Reptile series

BSAVA Factsheet for Owners:

Snakes

This factsheet has been prepared to help you understand the care requirements of snakes. There are several species of snake, so further research into species-specific requirements is important. It is advisable that you read this information before taking on the responsibility of owning a snake so that you are aware of their requirements, such as for housing, nutrition, handling, routine and veterinary care. Whilst this factsheet details a broad range of information, please speak to your vet if you have any further questions. Always research snake ownership thoroughly, specifically the species you intend to own, to make sure you can provide them with the best care throughout their lives.

Snakes are a popularly kept pet in the UK. Although several aspects of care will be similar for all snakes, certain areas (such as enclosure size, substrate and furnishings) will differ depending on whether the snake species is arboreal, terrestrial or burrowing. It is important to familiarize yourself with some important aspects of the care needs of your particular snake species so that you can provide your snake with a happy, healthy and enriched life.

Housing

Size

As a rule of thumb, for an arboreal snake the height of the enclosure should be the length of their body, with the width and depth of the enclosure being two-thirds their body length. For a terrestrial snake, the width of the enclosure should be the length of their body, with the height and depth of the enclosure being two-thirds their body length. These are minimum dimension requirements; there should be enough space for the snake to display normal behaviour, move around freely and the enclosure should be sturdy and escape-proof.



Heating and lighting

Most tropical snakes have a preferred optimal temperature zone of 27 to 30°C, and temperate snakes of 22 to 28°C. The high end of these ranges needs to be provided by a heat source, such as an incandescent light or heat pad. Ensure the heat source is guarded, in order to prevent burning. For terrestrial species, the heat source should be placed at one end of the vivarium, to allow for a temperature gradient, where the snake can move to cooler spots. For arboreal species, the basking spot should be mounted higher up. A temperature gradient should still be provided at night, but the temperature should be lowered to reflect normal nighttime cooling. Thermometers should be placed at each end of the vivarium to monitor the temperature gradient.

Whilst it is perfectly fine to use a UVB bulb inside the enclosure, UVB lighting is not something that is necessary for commonly kept pet snakes, but it can be useful in encouraging appetite. A Solarmeter® can be useful to measure the UV intensity within the enclosure. The average UVI (ultraviolet index) ranges from 0 (full shade) to an appropriate value for the species (0.7 for shade dwellers and up to 3.5 for desert sun baskers). The maximum UVI ranges from 0.6 to 1.4 for shade dwellers, 1.1 to 3 for occasional baskers in partial sun, 2.9 to 7.4 for more frequent baskers in partial or open sun and 4.5 to 9.5 for mid-day sun baskers. Thorough research into the lighting requirements of your species is essential.

Humidity

Owners should research the snake species they intend to keep, to make sure that they are providing the correct humidity levels. Species that are found in deserts, such as sand boas, require a low humidity, whereas species from wetter climates, such as rainbow boas, will require more moisture. Higher humidity levels can be provided using a

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shallow bowl with damp sphagnum or peat moss. Semi-aquatic species such as garter snakes should be kept on damp moss.

Substrate

Substrate is the material used to cover the floor of your pet's vivarium. The substrate should be appropriate for the species. Many species can be kept on reptile bark, but burrowing species will need several inches of fine-grain sand, and species from humid climates will need moss. The substrate should be checked daily and cleaned when soiled. Substrate for arboreal species is less critical, as they will spend less time in contact with the floor.

Furnishings

The furnishings should best mimic the snake's natural environment. All snakes should be provided with hide boxes, which provide security and reduce stress levels. Including a dry hide and a second hide with increased humidity (e.g. sphagnum moss sprayed with water) will aid skin shedding. Arboreal snakes should have access to plenty of climbing fixtures, arranged horizontally at various levels. There should also be abrasive surfaces for snakes to rub against in order to help them shed their skin. All snakes should be provided with a shallow water bowl, as most species (except arboreal species) like to immerse themselves in water. Any organic material that is introduced to the vivarium should first be disinfected, to avoid introducing microorganisms.

Feeding

Snakes eat a wide variety of prey, including mammals, birds, reptiles, eggs, fish and insects. However, most captive snakes are fed thawed rodents (mice or rats) or chicks.

Diet

Owners should be aware that it is prohibited in the UK to feed live vertebrate prey. To avoid regurgitation or stomach problems, frozen food should be carefully thawed and warmed to body temperature before being offered (ideally thawed in the fridge overnight, left to warm and then fed the next day). The food should be the appropriate size to avoid vomiting. The frequency of feeding will depend on the snake's size, age and activity level. Smaller or younger snakes will typically eat twice a week, whereas larger, more mature snakes will eat once a week, or every other week. Generally, the response of the snake to the food offered will indicate how hungry it is. Offering food in the morning will allow the snake to digest it during the warmth of the day. Snakes will often be less inclined to eat when they are getting ready to shed their skin. Owners should avoid handling snakes for a few days after feeding, to avoid discomfort. Researching the food requirements of the particular snake species is important (amphibious or egg-eating snakes, for example, will be fed differently).

Water

Clean, fresh water should be supplied daily. Terrestrial snakes like to immerse themselves in water, so a shallow bowl of water can be supplied in addition to a drinking bowl. Water should be replaced at least daily and as soon as it is soiled.



Life stage feeding

Prey should be chosen based on the size of the snake (they should be no bigger than the widest part of the snake's body); thus, hatchlings and young snakes should be fed much smaller prey than adults. Hatchlings can be started on newborn mice (called pinky mice) and the size adjusted as the snake grows. Additional considerations may need to be taken into account when feeding older animals (see 'Older Pets' below).

Handling

Owning a snake means that you are going to have to handle them occasionally – this may be to move them from the vivarium when cleaning, to help them shed if required, or to take them to the vet. The more a snake is handled, correctly and respectfully, the less stress will be caused at times when handling is essential.

Grasping a snake gently but firmly mid-body, lifting them slightly, and then supporting as much of their body as possible is a good way to handle a snake. Snakes should not be handled excessively and should not be kept away from a source of heat for long periods of time. If transporting a snake, make sure they have a heat mat or wrapped hot water bottle. Avoid handling your snake during or after they have eaten, as this may cause them to regurgitate. You should also avoid handling them immediately before they are about to shed their skin, unless doing so in order to help them with difficult shedding.

Always gauge the temperament and behaviour of your snake before handling them; if they are showing frightened or aggressive behaviours, such as shying away or rearing, it is best to handle them another time. Great care needs to be taken when allowing children to handle snakes, of the appropriate size, for short periods of time. Larger snakes should be handled when there is more than one person present.

Reptiles can carry a species of *Salmonella* which can be transferred to humans, so good hygiene and hand washing should be observed whenever you have handled your snake. Hand washing is sufficient to prevent the spread of any infection.

Older pets

Different species of snake have different life spans. Commonly kept corn snakes and kingsnakes have an

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average life span of around 15 to 20 years, whereas the lifespan for species such as ball pythons and sand boas is around 20 to 30 years. As your pet nears the upper end of these ranges, there may be some changes to their care needs to ensure they are kept happy and healthy.

Feeding

Older snakes slow down and require less energy, so should be fed less frequently. Feeding may be reduced from every 2 weeks to every 3 to 4 weeks, depending on the species and activity level. You may find that the number of times your snake rejects food when it is offered increases (this should be carefully monitored to ensure eating has not stopped completely, indicating underlying health problems). You might consider offering slightly smaller prey than they have previously eaten, such as two smaller mice rather than one large rat. Ensure that the temperature gradient is correctly maintained, as older snakes in particular require warmer temperatures to help them digest their food.

Environment

A stress-free environment is even more important for senior reptiles. Older animals are more susceptible to stress, so ensure there are no factors that could cause any pain or discomfort. Make everything in their vivarium easily navigable (some of the furnishings they could navigate when they were younger may now be less manageable) and ensure their water bowl is easy to access. Basking temperatures should be kept high to ensure an optimal core temperature. Handling times should be kept to a minimum for older snakes, and handling by inexperienced or young people should be avoided, as senior bodies will be more fragile.

Veterinary checks

As snakes age, they may become more prone to health problems (such as respiratory conditions or stomatitis) due to a weaker immune system. It is important to have a check up with a vet, particularly a vet who specializes in reptiles. If you notice any concerning changes in your pet's behaviour, appearance or eating habits, it is advisable to have your snake seen by a vet who can identify whether any changes to their care needs or medical treatment is required. For older snakes, maintaining an optimum core temperature is particularly important, so ensuring that they stay warm when being transported to a veterinary clinic is essential. Heat mats or hot water bottles that are safely covered can be used, and journeys should be planned to ensure that your snake is away from its enclosure for the shortest length of time.

Introducing a new pet

The majority of species kept in the UK (including corn snakes and kingsnakes) are solitary and should be housed on their own. However, there are certain species such as garter snakes that are gregarious (they live with members of their own species). If you own a gregarious snake and are planning to introduce a new animal to the enclosure, allow a quarantine period before introduction, where the new snake can be checked for external parasites and any signs of disease. The vivarium should have enough space and furnishings so that the snakes do not compete for resources, such as basking areas, hiding spots, water or floor space. You will need to watch out for signs of breeding and should consider getting the sex of your snakes identified.

How to medicate

Medication will likely be administered directly by your vet. Your vet will advise on how to administer any medication at home. Any topical medication will be applied directly to the affected area, such as a wound or skin infection, and it is important that all instructions provided by your vet are followed. It is important to monitor your pet's response to the medication and inform your vet if you have any concerns. Follow any storage and disposal instructions that come with the medication.

Shedding problems

Snakes are continuous shedders, meaning they usually shed their skin in one piece. Skin shedding happens sporadically as they grow; young snakes will shed their skin more frequently. Signs that your pet is about to shed their skin include a dull appearance and rubbing against objects within the vivarium. You will notice that your snake's eyes also appear dull before shedding. Always ensure there is an aid to shedding with a rough surface placed in their environment. Shed skin should be removed from the vivarium and any water changed if contaminated.

Difficulty shedding

Snakes may occasionally fail to shed their skin in one piece. The number of times that incomplete shedding occurs should be monitored, as frequent episodes may indicate an underlying health condition, such as hyperthyroidism, a condition affecting the snake's hormones. In order to ensure you are providing the ideal conditions for your snake to shed, make sure that the humidity level in the vivarium is appropriate for the species, that abrasive surfaces have been provided, that the snake is receiving the correct diet and routinely check your snake for ectoparasites (such as ticks and mites) and wounds. Placing a shallow bath of warm water in the enclosure will help your snake immerse themselves and aid shedding. If your snake is having difficulty shedding their skin (for example, the ocular scales may not shed, leaving the snake with dull coloured scales over their eyes) it is best to contact your vet.

Parasite control

You can reduce the risk of your pet getting internal or external parasites in several ways:

- Submitting a faecal sample to your vet for a parasite check when first taking on responsibility for your pet
- Ensure no organic material is introduced to the vivarium without being thoroughly disinfected first
- Remove any uneaten food or regurgitated material as soon as possible
- Keep water sources free from food debris, shed skin and faeces and provide fresh water daily

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- Remove faeces from the vivarium promptly and keep substrate clean
- Regularly disinfect the vivarium and contents with a pet-safe disinfectant
- Ensure your hands, and those of others, are clean before handling your pet
- Monitor the appearance of faeces: diarrhoea could be due to internal parasites
- Monitor for vomiting (vomit occurs after the food has reached the stomach, unlike regurgitation)
- Monitor the external appearance of your pet regularly for external parasites.

It is important to look at all the areas of your snake's body, not just their head and back from above. Places to note include their eyelids, tail and the underside of their body. Be aware that there may be particles on your snake that can be confused with parasites, such as substrate debris or faecal matter. However, if you do notice anything that is of concern, speak to your vet and ensure that your pet has a check-up.



What is an emergency?

There are several signs that may indicate that your snake requires medical attention from a vet. It is very important that you are familiar with your animal's normal behaviour, to have the best indication of when this changes and when they may not be well. Be aware that the act of brumation, where snakes naturally slow down their metabolism and become less active, can occur over the winter. This is a normal evolutionary response to their native habitat's colder weather. This may occur in captivity and your pet's body condition, weight and behaviour should be monitored.

If you notice any of the following signs, seek veterinary advice:

- Loss of appetite and weight: if your snake suddenly stops eating and shows a significant decrease in weight and/or body condition, or behaviour changes when eating, this may indicate a health problem
- Respiratory distress: signs of respiratory distress include open mouth breathing, wheezing or gurgling noises. This could be indicative of a respiratory infection or a respiratory condition
- Abnormal faeces: any significant changes in the appearance or frequency of droppings (including constipation or bloating) could be a sign of internal parasites or other underlying health condition
- Swelling or colour change in your snake's mouth or gums: this can be an indication of stomatitis, a common condition in captive snakes also known as mouth rot, which results from bacterial infection
- Vomiting or regurgitation: this can be an indication of an inappropriate temperature, internal parasites, stress or being handled too soon after they have eaten. Regurgitation is when snakes bring back up their undigested prey before it reaches the stomach; vomiting is when snakes bring up partially or fully digested food that has already reached their stomach (which is less common).

Further information

This leaflet is purely a guide for the basic care and welfare of snakes. It is essential to research any animal species thoroughly before committing to their ownership and care. Always speak to a veterinary professional if you have any questions or concerns.

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