

STANDARD OPERATING PROCEDURES

BUACC-SOP-05 Aquarium and Terrarium Guidelines

The present SOP has been developed to outline proper animal care displayed by the Department of Biology. It should be noted that as of May 2018, the Department of Biology does not house any vertebrates for teaching or research purposes.

1. Responsibility
<ol style="list-style-type: none"> The care of the animals will be the responsibility of the departmental laboratory technician. The technician may choose to delegate the care of the animals to assistants but the technician is ultimately responsible for the animals.
2. Qualification and Training
<ol style="list-style-type: none"> Any person who is responsible for the above animals must complete the McGill or Université de Sherbrooke Theoretical Animal Care certification. They must also be comfortable with all of the animals and equipment that will be used. This training will be overseen by the Biology Technician.
3. Materials
<ol style="list-style-type: none"> General aquarium and terrarium equipment will be used throughout; All materials must be certified for use within the given animal tank; NO PLASTIC TANKS WILL HAVE HEATERS! ALL tanks containing or that may contain, vertebrates or cephalopods MUST display emergency protocols in a clear location. In the event of an animal related emergency, the emergency protocol must be easily visible. <ol style="list-style-type: none"> Ex. In case of an emergency involving the animals housed above, please contact the animal care manager at 819-822-9600 Ext. 2364 OR (if he/she cannot be reached) Security Ext. 2711
A. Aquarium Maintenance:
<ol style="list-style-type: none"> Aquatic siphon; Dip net (for removal of fish during full tank cleaning/ maintenance); Spare aquarium/ holding tank if tank maintenance is required; Thermometer; Spare filtration unit of sufficient size for the aquarium is available, if required Safety glasses and nitrile gloves.
B. Terrarium Maintenance
<ol style="list-style-type: none"> Sieve for removing waste; Thermometer; Spare container/ terrarium if tank maintenance is required; Safety glasses and nitrile gloves.

4. Procedure

A. Aquarium Maintenance:

1. This section applies to aquaria containing fish and/or aquatic invertebrates.
2. Water changes.
 - I. 20-25% of the tank water will be replaced weekly and 50% monthly. The water must be of a similar temperature to the tank and must not contain contaminants;
 - II. The siphon with cleaning attachment shall be used to siphon the gravel to remove bottom waste. Siphoning will continue until sediment is clean and the desired amount of water is removed;
 - III. The water that was removed from the tank will be replaced by adding the water onto a rock or other object to distribute the water's flow into the tank.
3. Cleaning
 - I. Will be done as needed if something is abnormal. After the first 3 months, cleaning will be done monthly.
 - II. Filters will be inspected monthly and media replaced if necessary.
4. Observation
 - I. Each aquarium will be inspected daily for any changes water quality/temperature, fish behavior/condition and filter output.
5. Dead fish
 - I. Will be removed from the tank and disposed of in accordance with federal, provincial, or departmental guidelines;
 - II. A 50% water change shall be done after losing a fish and the tank monitored more closely for 24 hours to ensure no further casualties.

B. Terrarium Maintenance

1. Substrate
 - I. Substrate shall be inspected daily and cleaned as necessary;
 - II. Dead prey items shall be removed when found;
 - III. Substrate and terrarium cleaned as needed to prevent odour build up.
2. Water
 - I. Water levels shall be inspected daily and water shall be topped up or cleaned when needed. Replacement water shall be de-chlorinated tap water.
3. Ill Animal
 - I. Any animal that is observed to be ill will be isolated in a separate tank and treated with readily available aquarium medications. The original host tank may also require preventative treatment depending on the conditions. All instructions for the associated treatment should be followed carefully (i.e. removal of activated carbon, water change, etc.). If the illness persists and the animal's health deteriorates further, then the animal will be examined by the University's consulting veterinarian for treatment and/or euthanasia following CCAC approved methods.

C. Feeding
<ol style="list-style-type: none"> 1. Feeding will be species-specific and based upon suppliers suggestion/care fact sheet; 2. If live insects are used as food they should be gut loaded first.
D. Special circumstances
<ol style="list-style-type: none"> 1. Holidays/Summer <ol style="list-style-type: none"> I. During the summer months/holidays all animals will continue to be under the care of the lab technician; II. Automated feeders will be used when available for aquaria and each aquaria will be checked once a week by the technician or an assistant throughout the summer and holidays; III. With regards to reptile species, the reptiles will be under the care of the technician throughout the holidays/summer.
E. New animal / New environment
<p>When a new animal is introduced to a community tank it will first be put into a quarantine tank for 2 weeks. After quarantine the tank shall be cleaned using 10% bleach solution and rinsed thoroughly before use</p> <ol style="list-style-type: none"> 1. Fish <ol style="list-style-type: none"> I. When introduced to a new tank the fish shall be placed in a plastic bag containing a full volume of 50% water and 50% air; II. The bag will then be placed in the new aquarium; III. Once the bag is isothermic to the aquarium, small amounts of aquarium water will be added to the bag over a period of approximately ½ hour; IV. When the bag is mostly aquarium water the fish will be released into the new habitat and the lights will remain off for 24hrs. 2. Reptiles <ol style="list-style-type: none"> I. The terrarium will be appropriately heated and humidified based on species need with the light turned off; II. The animal's container will be placed on its side, open, inside the new environment away from the under-tank heater but near a water source; III. The animal shall be allowed to enter its environment; IV. The light will remain off for 1 hour if it is the only heat source and for several hours if an under-tank heat source is available.
F. Transportation
<ol style="list-style-type: none"> 1. Aquarium animals will be transported solely on the Biology floor and only to change location of aquarium. <ol style="list-style-type: none"> I. Water will be removed from the aquaria and placed in a clean, covered and oxygenated (air pump) container; II. The animal will be removed from the aquarium/terrarium and placed in the container; III. The container will be carried (to reduce vibration) if possible or if not the container will be moved via a soft wheeled cart to new location;

- IV. The new environment will contain appropriate shade and conditioned (isotonic and isothermic to previous environment) water to ensure reduced animal stress.
2. Reptiles will only be moved when environment is moved / cleaned / veterinary care is needed.
 - I. The reptiles will be removed from the display environment and placed in an aerated covered cardboard box for transportation;
 - II. The box will be covered with a thermal blanket to ensure heat retention and reduce animal stress;
 - III. The animal will be moved using a vehicle when possible to reduce exposure, vibration, and time away from environment;
 - IV. When transported by hand, care will be taken to reduce time outdoors.

5. Safety

A person who is or may be pregnant or who may have a compromised immune system should contact Human Resources **prior** to handling animals, cleaning habitat/aquaria, and/or participating in field studies where they may come into direct contact with animals. A person who is or may be pregnant or who may be immuno compromised may **not** be required to handle animals or come into contact with untreated animal waste/habitat bedding or fomites.

6. SOP Revision History

These Standard Operating Procedures were revised and updated in May 2019.