

## AMTCSC – Species list formation guidelines

Principles underlying AMTC species lists are as follows:

1. *The species list shall be based on science and free from nontaxonomic considerations and interference.*
  - a. The list will be based on review by the AMTCSC as experts in their fields and taxonomy. The AMTCSC will seek comment from AMTC where appropriate with final decisions to be made by the AMTCSC.
  - b. The list is based on research published in peer-reviewed publications.
  
2. *Governance of the species list shall aim for community support and use.*
  - a. Although the final decision is made by the AMTCSC, the list and decisions are sent for comment to the AMTC to engage with the broader scientific community prior to the meeting of AMTCSC.
  - b. The governance process shall be transparent for AMS members and the broader community and communicated with end-users. AMS members will have the opportunity to provide feedback on the list at the society AGM.
  
3. *All decisions about list composition shall be transparent.*
  - a. This document outlines how the process will occur, but the AMTCSC will be clear about decision making (e.g., non-unanimous decisions) to enable end-users to understand where there is disagreement.
  - b. The AMTCSC will aim for a unanimous decision, but where this is not possible the majority vote shall be accepted. The AMTCSC will document the alternative hypothesis and all references inclusive with a statement to say this could change in the future based on additional research and evidence. Feedback shall be provided by the AMTCSC in cases where proposed names are not accepted.
  - c. All references will be included so end-users can go to the source of scientific literature upon which the taxonomic decision is based.
  - d. Any AMTCSC members with conflicts-of-interest, e.g., authors of the name/species in question, will recuse themselves from the decision-making process.
  
4. *The governance of validated lists of species is separate from the governance of the naming of species.*
  - a. The AMTCSC will not govern the naming of species, as this is addressed during the peer-review process of published species descriptions.
  - b. All species lists shall be sent to the Australian Faunal Directory and hosted on the AMS website.

5. *The set of criteria considered sufficient to recognise species boundaries should be consistent when possible.*
  - a. Decisions on inclusion on the AMTC species list shall be based on peer-reviewed scientific evidence. Ideally, authors raising a taxon in a publication should adhere to a total evidence framework, nominate a species concept and include evidence from the following sources:
    - i. comparative assessment and diagnosis (including identification key), as well as illustrations/photographs, of existing and proposed types;
    - ii. molecular analysis and/or morphometrics (internal: skull, dentary; external);
    - iii. detailed geographic coverage/sampling;
    - iv. cranial and/or dental descriptions;
    - v. list and details (e.g., registration numbers) of material examined from museum institutions.
  - b. We acknowledge that taxonomic classifications of species are hypotheses and may change with increasing data and research.
  
6. *The list shall balance conflicting needs for currency and stability by having archived versions.*
  - a. Updates of the species list will be made every AMTCSC meeting and a list of taxa that have been changed will be included.
  - b. An annual summary of changes will be made at the AMS AGM and the species list will be archived annually along with an overall summary of changes made across the year.
  - c. Species lists will be archived as part of AMS.
  
7. *List content should be traceable.*
  - a. Traceable by references (including DOI links) with current and archived species lists posted on the AMS website: <https://australianmammals.org.au/publications/amtc-species-list>
  - b. Link on AMS website to email AMTCSC (managed by Chair), enabling contact with the steering committee and access to references upon request.