

REPTILES

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These frequently asked questions (FAQs) are intended to assist investigators, instructors, and members of animal care committees in the implementation of the [CCAC guidelines: Reptiles](#). FAQs provide general responses to comments and questions received by the Canadian Council on Animal Care (CCAC) during the external reviews of this guidelines document.

If you do not find the answer to your question here, do not hesitate to contact the CCAC and we will be pleased to provide assistance.

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1. Do the guidelines cover scientific activities involving reptiles in the field?

The [CCAC guidelines: Reptiles](#) focuses on reptiles that are held in laboratory facilities or are brought into facilities from the wild. For scientific activities involving reptiles in the wild, including short-term holding in the field, see the [CCAC guidelines: Wildlife](#) (CCAC, 2023).

2. Why were the guidelines developed, given the low numbers of reptiles used in laboratory facilities?

While the numbers of reptiles used in science are relatively low, they contribute to a wide range of studies in regeneration, comparative anatomy, comparative physiology, nutrition, diagnostic imaging, ecology, aggression, stress physiology, reproductive cycles, and the effects of neurotoxins. In addition, reptiles are a diverse group of animals whose requirements for care and use differ significantly from other vertebrates, and those requirements may not be well known to protocol authors new to working with reptiles or animal care committees who review protocols involving reptiles.

3. CCAC guidelines documents now put greater emphasis on welfare assessment. What is expected of those working with reptiles?

Welfare assessment is a necessary component of all animal-based studies to ensure a good quality of life for the animals within the constraints of the scientific activity and for the quality of scientific data. The [CCAC guidelines: Animal welfare assessment](#) (CCAC, 2021) details the general requirements for all animals, and the [CCAC guidelines: Reptiles](#) builds on this foundation to focus on assessing the welfare of reptiles. Because this group of animals includes a wide range of species that collectively occupy very diverse habitats in nature, the guidelines document provides general behaviours and physiological parameters to be used as a starting point. The guidelines note that behaviours must be considered within the context of the animal's environment, as a particular change in behaviour may be indicative of varying stress levels, depending on the situation. For example, a diminished avoidance response could indicate lethargy, or it could mean that the reptile is habituated to personnel. As well, activity levels can fluctuate in response to factors that do not necessarily relate to the welfare of an individual (e.g., seasonal changes). It is important that investigators are familiar with the behaviours and physiology of the species and individual animals they are working with so that they can detect changes that may have welfare implications.

4. When are anesthetics and analgesics required for work with reptiles?

The guidelines state that anesthetics must be used in procedures where there is expected to be noxious stimuli and in scientific activities entailing extensive handling or manipulation with a reasonable expectation of trauma and physiological damage to the animal. There is considerable evidence for the use of a number of anesthetics on reptiles, and this is detailed in Section 10.9.1, "Anesthesia". There is currently less evidence available for the use of analgesics on reptiles. To acknowledge this situation while ensuring reptiles receive optimal care, the guideline in Section 10.9.2, "Analgesia", states "Following the precautionary principle, reptiles should be provided with analgesia for procedures that are likely to be painful, based on the best available scientific evidence." Procedures that can be reasonably expected to cause pain in mammals can be expected to be aversive stimuli for reptiles and should be relieved by analgesia.

5. What type of environmental enrichment is suitable for reptiles?

Enclosures should offer environmental complexity with multiple elements for the animal to choose from to encourage mental stimulation and physical movement. However, enrichment items must be carefully selected for the species and individual animals, and they must be evaluated to ensure that they are not detrimental to the animals.

The benefit or stress associated with a complex static environment or a complex environment with frequent novelty is highly species-specific. Some species benefit greatly from the placement of novel items in the environment, while others are only able to cope with minor changes in their environment and find significant changes stressful.

Different forms of enrichment stimulate different aspects of the senses. For example, providing olfactory experiences can increase exploration, and food enrichment (e.g., scattering feed in multiple locations) can promote active food searches. For species that dig, providing a variety of substrates, either as the enclosure substrate or in “dig boxes”, may provide enrichment by encouraging digging behaviour.