora flavomarginata sinensis* (Sichuan, China), *Cuora flavomarginata evelynae* (Ryukyu Islands, Japan), *Cuora flavomarginata flavomarginata* (Taiwan), *Cuora picturata* (southern Annam, south Vietnam).
Row 5: *Cuora galbinifrons galbinifrons* (north Vietnam), *Cuora galbinifrons galbinifrons* (Hainan, China); *Cuora bourreti* (Annam, central Vietnam), *Cuora bourreti* (Laos). **Row 6:** *Cuora cyclornata cyclornata* × *Cuora amboinensis kamaroma* hybrid, *Cuora cyclornata* × *Pyxidea mouhotii*, *Cuora trifasciata* × *Pyxidea mouhotii*, *Cuora galbinifrons* × *Pyxidea mouhotii* = "*Cuora serrata*".

Mike's Turtle Net Picks by Michael J. Connor, Ph.D.

A varied selection of recent articles, stories and sites on the Web that some of you may find as interesting as I did. This list is also posted at **tortoise.org/turtle-netpicks/turtlenetpicks.html**

Southern California's Sea Turtles

- **Did you know hundreds of sea turtles are now Southern California residents?**
- **Olive Ridley spotted off Dana Point.**

Hawksbill Sea Turtle Hunting Toll

- Researchers have determined that between 1844 and 1992, nine million hawksbill sea turtles were killed for their shells.
- **Read the original research paper.**

Queensland Green Sea Turtles Still Struggling After Die-Off

New study found heavy metals and evidence of poor health in the Great Barrier Reef's green sea turtle population that suffered an unexplained die-off in 2012–2013.

Climate Change Coping Strategies

Sea turtles are being born mostly female due to climate change. Male hawksbills are responding by breeding with larger numbers of females!

Marine Turtle Newsletter
The latest MTN.

Yangtze Giant Softshell Turtle

The only known female Yangtze giant softshell died a day after an artificial insemination procedure.

Cantor's Giant Softshell Turtle

Good news from Cambodia about Cantor's giant softshell turtle, *Pelochelys cantorii*.

Galápagos Tortoise Migration

Scientists are not finding it easy to understand the triggers for the seasonal migrations shown by Galápagos tortoises that live on the side of volcanoes.

Pinzón Tortoise Hatchlings Thriving

The eradication of black rats has allowed giant tortoises on Pinzón Island to reproduce naturally for the first time in centuries.

Box Turtle Care

Learning from forty years of Box Turtle husbandry (pdf).

Southeast Asian Box Turtles Vital To Indonesian Environment

The world's most heavily trafficked turtle, *Cuora amboinensis*, plays a key role in Indonesia's environment.

Recent Advances In Turtle Science

- **Painted turtles threatened by the increased thermal fluctuations predicted to accompany climate change**
- **MarTurtSI**
  a global database of stable isotope analyses of marine turtles

CTTC on Facebook

For breaking news updates visit and "like" us on Facebook!

Foothill Chapter Annual Health Clinic

Friday, June 28 at 7:00 PM

Health clinic includes de-worming and micro-chipping for turtles and tortoises.
De-worming fee: $10.00;
micro-chipping fee: $20.00.
These services are provided by Dr. Dennis Fees of the Arcadia Small Animal Hospital. To participate and receive health services, one must be a member in good standing of the California Turtle & Tortoise Club.

Silent Auction: donations come from restaurants, businesses, stores, gift cards, and specially selected items.

Foothill Chapter meeting location: Los Angeles Arboretum (Palm Room), 301 North Baldwin Ave., Arcadia, CA 91007.

Additional information: contact chapter president Robin Robb (951) 359-3003 or **sgrpilot@hotmail.com**

Sea Turtle Conservancy News

Sea Turtle Migration/ Tracking Programs

The Florida-based, non-profit Sea Turtle Conservancy (STC) offers a free, educational service that enables website visitors to follow the open-ocean movements of migrating sea turtles fitted with radio transmitters that are tracked by satellite.

Green turtle, *Chelonia mydas*, fitted with a radio transmitter for satellite tracking. Photo by US Geological Survey. Public domain.

To provide information about the technology of satellite telemetry, the STC created a web page describing "**How It Works**." This page includes a section of Frequently Asked Questions about tracking sea turtles by satellite.

Details about the **currently active sea turtles**, as well as **records for all tracked turtles**, include a brief biography, and such facts as the number of days tracked, the average speed of movement, distance covered and amount of time since last recorded update, etc. Migration data in both satellite and map forms accompany each turtle's listing.

Furthermore, the STC has compiled an extensive list of its **ongoing and archived tracking projects** throughout the Caribbean Sea, eastern Atlantic, and other oceanic regions.

The **STC website** provides a wealth information on all aspects of marine turtles, including the species, habitats, and threats, as well as the annual Tour de Turtles marathon migration. ☯

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Sulcata Going Native

text and photographs by Robert Parker, President, CTTC Ridgecrest Chapter

Some years ago I constructed a great heated brick structure for my sulcata tortoise (*Geochelone sulcata*), who used it in the winter, in addition to her natural underground burrow. She would voluntarily enter the heated structure until about three years ago. She remained in her underground burrow, but I could see her, as it wasn't too deep. I proceeded to dig her out and put her in the heated residence, as everyone said they don't brumate.

Sulcata emerging from brumation.

I outsmarted her three years ago and blocked off the outside burrow and put her in the artificial structure. Two years ago she beat me underground and remained all winter, emerging in March, along with the desert tortoises. She sunned herself for a week like the desert tortoises do, and began to eat, no worse for wear. She repeated this performance in 2019 and as of April 1 is active and eating. Our winter temperatures range into the 20s F (–7s C) so I checked with a probe and her burrow was at least 10–12 feet (3–3.7 meters) long (I never reached the end). I place Bermuda straw at the entrance after I was sure she wasn't coming out to reduce the cold air flow. See the photograph of her after emerging and beginning to eat grasses.

I decided to do a little research to see if this is a normal behavior in wild sulcatas, which takes a bit of work as most web sites deal with the care of captive animals and provide information from captive sulcatas. One study dealing with wild sulcatas is Habitat Determinants of the Threatened Sahel Tortoise Centrochelys (Geochelone) sulcata at two Spacial Scales by Petrozzi et al.2017. I checked the paper to see if the researchers found evidence that wild sulcatas brumated.

They did state "... there are virtually no field studies devoted to understanding patterns of habitat use and/or selection, either at the local or at the regional scale for several species of high conservation concern." This includes the sulcata tortoise, which seems to be an adaptable, robust species to be able to live in all the various environments we put them in. They searched a number of habitats for sulcatas in August of the short wet season — July to September and in December — the dry season, which includes the rest of the year, as one can see, making this an arid part of the world. They observed "...the majority (83.9%) of above-ground tortoises in August during the peak phase of the wet season...", so it appears that the sulcatas spent more time in their burrows during the dry season, although they did find some active in December. They didn't answer the question whether some of these tortoises spent the winter in their burrows, essentially brumating. With nothing to eat and dry conditions, it would make sense that they would spend the winter in their more humid burrows.

Sulcata eating after five days of sunning itself.

"Kamp Kenan" at **https://www.youtube.com/watch?v=1H-rJgD-DKRg** visits a facility in Arizona with about 200 sulcatas. These tortoises were allowed to come out of their burrows in the winter but they lost several to freezing temperatures, so the owner began to block the entrances with hay bales to prevent this. They would emerge in the spring and resume their normal activity. I'm aware of two other sulcatas in the Ridgecrest area that came out in the winter every five to six days and ate if food was present and then return underground.

In conclusion there are no studies of wild sulcatas to indicate that these tortoises do or do not brumate for extended periods. They are apparently very adaptable and robust, so they may choose to brumate in certain situations or may stay up for the winter. More field studies are needed but for us with our captive sulcatas we have options. Most people in southern California do not have the required deep burrows to allow for brumation, and we enjoy our sulcatas and like to see them up for the winter anyway. ☯

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Philippines customs find more than 1,500 live turtles in suitcases

posted on **Mongabay.com** 6 March 2019

- Customs officials in the Philippines have seized 1,529 live turtles found wrapped in duct tape inside four suitcases abandoned at the international airport in Manila.
- The confiscated turtles include threatened species like the Indian star tortoise, red-footed tortoise, and the sulcata or African spurred tortoise, as well as red-eared sliders, one of the most commonly traded turtles in the world.
- The officials say the suitcases belonged to a Filipino passenger who had arrived on a flight from Hong Kong. If caught, the passenger could face up to two years in jail and a fine of up to $3,800 for violating the country's wildlife and customs laws, customs authorities said.
- The seized turtles, estimated to be worth $86,000, have been turned over to the Department of Environment and Natural Resources–Wildlife Traffic Monitoring Unit.

An Indian star tortoise, *Geochelone elegans*, one of the species found in suitcases abandoned at Manila's international airport in the Philippines. Photo © 2016 by Davidvraju. Source: Wikimedia Commons; license: CC BY-SA 4.0.

Customs officials in the Philippines have seized 1,529 live turtles that they found wrapped in duct tape inside four suitcases abandoned at Manila's international airport.

The confiscated turtles include threatened species like the Indian star tortoise (*Geochelone elegans*), red-footed tortoise (*Chelonoidis carbonarius*), and the sulcata or African spurred tortoise (*Centrochelys sulcata*). The bags also contained red-eared sliders (*Trachemys scripta elegans*), one of the most commonly traded turtles in the world.

The officials say the suitcases belonged to a Filipino passenger who had arrived at Terminal 2 of Ninoy Aquino International Airport on a flight from Hong Kong. "The passenger may have been informed of the vigilance of the port against illegal wildlife trade and its penalties, thus leaving the four (4) x-rayed luggage unclaimed in the arrival area," the Philippine Bureau of Customs said in a press release on March 4.

The seized turtles, estimated to be worth 4.5 million pesos ($86,000), have been turned over to the Department of Environment and Natural Resources-Wildlife Traffic Monitoring Unit. The identified passenger, if caught, could face up to two years in jail and a fine of up to 200,000 pesos ($3,800) for violating the country's wildlife and customs laws, Manila airport customs chief Carmelita Talusan told AFP.

Red-footed tortoise, *Chelonoidis carbonarius*. Photo © 1999 by Bernard DuPont. Source: Creative Commons; license:CC BY-2.0.

The illegal wildlife trade is among biggest threats to several turtle species. One of the seized species, the Indian star tortoise, was the "single most seized species of tortoise in the world in 2016," according to TRAFFIC, the wildlife trade monitoring network. Nearly 15,000 Indian star tortoises were seized from the illegal trade between 2016 and 2018 alone.

"Philippines Customs is congratulated for stopping this illegal shipment from entering its market," Kanitha Krishnasamy, TRAFFIC's director for Southeast Asia, said in a statement. "None of the turtles found are native to Hong Kong and could have been sourced from all corners of the globe."

Philippine officials have regularly seized smuggled wildlife. Earlier this year, they intercepted 63 iguanas, chameleon and bearded dragons, while in 2018 they turned over "a total of 560 wildlife and endangered species including the 250 geckos, 254 corals and other reptiles which were smuggled through air parcels, baggage and shipments" to the Department of Environment and Natural Resources. ☯

CTTC Valley Chapter
Turtle & Tortoise Show

Saturday, May 18, 2019
11:00 AM ~ 4:00 PM
Woodland Hills Christian Church
5920 Shoup Avenue, Woodland Hills, CA 91367

For their service during the recent wildfires, Valley Chapter thanks our first responders with FREE admission.

- Live turtles and tortoises
- Information on adoptions, care and conservation
- Tortuga Gift Shop • Raffle
- "Ask the Vet" booth

Admission Fees	
Adults	$3.00
Seniors 60+	2.00
Children 6+	2.00
Children under 5	FREE
First Responders	FREE
Active Military & Veterans	FREE

For more information, contact:
Show Chair: Karen Berry theflyingturtle1953@gmail.com
Co-Chair: Cristina Perovich cribetti@gmail.com

Sponsored by CTTC Valley Chapter http://www.tortoise.org/valley, P.O. Box 7364, Van Nuys, CA 91409-7364.
The Valley Chapter of California Turtle & Tortoise Club is a not-for-profit 501(c)(3) organization.

CALIFORNIA TURTLE AND TORTOISE CLUB
WWW.TORTOISE.ORG

ADOPTION EVENT

Saturday, June 8, 2019
10:00 am to 3:00 pm

5007 Center Street, Chino 91710

The *CALIFORNIA TURTLE AND TORTOISE CLUB* is holding an adoption event to help place turtles and tortoises in approved homes.

Come and talk to our adoption chairs and find out what is required for you to adopt a turtle or tortoise.

No fee required for adoptions. Come and obtain information and required forms to adopt:

DESERT TORTOISE
BOX TURTLE
WATER TURTLE
RUSSIAN TORTOISE
SULCATA TORTOISE

For more information, please contact:

THE CHINO CHAPTER @ jlcalif2@aol.com
THE INLAND EMPIRE CHAPTER @ kttaylor@macdialup.com
THE ORANGE COUNTY CHAPTER @ adoptons.cttcoc@gmail.com

California Turtle and Tortoise Club
Inland Empire Chapter

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FREE Turtle & Tortoise Show

Saturday, July 27, 2019
10:00am – 3:00pm
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*Educational Displays *Fund Raising Table
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For show information: www.tortoise.org

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Turtle and Tortoise Show

This is a club fundraising event so we may continue to rescue and care for these animals

Sunday, August 25, 2019 9 am - 3:00 pm
La Habra Community Center
101 W. La Habra Blvd., La Habra CA 90631
Corner of La Habra and Euclid - FREE PARKING

Fun for the whole family

- Live turtles and tortoises on display
- Adoption information
- Husbandry and care items for sale
- Hot dogs, drinks and baked goods
- Plant Sale
- Kids activity area
- Education and care materials
- Turtle related decorative items for sale
- Opportunity drawing
- Desert Tortoise Permits w/Tortoise Photo

** No animals will be sold at the show **

Adults $3
Seniors $3
Kids (6-12) $2
Kids 5 & under - FREE

CTTC is a 501(c)(3) organization

If you have any questions, please contact: Sharon Paquette: turtlenutz@gmail.com
Lynda Misiak: jlcalif2@aol.com

Your Email Address is Changing...Now What?

People change email addresses for any number of reasons. When your email address changes, it is important to inform the publisher(s) of your digital newsletter(s) about that change.

CTTC continues to publish its newsletter digitally and uses a bulk mailing service for notifying the membership when each newsletter is published. To clarify the sequence of events that precede the delivery of the members' notices, we are running this short article.

Because membership business is handled by each chapter, that the best place to start the process of changing your email address.

1) Send your new email address to the person in your chapter who manages the membership list. Using GoogleDocs, your chapter membership officer assembles a list of all current chapter members.

2) Our newsletter distribution manager compiles a master mailing list from GoogleDocs in the form of an Excel spreadsheet which is the basis for the mailing house database.

3) The Excel spreadsheet is then sent to the newsletter editor for importation into the mailing house database, updating member information such as changed emails, expiration dates, and so on.

4) The imported data is used by the mailing house to send a newsletter notification to each member's inbox, providing the email address is valid. Typographical errors and other mistakes invalidate addresses, and those are automatically deleted from the mailing house database.

It is important to type email addresses carefully and completely, with correct spelling and punctuation of every element from the username to the domain name and extension.

CTTC wants to ensure that members receive their newsletters. Please contact your chapter membership officer if you will be changing your email address. ☯

Meetings and Programs

Click on your Chapter's website link for the latest program information. Programs may be scheduled after newsletter publication.

Chino Valley
17 May; 21 June

Foothill
24 May; 28 June

High Desert
13 May; 10 June

Inland Empire
3 May; 7 June

Kern County
13 May; 10 June

Low Desert
3 June

Orange County
10 May; 14 June

Ridgecrest
13 May; 10 June

Santa Barbara-Ventura
Contact the chapter for meeting information.

Santa Clarita
18 May – Field trip to Valley Chapter Show; no regular meeting.

TOOSLO (San Luis Obispo)
21 May; 18 June

TTCS (Long Beach)
17 May; 21 June

Valley
17 May – set-up for Annual Show @ 6 PM; 18 May – Annual Show; 21 June

Executive Board
13 July. Meetings take place at the Los Angeles County Arboretum in Arcadia, CA.

Classified Advertisements

Classified advertisements run for one issue at 5^{00} for up to four lines. Ads are accepted at the discretion of the Editor. Classified ads are available to members and subscribers only and are run as a service to our members. California Turtle & Tortoise Club is not responsible for merchandise placed for sale in the *Tortuga Gazette*.

Please make your check payable to the California Turtle & Tortoise Club.

Please send ad fee to: CTTC *Tortuga Gazette*, attn Treasurer, P. O. Box 7300, Van Nuys, CA 91409-7300.

Mail fee with ad copy to the *Tortuga Gazette* mailing address; OR, mail fee to the postal address above, and email the ad copy to the **Gazette Editor**.

California Turtle & Tortoise Club: a Society Dedicated to Turtle & Tortoise Preservation, Conservation and Education since 1964. Promoting and Facilitating the Care, Rescue and Adoption of Native and Nonnative Turtles and Tortoises.

Is your email address changing?
Update your email address through your MailChimp account by clicking the "Update Your Preferences" link on your newsletter notice. Or send your changes and corrections to **tgdistribution@tortoise.org**

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the Turtle's Garden
planting for chelonians
by M A Cohen

Sweet Alyssum (*Lobularia maritima*)

Close-up of the buds and blossoms of a white sweet alyssum flower cluster photographed in Genova, Italy. Photo © 2010 by Hectonicus. Source: Wikimedia Commons; license: CC-BY-SA-3.0.

Native to the Mediterranean region, *Lobularia maritima* is known by several common names, including Sweet Alyssum, Carpet Flower, and simply Alyssum.

The generic name *Lobularia* derives from the Latin root word *glob-,* meaning a globe, which refers to the rounded shape of the blossom clusters. The specific name *maritima* derives from the Latin root word *maritim–*, meaning "of the sea," referring to the plant's salt tolerance and its ability to thrive in seaside locations.

A member of the cabbage or mustard family, the Brassicaceae or Cruciferae, sweet alyssum is a versatile species that can be used in flower beds, border plantings, and meadow and wildflower plantings. Alyssum also thrives in containers, and attracts a variety of pollinators, including bees, butterflies, and hummingbirds.

Description

A fine-textured, herbaceous annual ground cover, sweet alyssum is a species that typically reaches 3 to 6 inches (8 to 15 centimeters) in height with a spread of about 12 inches (30 centimeters) at maturity.

At the peak of bloom, alyssum is covered with clusters of minuscule, four-petaled flowers with a fragrance like honey, hence, the common name "sweet alyssum."

Flower colors range from pure white to cream and yellow through pink and red to lavender-blue and purple. Although the most prolific bloom occurs in mild weather, flowering can continue year-round in mild climates with both proper placement and suitable care. Alyssum freely self-sows and will, in both warmer and cooler climates, sprout a new crop of seedlings as the growing season begins.

Typically green to gray-green in color, the leaves of sweet alyssum are small and simple (unlobed) in form with smooth margins, and may be slightly tomentose (fuzzy) on the underside.

Frequently utilized as a "temporary" ground cover, sweet alyssum can fill in a planting area while more permanent herbaceous or woody perennials become established. Bear in mind, however, that the self-sowing alyssum will often set viable seeds that will germinate long after the original annual completes its life cycle.

Because of its tendency to spread, sweet alyssum is a good candidate for containers such as strawberry pots and hanging baskets. When grown in a container, sweet alyssum will need more water than plantings in the ground and will benefit from monthly applications of fertilizer.

When planted in the garden, fertilizer is not usually required unless the soil is nutrient-poor.

L. maritima benefits the garden by attracting a variety of beneficial insects such as flower flies, bees, and butterflies, as well as hummingbirds.

A lavender-flowering variety of sweet alyssum, *Lobularia maritima.* Source: Wikimedia Commons; license: CC-BY-SA-3.0–migrated.

Culture

In all but the hottest climates, sweet alyssum grows best in full sun. In hot, dry areas, some shade during the hottest part of the day coupled with regular watering promotes good growth and flowering. Consistent watering is required for best performance in any climate.

While for sweet alyssum tolerates a wide range of soil types, its ideal soil is a loam with a neutral pH. Being subject to stem rot, *L maritima* requires good drainage regardless of the soil in which it is planted.

Removal of spent flowers, a technique known as deadheading, stimulates the plant to produce fresh growth and flower buds. If deadheading individual

stems is impractical, shearing back a group of stems by one-third to one-half is an acceptable alternative. Aside from promoting flowering, both deadheading and shearing encourage compact growth, keeping the plant from becoming lanky.

Propagation

Easily grown from seed, *L. maritima* can be sown directly in the garden or started in pots and planted out as the weather warms. It is important to place the seeds of alyssum on the soil surface and press them into the soil just enough to anchor them. Misting the seeds will promote germination without dislodging the seeds as they form roots.

Sweet alyssum with pale pink blossoms. Photo © 2007 by Kenpei. Source: Wikimedia Commons; license: CC-BY-SA-3.0-migrated.

With proper care, sweet alyssum grows rapidly and will bloom just six weeks after seeds are planted.

Edibility

Sweet alyssum is a nontoxic plant that can safely be planted in the enclosures of herbivorous and omnivorous reptiles.

In human cuisine, the flowers, leaves, and young stems of sweet alyssum are added to salads and other dishes for a "peppery" accent.

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Ban Sought on Commercial Wild Turtle Trapping in Maryland

Unlimited Numbers of Snapping Turtles Can Currently Be Caught, Sold

Common snapping turtle, *Chelydra serpentina*. Photo © 2017 by Asklēpiós. Source: Wikimedia Commons; license: CC-BY-SA-4.0.

Annapolis, Maryland—27 March 2019—The Center for Biological Diversity (CBD) petitioned the Maryland Department of Natural Resources today to end commercial collection of the state's wild freshwater turtles.

Under current Maryland law, turtle trappers can legally collect unlimited numbers of common snapping turtles to sell domestically or export for Asian food and medicinal markets. More than 70,000 wild common snapping turtles were trapped in Maryland between 2008 and 2016, according to reports submitted by holders of snapping turtle harvest permits.

Today's petition asks the department to amend its rules to prohibit this unsustainable practice. The agency has 60 days to begin the rulemaking process or deny the petition with a written explanation.

"Turtle trappers shouldn't be allowed to profit off a practice that puts the state's natural heritage at risk," said Jenny Loda, an attorney and biologist at the Center who works to protect vulnerable reptiles and amphibians around the country. "Scientists know that even modest commercial trapping of freshwater turtles can lead to population crashes. For the sake of our native turtles, Maryland needs to rein in exploitative turtle trapping."

In 2007 Maryland banned commercial collection of diamondback terrapins. Then, in 2008 and 2009, the Maryland Department of Natural Resources adopted regulations restricting trapping of common snapping turtles to tidal waters and setting a minimum size for turtles captured.

While these were important steps, recent research from neighboring Virginia and elsewhere shows that current harvest regulations in Maryland are not likely to be sustainable for wild turtles.

Until recently, Maryland's regulations were similar to those in neighboring Virginia. But earlier this year, Virginia adopted new restrictions for commercial trapping of common snapping turtles in response to a multiyear study in the state that found its regulations were not sustainable. Scientists have repeatedly documented that freshwater turtles cannot sustain any significant level of wild collection without population declines.

"Commercial trapping is devastating to turtle populations that are already suffering from habitat loss, water pollution and vehicular collisions," said Loda. "Maryland needs to take action now to keep its turtle populations from plummeting."

Background

Millions of turtles classified as wild-caught are exported from the United States every year to supply food and medicinal markets in Asia, where native turtle populations have already been depleted.

As part of a campaign to protect turtles in the United States, the CBD has been petitioning states that allow unrestricted commercial turtle collection to improve their regulations. ☯

—Center for Biological Diversity press release

A prehistoric pictograph painted on a wall of the Chugai cave on Rota Island in the Commonwealth of the Northern Mariana Islands, a United States territory situated northeast of the island of Guam in the Pacific Ocean. Depicting two sea turtles, this pictograph is one of some 90 rock art images in the Chugai cave that archaeologists surmise are related to the activities of Chamorro shamans. The Chamorro people are the Austronesian indigenous residents of Guam and the Northern Mariana Islands, and their ancestors are credited with creating the rock art in the Chugai cave.

The exact era of the Chugai pictographs is unknown, as the carbon-dating procedure required to establish their epoch would involve destruction of the images.

2019 CTTC Events Calendar

11 May: Santa Clarita Chapter at Placerita Canyon Nature Center Open House—Placerita Canyon Nature Center, 19152 Placerita Canyon Road, Newhall, CA 91321. 9 AM to 3 PM.

18 May: Valley Chapter Annual Show—Woodland Hills Christian Church, 5920 Shoup Ave., Woodland Hills, CA 91367. 11 AM to 4 PM.

8 June: Adoption Event with CTTC Chino Chapter, CTTC Inland Empire Chapter, and CTTC Orange Country Chapter—Chino Girl Scout House, 5007 Center St., Chino, CA 91710. 10 AM to 3 PM.

27 July: Inland Empire Chapter Annual Show—Redlands Senior Citizen Center, 111 W. Lugonia Ave., Redlands, CA 92374. 10 AM to 3 PM.

25 August: Chino Chapter/Orange County Chapter Show—La Habra Community Center, 101 La Habra Blvd., La Habra, CA. 91631. 9 AM to 3 PM.

The California Turtle & Tortoise Club (CTTC) is a non-profit 501(c)(3) corporation. Contributions are tax deductible to the full extent of the law. Please pay by USA funds only (US bank check, money order, or International Postal Order).

Membership in the CTTC and subscriptions to the *Tortuga Gazette* are handled through the CTTC Chapters. The Chapters also manage membership renewals (see postal addresses below).

Many members choose to join a nearby Chapter to participate in Chapter meetings and other activities. Print membership forms from the **CTTC website.**

Your Chapter and your renewal date (month/year) are displayed on your newsletter notification. Mail your new or renewal membership/subscription to the Chapter of your choice.

Membership fees

- **Student membership $15.00**
- **Individual membership $25.00**
- **Family membership $35.00**
- **Life membership $500.00**

CTTC Mailing Addresses

Chino Valley Chapter: P. O. Box 1753, Chino, CA 91708-1753

Foothill Chapter: P. O. Box 51002, Pasadena, CA 91115-1002

High Desert Chapter: P. O. Box 163, Victorville, CA 92393

Inland Empire Chapter: P.O. Box 2371, San Bernardino, CA 92406-2371

Kern County Chapter: P.O. Box 81772, Bakersfield, CA 93380-1772

Low Desert Chapter: P.O. Box 4156, Palm Desert, CA 92261

Orange County Chapter: P.O. Box 11124, Santa Ana, CA 92711

Ridgecrest Chapter: P. O. Box 1272, Ridgecrest, CA 93555

Santa Barbara-Ventura Chapter: P.O. Box 3086, Camarillo, CA 93011-3086

Santa Clarita Chapter: P.O. Box 4012, Castaic, CA 91310

TOOSLO Chapter: P.O. Box 763, Grover Beach, CA 93483

Turtle & Tortoise Care Society Chapter: P O Box 15952, Long Beach, CA 90815

Valley Chapter: P.O. Box 7364, Van Nuys, CA 91409-7364

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