

# Tortoise Group Newsletter

Hotline: 702-739-7113

Tortoise Group  
A non-profit organization since 1982

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[www.TortoiseGroup.org](http://www.TortoiseGroup.org)

Las Vegas, Nevada

## They're Out of Brumation at Last!

The weather this spring was chaotic and cool, causing many tortoises to either not come out at all when expected or come out once and then go back in for a few weeks. The tortoises were fine, but we custodians were a wreck! Worry, worry. Most tortoises are out as of May 1, but not all. Tortoises, like humans, have their own schedules. It pays to keep a chart of when your tortoise goes into and comes out of brumation. That way, at least you have an idea of when to expect it.



**Spot considers some willow blossoms. Photo by Laura Deitsch**

## Spring Is Eating Time

Your lucky tortoise should be eating up a storm these days before the summer heat sets in. Remember to cut back on the MegaDiet to just few times a week and promote browsing on grasses and flowers. Do check the updated plant list for native plants now available [www.tortoisegroup.org/infosheets/infosheet21.php](http://www.tortoisegroup.org/infosheets/infosheet21.php).

**Mark your calendar for the May 21 meeting to learn about tortoise nutrition and digestion!**



**Sarabella! Photo by Mimi Wilson**

## May Checklist

We often say that a tortoise is easy to care for but, of course, they never complain. Keep these few little tasks in mind to keep your tortoise healthy:

- Read over the list of Information Sheets (IS) on our website so you will know what information is available when you need it. Plants, vets, burrows, MegaDiet, sexing---it's all there. If you have a pool open to the tortoise, read IS #25 about apparent drowning.
- Occasionally soak your tortoise in a basin of shallow, tepid water.
- Pick up litter after those wind storms
- Check irrigation on the plants
- Give a good medical checkup several times during the year, IS #35.
- If you haven't done so, put your phone number on your tortoise using our marking system IS #5
- Freshen up the habitat with some new plants for browsing
- And enjoy that beautiful creature!

## MegaDiet Corner

### MegaDiet Sellers Needed in Las Vegas

- Please note that we have both lost and gained Satellite Sellers. Locate the one handiest for you and be sure to call ahead to make an appointment to purchase your MegaDiet.
- Interested in becoming a Satellite Seller? Check the map to see if we have a gap in your area. We need sellers in the NW, SW, and through the center of the city. We have handy sellers near the 215 exits. Contact Sherri if you can help 435-4696, [sherri376@aol.com](mailto:sherri376@aol.com).



Crissa Mae and her newly adopted brother Donatello are happy to see each other after a long brumation. Photo by Don Knisley

### MegaDiet Tip

Are you having trouble with birds swooping in to eat up your MegaDiet pellets? If so, try building the little shelter that we described in our August 2010 newsletter, page 7

<http://www.tortoisegroup.org/newsletters/2010%20Aug.pdf> The sides are short enough for the tortoise to walk in and out, but long enough that birds will not enter. It's an easy solution to having pellets always available.

### MegaDiet Satellite Sellers

Please call sellers for appointment

Nellis & Owens	Georgi – 459 – 1274
Ann & Camino al Norte	<b>new</b> Don – 374-2466
Decatur & Gowan	Toni – 277-6179
Smoke Ranch & Jones	<b>new</b> Julie – 245-4671
<del>Cheyenne &amp; Durango</del>	<del>Susann – 205 – 7576</del>
215 & Far Hills	Kathy & Pauline
<del>Rainbow &amp; Alta (no longer selling)</del>	<del>Kellie</del>
Charleston & Casino Center	
Trilla at Ace Locksmiths: 528-2237	
215 & W Tropicana	Athena – 682-0307
215 & S. Decatur	Carolyn – 534-7888 x824 378-6514 cell
Eastern & Windmill	Patsy – 269-7108 cell
215 & S. Eastern	Helene – 878-7877 w 375-7998 cell
Boulder Hwy & Equestrian	
	Gail – 334-0015 Cell
<del>Warm Springs &amp; Lake Mead</del>	<del>Gay – 563-1924</del>
215 & 95 at Van Wagenen	<b>new</b> Peggy – 281-3048
Boulder City	Carol – 293-6494
Pahrump	Sheri – 775-727-5557
Kingman, AZ	Toni – 928-757-8317

OnLine Store at:

<http://www.tortoisegroup.org/sales/intoshop.php>

No computer? Call Susan – 702-458-8382

A 1½ lb bag costing a member \$6.00 lasts a large desert tortoise about one month. MegaDiet is also sold at Tortoise Group meetings.

**40% discount to TG members**



## Growing Spineless Prickly Pear

By Mandy Nicholson

Spineless Prickly Pear, aka Indian fig *Opuntia ficus-indica*, is easy to grow, requires no special conditions, and little maintenance. It is well adapted to the Las Vegas climate, so if you have not tried Prickly Pear, here are simple instructions to get started this year.

**Select a location** that will provide full sun the majority of the day. The Prickly Pear does not need to be in the tortoise habitat, since you will be the one to pick new pads for your tortoise. Prickly Pear can grow to mature, dramatic landscape plants, up to 12 feet tall. If this is your desire, protect your Prickly Pear in the winter from overnight cold and freezing conditions. Mature Prickly Pear will form bright red fruit which is edible for both humans and tortoises (although mine did not care for it much!)

If you don't want large plants in your yard, prune the pads to keep the plants small. You could also consider forming a Prickly Pear cutting garden for your tortoise, where you plant rows of Prickly Pear pads specifically to trim the new growth and feed it to your tortoise.



This spineless prickly pear has new buds and new pads ready for picking. Photo by Mandy Nicholson

**Cactus starts available at meetings**

**Propagate Prickly Pear** by cutting from a mature plant a single pad or a group of 2-3 pads at the joint. Let them rest a couple of days to scar over.

**Plant the Prickly Pear** pads in a shallow hole so that approximately 1/3 of the pad is under ground. The soil does not need to be improved, and Prickly Pear should not be drip irrigated. Caution! "spineless" Prickly Pear actually has many small glochids that are really annoying when they get in your hands. (It will feel like you grabbed a handful of tiny spines!) Wear rubber Bluettes brand gloves when handling the pads (or move using newspaper).

Your Prickly Pear starts will form a root system and begin to grow between the months of March and October. Water by hand as necessary to keep the pads from shriveling up. Don't fuss over this plant; it is very hardy. Do not water during the winter, from October through late February. Fertilizer is not strictly required but, if you wish, use an organic nitrogen source like Fish Emulsion.



Homer spies yummy new spineless prickly pear cactus pads. Photo by Mandy Nicholson

**Picking the pads.** You will see the new pads erupt as buds from the mature pads. New growth will be dark green, and covered with soft finger-like spines. Pick only these new, young pads for your tortoise. Old growth contains oxalates that bind the very important calcium. Let them grow to roughly 3 inches in diameter, and then cut at the joint to feed. See Information Sheet #12 for more Prickly Pear feeding tips [www.tortoisegroup.org/infosheets/infosheet12.php](http://www.tortoisegroup.org/infosheets/infosheet12.php)

## Aliens Inside My Tortoise??

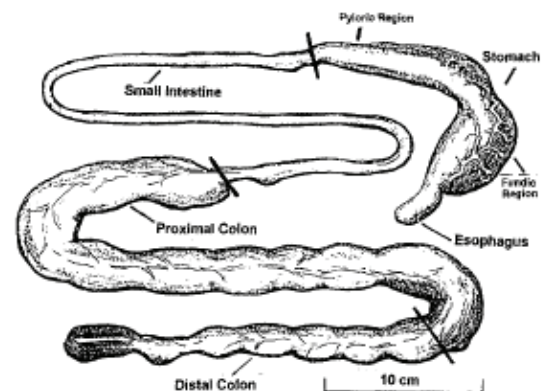
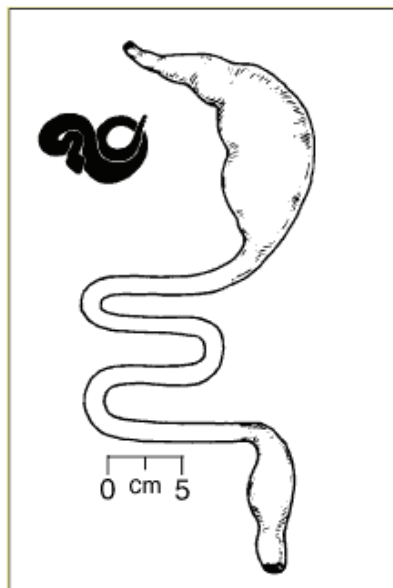
By Jennifer Parsons, Associate Nutritionist, San Diego Zoo Global

Aliens inside my tortoise? Well, not exactly. But inside every desert tortoise is an entire community of tiny creatures, doing a very important job.

Desert tortoises are a type of animal referred to by nutritionists as “hindgut fermentors.” This group includes familiar mammals such as horses and rabbits, as well as more exotic species such as elephants, koalas, and many species of tortoise. These animals typically eat very high-fiber diets in their native habitat. Interestingly, no vertebrate digestive enzymes exist that can break down the tough molecules in plant fiber. But we also know that wild horses, elephants, and definitely tortoises can exist quite well eating grass all day. They do it by getting a little help from their friends: over thousands of years, these animals have developed a symbiotic relationship with fiber-digesting microbes that live in their digestive tract. It is actually the

microbes that digest the fiber and release byproducts that their host can absorb from the gut to use for energy – this is the process of fermentation, and as the name implies, it’s similar to the transformation that takes place in a wine cask (just with different end products). When the microbes reach the end of their life cycle and die, the host also digests the microbes, a rich source of protein. So the tortoises provide a comfortable place for these “fiber-busters” to live, and in return get a whole lot more nutrition out of the foods they eat.

A hindgut fermentor is pretty easy to recognize by looking at their digestive tract, as it’s all about providing that sheltered home for their resident microbes. Rather than a straight tube, like the tract of species with easily-digested diets (such as carnivores - below, left), the large intestine of tortoises has an irregular appearance. All those sacculations provide a sheltered home for the microbes – they can hang out in the nooks and crannies, protected from the main flow of material passing through the digestive tract. The intestine is also much longer, giving ingested food more time to pass through and be broken down - below, right.



**Digesting the fiber of a desert tortoise diet is a much more difficult process than digesting meat. Compare the very simple digestive tract of the rattlesnake, a carnivore, (left) to that of the tortoise, an herbivore. (right). The large intestine (proximal and distal colon) is much longer and sacculated (wrinkly), providing a home for symbiotic, fiber-digesting microbes.**

From Barboza, P. 1995. Digesta passage and functional anatomy of the digestive tract in the desert tortoise (*Xerobates agassizii*). *Journal of Comparative Physiology B* 165:193-202.)

This symbiotic relationship has several important implications, because the key to a healthy tortoise is keeping those microbes happy. This means providing the sort of diet to which both the microbes and the tortoise are best adapted – since this relationship is the result of thousands of years of keeping each other's company. It is true that, What does the right nutritional environment look like? Some things to keep in mind:

- Foods with a lot of sugars or starches can be a problem, as these are actually too easily digested. This might seem like a good thing at first, but in this case it also means that they are very readily fermentable. In short, when the microbes get hold of these types of foods, they have a party – and not in a good way for the tortoise. They start overproducing two of their main byproducts – acidic compounds, and gas (think about what's produced in a vat at a brewery). If these products are generated more quickly than the animal can deal with them, they can build up in the gut. In horses, this is called colic, and if it's bad enough, can have serious health consequences. The same can happen inside your tortoise if it's allowed to indulge in these foods (like fruits and sweet, starchy vegetables such as yams or carrots).
- It is also important to remember that, although the microbes can adapt to changes in the tortoise's diet, it takes them time to do so. Any sudden changes in diet can upset the balance, and at the very least mean that there is not an optimal microbe community in place to efficiently break down the diet. So the best tortoise diet is one that is similar day-to-day. There can be several components to the diet (who doesn't like variety?), but the key is to, for the most part, provide those same components in the same proportions every time you feed. Occasional treats are all right, but they should be used in small quantities, so the balance is not upset. If you do need to change your tortoise's diet for any reason, it should be done gradually, over a week or more.

because of their much shorter generation time, the microbes can change over time – for good or ill – to differences in diet. However, the microbial products that the tortoise depends on do not change, so providing the right nutritional environment is key to making sure this microcosm is happily churning out the right stuff for your tortoise.

- At the same time that we're feeding our tortoise, we also need to be mindful that we're feeding the microbes – and if we don't provide the microbial community with what it needs, it could begin to starve and die off, leaving the tortoise poorly equipped for efficient digestion. What do the microbes need? Fiber! They love the stuff – they're built for it. So a good tortoise diet is one that provides a lot of fiber. This can be in the form of a good quality pellet, or supplemental hay. Fibrous native grasses are a good option (just not ones that are too green or lush – or we get back into the problem with easy fermentation).

It's an amazing little world that exists inside our desert tortoise friends, and a marvelous example of two completely different types of creatures coexisting with each other. Following these guidelines will help ensure a happy, healthy tortoise – all thanks to its resident "aliens."



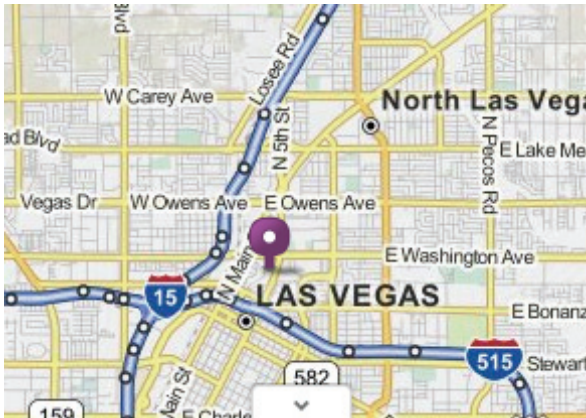
**Alva munches hollyhocks upon emergence. (That's just dust in her eyes—rinsed and just fine now.)**  
Photo by Robin Penrod



# TG 2012 Calendar

## All General Meetings

Saturdays, 1 – 3 pm  
 Las Vegas Library  
 833 Las Vegas Boulevard North  
 Las Vegas, NV 89101  
 Right across from Cashman Center



MegaDiet, t-shirts, and other tortoise items available at meetings.

## Meeting Dates for 2012

Saturday, July 28, 1-3 pm  
 Saturday, August 25, 1-3 pm  
 Saturday, September 22, 1-3 pm



Speedy rests in the shadow of a tortoise sculpture.  
 Photo by Andrea Meckley

**Saturday, May 19, 1-3 pm**

## Get a Gut Feeling for a Tortoise

*By Jennifer Parsons, Nutritionist, San Diego Zoo*

An overview of wild tortoise feeding ecology and how the amazing tortoise digestive system works. Also, a summary of best feeding practices and a look into nutrition and feeding. This one is packed with information you won't want to miss!

**Quick Tip:** Keeping a Tortoise Journal: Weighing, Measuring, and Photographing Your Tortoise



Chuck basks at the entrance to his burrow-first season with his new custodians. Photo by D Phillips

**Saturday, June 23, 1-3 pm**

## A Desert Tortoise and Its Habitat

*By Kathy Utiger, Chairman, Tortoise Group*

Start to finish, how to build a beautiful habitat for a tortoise. Tips on drainage issues, burrow types, water features, plantings, and safety.

## Desert Tortoise Master Workshops

Thirty-six Tortoise Group members attended one of three workshops that focused on in-depth learning about tortoises and how to answer questions from the public as volunteers for Tortoise Group. These folks will volunteer for adoption, fairs, school programs or **Tortoise Month at the Springs Preserve**. Weekends in May, volunteers will host tortoise demonstrations and classes. Drop by to see your fellow volunteers in action!

## **Tortoise Breeding Is at Crisis Level**

### **The Situation**

Tortoises live long lives in our back yards with proper nutrition and care. Where there is a mating pair, the hatchlings have a very high survival rate, unlike in the desert. The result is that over the last 20 years some people have produced tens, if not hundreds, of hatchlings. These hatchlings are usually given to friends and neighbors, most of whom are not ready for them, so the tortoises may live in unhealthy conditions, such as in a terrarium or without a burrow. Often people accept two or three tortoises, and the problem mushrooms.

### **The Problem**

In recent years the Desert Tortoise Conservation Center has accepted and cared for all unwanted tortoises; **more than one thousand are turned in each year**. But now the crunch has come: funding will stop and other solutions must be found.

Now What? Agencies that deal with the tortoises are scrambling to find good solutions. Some tortoises will be translocated to the desert, but at this time not enough areas are available. Pet tortoises cannot be put into the wild due to the possibility of disease, and increased competition with native tortoises for food and shelter.

### **Take Action!**

Right now, this year, everyone with a breeding pair of desert tortoises must take steps to separate the sexes. Backyard breeding must end! Tell your tortoise friends. Let them know about this critical situation. Help us solve this problem. Spaying and neutering is still not an option. Thank you.

### **Let Your Tortoise Be a Star**

Take some cute, colorful pictures of your tortoise. Be sure you show safe conditions. Email the pictures to [kathyutiger@tortoisegroup.org](mailto:kathyutiger@tortoisegroup.org)

----- Cut Here -----

### **Tortoise Group Membership Form**

Memberships and contributions may be tax deductible

#### **1. Please Print the COMPLETE address**

Name \_\_\_\_\_

Phone \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Zip Code \_\_\_\_\_

E-mail \_\_\_\_\_

#### **2. Check One Newsletter Option**

**2012**

Send my newsletter by e-mail

Send my newsletter in hard copy

#### **3. Check amount you wish for your 1-year membership**

( ) \$15 ( ) \$25 ( ) \$35 ( ) \$50 ( ) \$75 ( ) Life \$500

Special Contribution: \_\_\_\_\_

40% discount on MegaDiet and 10% on other Tortoise Group goodies to members and their immediate families

**Make check payable to Tortoise Group. Mail with form to:  
Tortoise Group ♦ 1001 Adobe Flat ♦ Henderson, NV 89011**

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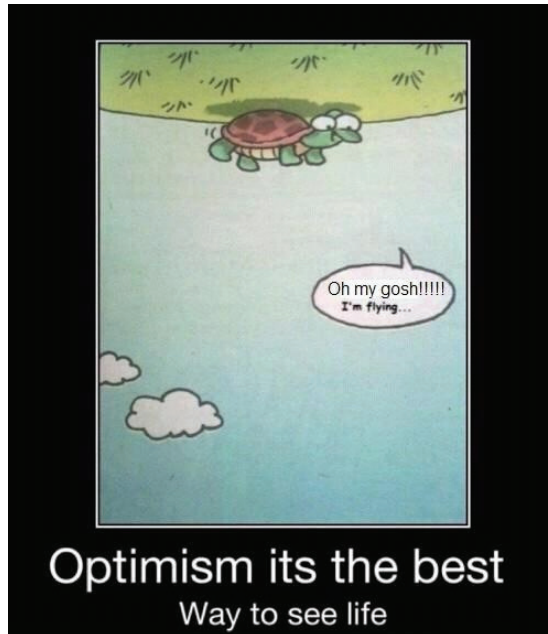
**Treasurer** Trilla Newton

**Members**

Laura Deitsch, Wende Lestelle,

The Tortoise Group newsletter is  
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March, May, July, and September



**Take a Breath**

Take time every so often to really enjoy your special reptilian friend. It depends on your custodianship and care; it's so gentle and interesting. Watch the way it sniffs the ground and flowers, the way its walks with those big legs. It's a privilege to care for these precious creatures.

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