

NEW_011 Husbandry of Small to Medium Macropods

I. OBJECTIVE

To describe the method of completing husbandry tasks for small to medium macropod species at the Hidden Vale Wildlife Centre (HVWC).

II. COMMENTS / RECOMMENDATIONS

1. Handlers must wash hands thoroughly before and after handling animals.
2. Access to an appropriate first aid kit and/or medical advice in case of injury is provided.
3. PPE use is essential when completing these tasks.
4. Volunteers, staff and researchers must wear covered in shoes when working in animal areas.
5. Macropods suffer from capture myopathy (Shepherd et al. 1988) and so attempts to capture macropods should be made as early in the day as possible, when it is coolest. Attempts at capture should cease immediately when the macropod appears stressed and resumed at a later date.
6. Feed each species at a time of day that suits their natural behaviour (nocturnal vs diurnal).

Part A - Handling

III. EQUIPMENT (Handling)

- Hoop net
- Large hessian/ calico bag
- Scales

IV. PROCEDURE (Handling)

Capture

As a minimum two trained handlers are required for capture and restraint of macropods. All macropods should be caught as fast and as efficiently as possible to minimize distress and the potential for injury. Macropods are easily stressed and can run directly into fences and inflict severe injuries on themselves (Jackson 2007).

1. Locate the macropod.
2. If possible, in one swift motion, grab the tail of the animal at the base to avoid being kicked by the hind legs, and lift (see X Reference information: Figure 1a-b). The animal can then be transferred directly into the bag (see X Reference information: Figure 2).
3. It is not always possible to grab the animal from its nest or sleeping position, in which case handlers should use the side of the enclosure as a 'fence line' and then herd the animal toward an area where there are one or two handlers ready with hoop net to capture the animal (see X Reference information: Figure 3).
4. Once the macropod is in the hoop net, lift it off of the ground to avoid the animal thrashing around inside the net.
5. While the animal is safely inside the hoop net, locate and grab the base of the tail through the hoop net. Lift the animal by the tail, open the hoop net and expose the animal. If it's possible transfer the animal directly into the hessian/calico bag; alternatively switch hands, by grabbing directly onto the base of the tail to remove the animal entirely from the hoop net and then transfer to a hessian/calico bag.
6. Twist the top of the bag and secure.

Restraint

Macropods are generally examined while they are inside the hessian/calico bag, unless they are anaesthetised (Jackson 2007; Richter & Freegard 2009).

1. Locate the animal's head and neck, and position the body so that the opening of the bag is central to the body of the macropod, for access to the animal but with the ability to keep its eyes covered (see X Reference information: Figure 4).
2. To hold the animal securely, place your thumb and fingers in front of the shoulders on either side of the jaw. Use the other hand to hold the base of the tail and the rump securely.
3. The second handler can then peel the bag back from the macropod to perform measurements and health checks.

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- a. To reduce stress and prevent the animal from struggling, keep the eyes covered with the bag.
- b. It is best to have one person holding and restraining the macropod, and the other carrying out the health check and other necessary tasks.

Release

1. Place the bag containing the macropod on the ground.
 - a. Face the opening of the bag towards and area of cover for the macropod to shelter in.
2. Position the macropod so they are facing the opening of the bag, then open, allowing the individual to exit in their own time.

Part B – Feeding

V. EQUIPMENT (Feeding)

- Feeding dishes
- Chopping board
- Knife
- Pasture replacement pellets
- Fruit/vegetables
- Protein
- Oats
- Live food
- F10 Disinfectant (1:250) [preferred] or Avicare (1:50)

VI. PROCEDURE (Feeding)

Small macropods are offered a mixture of fruits, vegetables, protein, oats and supplements (see X Reference information: Figure 5). A detailed list of appropriate foods and their diet portions can be found in the HVWC 'prep room folder'. The exact quantities of each food type to be provided to each individual are displayed on the whiteboard of the HVWC prep room.

Feed Preparation

1. Prepare the fruits and vegetables into pieces ~3-5cm³.
2. Weigh required food items into a feeding dish. Add live food, protein and supplements as required.

Part C – Husbandry

VII. EQUIPMENT (Husbandry)

- Broom
- F10 Disinfectant (1:250) [preferred] or Avicare (1:50)
- Hose

VIII. PROCEDURE (Husbandry)

Daily

1. Locate each macropod and visually assess for signs of external injury or ill health.
2. Collect feed bowls and pick up any feed residue.
3. Weigh feed residue and record in prep room diary for that species.
4. Wash feed dishes with warm soapy water and rinse well.
5. Refill and replace water dishes.

Weekly

1. Wash water dishes with warm, soapy water once or twice per week (more regularly if necessary), then refill and replace in enclosures.

Monthly

1. Weigh macropods monthly or as necessary (at the discretion of the veterinarian).

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- a. Select a number of large dark bags.
 - b. Weigh and record the weight of each bag on the designated data sheet.
 - c. Capture the small macropod using methods outlined in 'Part A – IV PROCEDURE: Handling'.
 - d. Supporting the weight of the macropod inside the bag, carry it over to the balance.
 - e. Place into the weigh box and record the weight.
 - f. Release the animal into its enclosure.
 - g. Subtract bag weight from total weight to record animal weights into the HVWC database.
2. When weighing small to medium macropods, also conduct a quick health check to determine the health status of each individual. If concerns are raised, speak to Centre Management or veterinarian immediately; they may want to take the opportunity to anaesthetise the animal and do a full health check.

Movement between Enclosures

1. An enclosure should be cleaned when an animal permanently vacates an enclosure and before a new one is introduced to a new enclosure.
2. Transfer the macropod's current hide and nesting material into the new enclosure.
3. Capture small the animal as early as possible and release into the new enclosure.
4. Monitor the animal to ensure it is settling into its new environment.
5. Update the individual's enclosure location in the HVWC database.

IX. REFERENCE INFORMATION

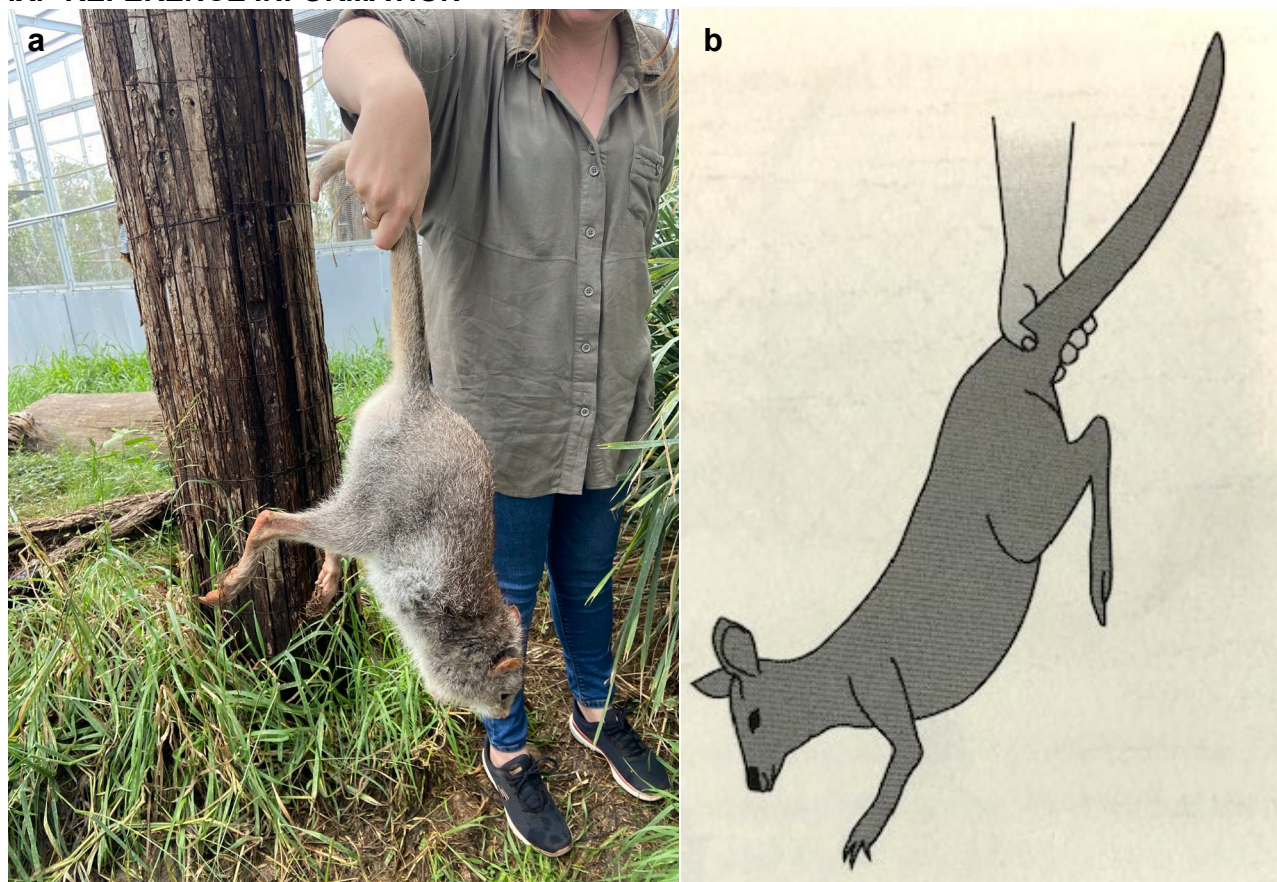


Figure 1a-b. Grip the tail of the macropod and lift in one swift motion to avoid being kicked; a) small (~2.0 kg) rufous bettong caught in his nest, and b) grip at the base of the tail for a slightly larger macropod (adapted from Jackson 2007).

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Figure 2. Carefully lower the macropod into a large calico bag.



Figure 3. Technique used to capture macropods along a fence line (side of the enclosure at the HVWC) (adapted from Jackson 2007).

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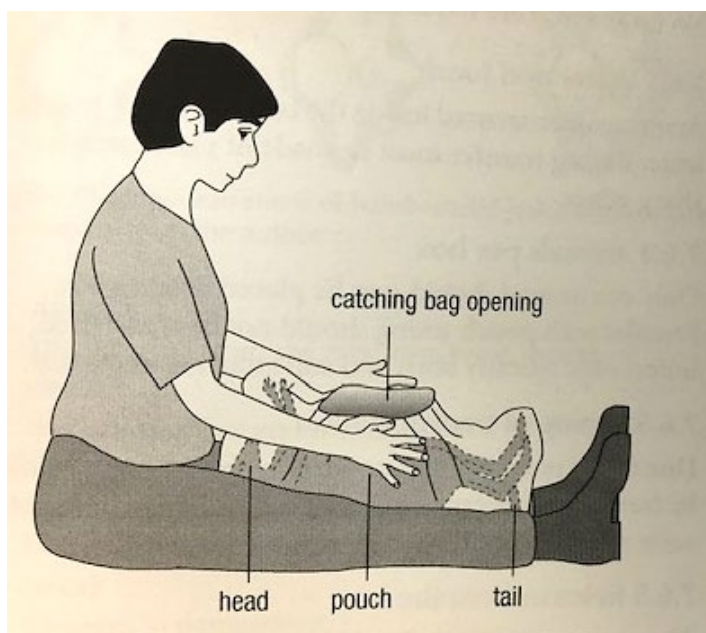



Figure 4. Technique for health checking or pouch checking a small to medium macropod inside the catch bag (derived from Jackson 2007).



Figure 5. Example of feed bowl for rufous bettong at the HVWC.

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 <p>THE UNIVERSITY OF QUEENSLAND AUSTRALIA CREATE CHANGE</p>	<p>UQ Animal Ethics Committee - Standard Operating Procedure NEW_011 Husbandry of Small to Medium Macropods Institutional author: UQ Biological Resources AEC Reviewed & Approved: 08/06/2021</p>	Version #1
		Page 6 of 6

X. BIBLIOGRAPHY

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