



Blood can be drawn from the brachial vein of either front leg. Use a 1 or 3 ml syringe, and a 23 - 27 ga. needle, depending on the size of the tortoise. Drawing a small amount of heparin into the syringe and then expelling it will keep the blood from clotting in the needle. The tortoise must be restrained by another person, or in some type of restraining device. Collect 0.5 - 1 ml of whole blood and place in a labeled, heparinized microtainer tube.

Once the blood samples are collected, spin them for 5 - 10 minutes to separate the serum. Draw off the serum and place in a cryotube or other suitable storage and transport tube. Label each tube with the appropriate tortoise's id., the date, and the contact persons name. Freeze or refrigerate the samples until shipping.

Blood also can be drawn from the jugular vein. This should only be done on anesthetized tortoises, or those that are not struggling, to prevent damage to the neck muscles.

Placing the tortoise on an empty, overturned can makes it easier to restrain. The sampling area and can are covered with clean drapes or newspapers, which are changed after each tortoise and discarded to prevent transmitting disease from one tortoise to another. Gloves are worn and changed for the same reason.



Nasal lavages are collected by flushing sterile saline or culture media into and out of the nares with a 1 ml syringe, no needle attached! The nose is first cleaned off with a damp alcohol swab to decrease other bacteria and fungi. Place the flush sample in a labeled cryotube. This tortoise was administered ketamine hydrochloride to make the procedure less stressful to both it and the collectors.

Researchers at the University of Florida have developed culture methods and diagnostic tests to determine whether or not a tortoise is infected with or has been exposed to the mycoplasma. Before shipping samples, contact the diagnostic lab at:

(352) 392 - 4700 ext. 3968

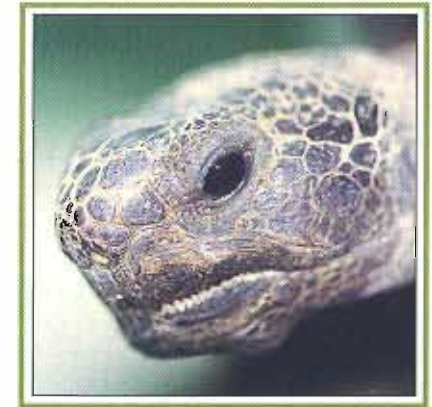
You will receive cost and billing information, and instructions for shipping the samples. You will also be informed about turn-around time, and when to expect results.

Ship samples to:

University of Florida
JHMHC BSB 350
1600 SW Archer Rd
Gainesville FL 32610

This pamphlet is funded by Walt Disney World Co.
and the Gopher Tortoise Council

Upper Respiratory Tract Disease



Healthy Gopher Tortoise

Upper Respiratory Tract Disease (URTD) is caused by the bacterium *Mycoplasma agassizii*. The disease is found in several turtles and tortoises. Other species of mycoplasmas also cause respiratory diseases in humans, pigs, cattle, and poultry. Unfortunately, there is no good treatment method for tortoises that are already infected. The immune response by the tortoise is not protective, and tortoises can get the disease more than once. It is usually much worse the second or third time. Tests have been developed to determine if a tortoise has been exposed. This pamphlet demonstrates clinical signs of URTD and methods to obtain samples for the tests, and provides contact information for having the tests run.



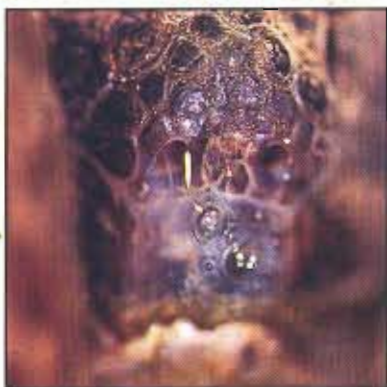
A very mild nasal discharge, with the nostrils appearing wet. This can be hard to detect, and may disappear, then reappear.



This tortoise has swelling of the eyelids, or palpebral edema, often the first sign of infection.



Palpebral edema and ocular discharge, without conjunctivitis.



Moderate nasal discharge, with lots of serous to mucoid exudate flowing down the nose and over the face.



In addition to swollen eyelids, the conjunctiva is swollen and reddened. This can be caused by foreign objects in the eye, so check carefully.



This tortoise has severe conjunctivitis, with a very swollen and reddened third eyelid. Some animals become very sensitive to light, and avoid bright sunlight.



Although the amount may be less than the previous tortoise, this is classified as severe. The cloudiness probably indicates secondary infection.



Ocular discharge and conjunctivitis. Bacteria can be shed along with the secretions, even if the tortoise does not have a nasal discharge.



Signs can be very severe, especially in tortoises that have been reinfected.