

## *Bat Rescue – Primary Intervention*



*Adult Pipistrelle – 7 grams at full adult weight*

*This document only aims to guide you with the primary steps you can take when you rescue a bat, covering your first 24 hours of care. It is not to be construed as a guideline for rehabilitation. Please work with or under the guidance of an experienced rehabilitator or veterinarian for complete care.*

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*Pune, India*

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## Bat Rescue – Primary Intervention

### 1. Basic Bat ID at First Glance

Bats may be broadly divided into two types:

Microchiroptera

Insectivore Bats

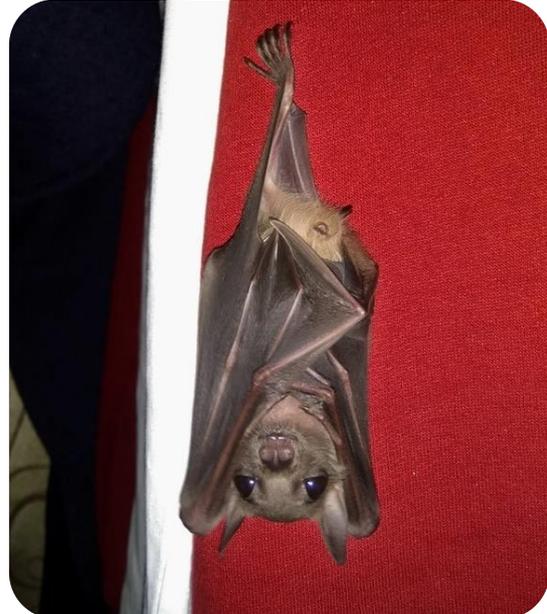


A Juvie Pipistrelle – note how small they can be

- Insectivores bats are TINY
- Weigh 4 to 20 grams at full adult weight depending upon species
- Size of pinkie finger or less
- Eats aerial INSECTS like moths, mosquitos, locusts
- Tiny eyes
- Prominent echolocation

Megachiroptera

Fruit Bats



A Juvie Fruit Bat – note the facial features

- Palm-sized or bigger
- Weigh 25 to 1000 grams depending upon species
- Eats FRUITS, pollen, nectar and other vegetative matter
- Large, prominent eyes
- Tubular nose
- Dog-like face
- Few species will echolocate

## *2. Identifying Baby Bats*

### *Baby Insectivore Bats*



*Baby Pipistrelles (notice the growth in fur)  
Left: A few days old; Right: A couple of weeks old*

- *Baby insectivorous bats can be as small as 1.5 to 2 grams in weight.*
- *They are often naked or sparsely furred until a couple of weeks old.*
- *Wings are not developed; cannot fly until they are 6–8 weeks old.*
- *Often, they will be vocal and will call out for their mammas. Distress call is a high pitch ringing.*
- *They can crawl quite a bit before they can fly.*
- *Tiny hook-like milk teeth or no teeth. Canines develop after a month.*
- *Baby Season in India: Mostly mid-September to mid-November.*
- *Reunite at Dusk/Night: Take them out on a soft cloth and keep/hold them at a height for an hour or so and see if their mamma can find them and carry them back. Mamma will carry if she can locate them.*

*Baby Fruit Bats*



*Baby Fruit Bats – Compare the growth in the wing membrane*

*Left: a couple of weeks old; Right: A few days old*

- *Baby fruit bats, like insectivore bats, will be sparsely furred at birth.*
- *Wings are not developed; they cannot fly till they are 6-7 weeks old.*
- *Will often be quite vocal, calling their mamma. Distress call is a lower pitch chirp-like sound.*
- *Baby Season in India: Mostly June to September.*
- *Often they will have fallen from a height and may have injuries, more so when younger as wings are not developed and they cannot flap.*
- *Reunite using the steps above – ensure the babies are secure but allow them to call out as that is the best way to attract their mamma.*

*If there's no luck reuniting, you can take the babies in and reach for help.*

*Two important things to do while you get guidance:*

- 1. Ensure the babies are warm – insectivores will be happy to crawl in into thick layers of bedding but baby fruit bats will prefer being wrapped up/swaddled if they don't have wing injuries.*
- 2. Talk to them and pet them a little bit so they can feel safe with you.*
- 3. Avoid handling with bare hands unless you are vaccinated for rabies.*

### **3. Grounded Adult Bats or Bats Found Indoors**

*At first approach and as long as the bat appears to be healthy and unhurt/unharmed, allow it to climb onto a height (a tree for example or place them on the bonnet of a car) and see if they can fly away. You can assist them by offering them a branch or a cloth to climb onto and then place them at a safe height.*

*Note: Do not place at a height if they appear injured or are moving haphazardly as they might just fall again.*

*In most cases, esp. with (insectivore) bats found indoors, they have simply lost their way and fly away as soon as they are given the chance to. Sometimes it will be a baby that has crawled out of or fallen from the roost.*

*If you find a bat in the house:*

- *Switch off the fan*
- *Allow them to fly out through a window, or*
- *Allow them to fly into a bedsheet or big towel and then let them out through the window/balcony or just take them outside to release*
- *If on the floor, lift them off tiled surface and shift them to a warmer place. They have a better chance of flying away once they warm up.*

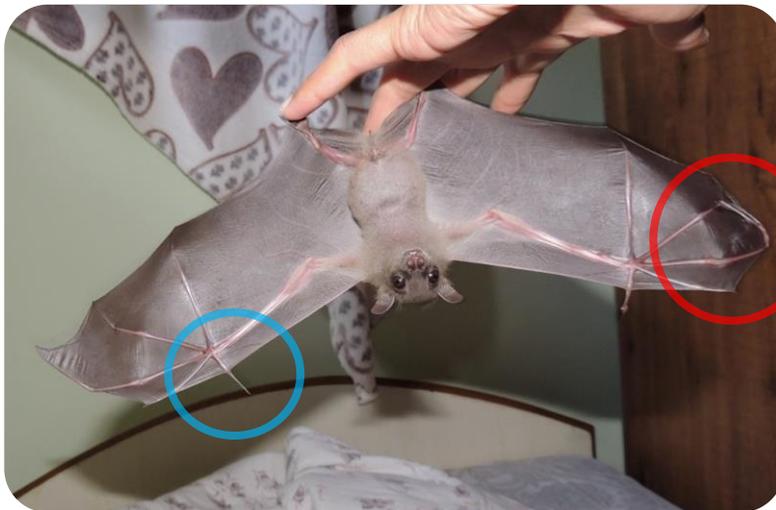


*Releasing an adult bat – in-situ release*

## **4. Injured Bats – do NOT release**

If you find an injured bat, please reach a veterinarian or experienced bat carer asap. With timely help and appropriate medical care, you have a better chance of saving any injured animal. Delays in medical care will only lead to secondary infections or even septicemia which can often be avoided. Wing membrane injuries require additional care to minimize wing die back. Pain management is also critical as injured bats can often chew on their limbs to try and free themselves of the pain.

*Wing Claw:  
check for  
damage if the  
bat is injured.  
Wing claws are  
vital in climbing  
– they should be  
able to hook on  
with the claw.*



*Fractured wing tip  
after recovery:  
Notice the loss to  
the tip of the wing;  
healthy wing tissue  
after recovery.*

*Young bat after recovery – notice the healthy  
wing membrane*

*Checklist – healthy signs:*

- 1. Looking healthy overall*
- 2. Clean and well-groomed*
- 3. Wings looks healthy*
- 4. Crawling or moving in a healthy manner – symmetric movements*
- 5. Alert and (for adult bats) wants to move away from you*
- 6. Able to fly away*

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Worrying signs:

1. Any visible injuries or bleeds
2. Blood at external orifices – mouth particularly or anus
3. Shrivelled wings
4. Haphazard movement or seizures
5. Unable to move, lift the wing or fly
6. Unable to cling to surface and falls off

Examples of injuries: Highlighting cases below so you know what to look for.



*Left: Forearm fractured and swollen*



*Right: Forearm fractured and deformed*



*Left: Wing caught in 'manja' – torn and fractured*



*Right: Flew into a fan – wing entirely shrivelled and twisted*

## *5. Guidelines for Handler Safety*

*Any animal that is in pain or fear is likely to bite out of survival instincts. While it's appreciable that you're trying to save a life, it is important that you keep yourself safe in doing so.*

### *1. Minimize Handling*

*It is an unnatural and extremely stressful situation for any wild animal to be around people and not be able to get away. The more you fiddle, the more frightened they will be and try to bite to protect themselves. The stress of handling alone can lead to death. I see several cases where parents allow their children to play with smaller bats simply because they look cute and harmless, and then call for help after the child has been bitten. I can't stress enough on the need for respect – both animal's and your child's safety. Please do not treat them like toys. Allow them to be in a safe, undisturbed space.*

### *2. Use gloves and a soft napkin or towel*



*Protective gear when handling bats*

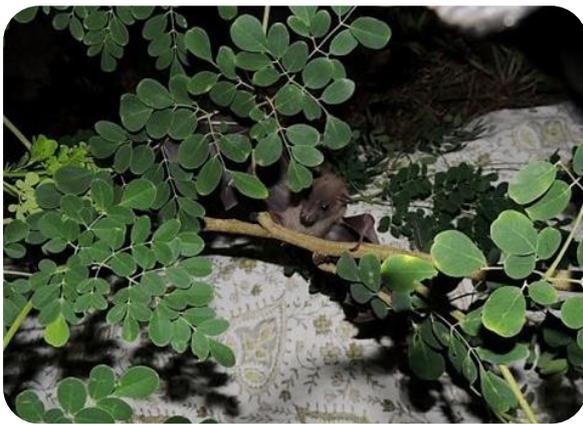
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Bats, like any other mammal, can transmit zoonotic diseases like rabies so it is vital you always have a barrier between yourself and the animal that you are handling. Although I prefer handling bats using a soft towel (as it prevents any undue pressure on them), you may want to use a pair of gloves first and then handle with a towel for an additional layer of safety.

### 3. Handle GENTLY

The more force you apply when handling an animal – the stronger it will resist and also try to bite. Excessive pressure can also easily fracture bones and damage a bat's wings. The aim is not to use force, but only to restrain movement (prevent unnecessary flapping and scrambling) and immobilize. Simply wrap a bat in a towel to prevent movement.

### 4. Use a stick



*Allow the bat to climb onto a stick to shift them to a safer place*

If it looks like an adult bat and you're scared to handle them, allow them to climb onto a stick or leafy branch and move them to a safer place. If you're nervous, use a longer branch as bats instinctively want to climb higher (to

## *Bat Rescue – Primary Intervention*

move to a safer height) and may move toward you in an attempt to move to a safer height.

*NOTE: Do NOT use a stick or branch that has thorns – it can cause injuries and rip the wing membrane. Use something smooth and safe.*

5. For adult fruit bats – allow the feet/claws to grip onto a stick



*Allowing fruit bats to hold on to a stick with their claws makes them feel safer while handling; also, offering a drink of water/juice*

Since their main way of gripping onto any surface (and not falling) is by gripping it with their feet, they instinctively feel safe the moment they can grip onto something – it's always easier to handle an animal that feels safe.

6. For medical procedures, restrain by the scruff of the neck

For any invasive medical procedures you can restrain them by the scruff of their neck although bats can be very co-operative and are very unlikely to bite once they feel safe with you.

## **6. Emergency Housing**

*Any animal that has just been rescued will be in a state of extreme fear and anxiety. The way you house them plays a vital role in helping them settle down with you and allowing the necessary care to facilitate recovery.*

*Housing should be:*

- 1. Safe, prevents any further injury*
- 2. In a quiet space with no harsh sounds or smells*
- 3. Offers privacy and allows them to hide from you*
- 4. Contains the animal safely and prevents escape*
- 5. Is of optimal temperature – provides warmth when it is cold and allows cooling when it is hot*
- 6. Allows them to hold on to something sturdy and hang upside down*
- 7. Allows them to move up and down the enclosure to obtain their food*
- 8. Baby bats feel safer if you allow them to cling on to a suitable soft toy*



*Housing adult fruit bats: ensure they have a clean, smooth enclosure with place to hang upside-down and move about*

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Just like human babies, baby fruit bats can be swaddled or wrapped in soft cloth – refer to Appendix II on page 19 for swaddling technique. The cloth you use should be without torn or fraying edges as their wings/claws can get entangled. Also note that swaddling only works for baby fruit bats. Baby insectivore bats may not respond to swaddling, instead, they will prefer to crawl into something warm. **Do NOT swaddle babies with wing injuries.**



*Baby bats can be swaddled and kept near a clean soft toy*

Insectivore bats can be housed in a picnic basket or baby mosquito net. I prefer folding a clean sweatshirt for them and allowing them to crawl into it. Ensure to secure the basket or net as bats can really crawl and escape from the smallest of gaps. If you need to use heat, place your heat pad or hot water bottle outside the basket – either to one side or over the top.



*Micro bats can be kept in a basket or baby mosquito net.*

## *Emergency Feeding*

*This document covers emergency feeding for the first 24 hours till you have reached a rehabilitator or bat carer and have mobilized help. Feeding guidelines here are not nutritionally adequate for extended care.*

### *Feeding Adult Fruit Bats*



*Feeding: Rescued adult fruit bats*

*Adult fruit bats are quite easy to feed. In all likelihood, you can simply put out a plate of fruit and they will finish it off themselves, even if they are injured. Fruits they love are banana, custard apple, pear, and mango – just ensure the fruit is nicely ripened and sweet. If none of these are available, they will be happy to have grapes, apple or musk and water melon.*

*Most adult bats will be happy to eat even during the day as long as they are kept in a comfortable and quiet space where they feel safe. If they are reluctant to eat on their own and haven't touched their plate in a few hours, you can coax them a little bit by offering small pieces of fruit with a pair of tweezers or blunt-tipped forceps.*

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### Feeding Baby Fruit Bats

Preferred feeding position:  
Keep on tummy while feeding



Feeding baby fruit bats

Baby fruit bats can be given a feed of slightly sweetened, fresh squeezed apple juice. If they are well-furred, they can be given some banana puree or banana milkshake, or stewed apple. Ensure to offer a warm feed. Avoid fruit for naked babies. **Avoid fresh cow/buffalo milk – the high lactose content in it will lead to diarrhoea.** Human breast milk or infant formula milk is a safer alternative for younger babies till you can put them onto the right formula.

Babies can be fed using a 1 ml tuberculin syringe (without the needle). Although you may be able to hold them lying upside down or on their back, I prefer keeping them on their tummy while feeding them, especially so with inexperienced carers as any excess juice or formula can drip down the sides of the mouth instead of going into the lungs and causing damage.

Note: A smaller fruit bat baby may only consume ½ to 1 ml at a time. Please refrain from over-feeding or force-feeding. Instead call for help.

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### Feeding Adult Insectivore bats

Insectivore bats can take a little more effort to hand-feed simply because of their size and often extremely shy natures. Adults do not take very well to excessive handling and tend to be quite independent.

#### Feeding options:

- Live mealworms (can be sourced from hobbyists or retailers)  
Start with moulted mealworms or squeeze out the gut to introduce
- Indian meal moth larvae (commonly found in old grain)
- Larvae from fruits like melons, or other caterpillars
- Wild-caught moths, crickets or grasshoppers and other aerial insects
- Use some chicken or fish stock if nothing else is available
- **Do NOT feed earthworms or bloodworms.**



Feeding insectivore bats: rescued adults

In most cases, you can just introduce the insects to them and then leave them in a dish for the bats to eat – healthier adults will quite happily feed at their own will but weaker ones may require hand-feeding. Water can be placed in shallow lids in the basket, or be offered through a syringe feeder or using a shallow spoon or a cotton ear bud to the weaker ones.

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### Feeding Baby Insectivore Bats



*Feeding baby insectivore bats*

Feeding baby insectivore bats can be a little tricky and you need to be extremely careful in doing so because the nose is really close to the mouth. Even excess moisture on the feeder can easily go into the nose and cause them to sneeze or the liquid to be inhaled into the lungs. A smaller baby micro bat will barely have 1-2 drops (0.05 to 0.1 ml) of formula at a time and this may easily take a few minutes so you need to ensure you slow down the flow of the formula to that speed.

Many carers prefer using foam tips for feeding baby insectivore bats but I prefer syringe feeders (outlined in the section on feeding baby fruit bats). Another safe way of feeding a baby micro bat without appropriate feeding equipment is by rolling the end of a clean napkin or handkerchief and dipping it in formula and allowing them to suckle on it.

Safe options to feed a baby insectivore bat in your care till you can reach for help would be human breast milk or an infant milk replacer, or some soft-cooked chicken or fish stock. Ensure to offer a warm feed.

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### References

Image 1. African Bat Conservation – Bat Anatomy

Image 2. Little Ones website – Settling Techniques

For detailed guidelines on care and rehabilitation, please refer to:

<http://www.rehabbersden.org/index.php/resources/publications>

### Acknowledgements

We are deeply indebted to all our donors for extending their generosity toward us and making every successful rescue possible. We extend a special thank you to Wildlife Trust of India for extending their generosity toward our Bat Rehab Project of 2018.

A heartfelt thanks to Rajesh Puttaswamaiah, Bat Conservation India Trust for working tirelessly towards increasing awareness for the conservation of bats in India and working with us on this rescue manual.

Some organizations for Bat Care and Rehabilitation in India:

Avian and Reptile Rehabilitation Trust, Bangalore

<https://www.facebook.com/WildARRC/>

NAJA India, Ahmedabad

<https://www.facebook.com/NAJAwildlife/>

Rehabber's Den, Pune

<http://www.rehabbersden.org/>

## Bat Rescue – Primary Intervention

### Appendix I. Bat Anatomy

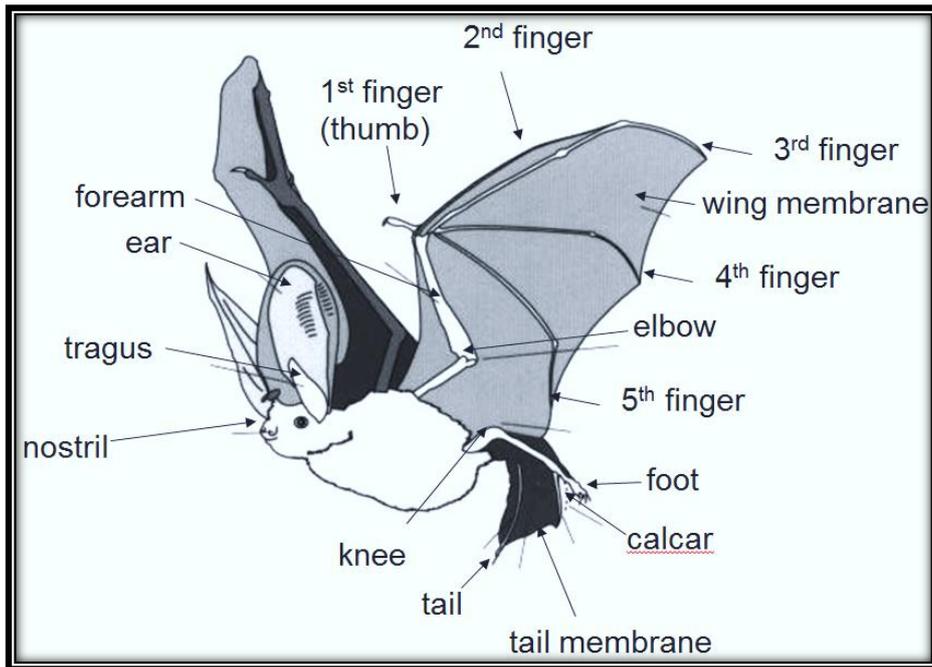


Image 1. Bat anatomy, African Bat Conservation

### Appendix II. Swaddling baby fruit bats – similar as swaddling human babies



Image 2. Settling Techniques, Little Ones Website