

EDITORIAL

Renaming taxa on ethical grounds threatens nomenclatural stability and scientific communication

Communication from the International Commission on Zoological Nomenclature

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Received 8 December 2022; accepted for publication 11 December 2022

Scientific names are fundamental to biological sciences. Because they act as the primary labels for taxa, stable and universally accepted scientific names are crucial for clear and unambiguous data-sharing and communication worldwide. This is of paramount importance not only to science, but also to vital activities such as human and veterinary medicine, agriculture, fisheries, forestry and biological conservation.

The ethical appropriateness of some scientific names has recently been questioned. This is the result, in part, of ongoing societal re-evaluations of past attitudes, particularly in the context of sexism, racism and colonialism. Part of the botanical community has put forward proposals to replace ‘culturally offensive and inappropriate names’ (Hammer & Thiele, 2021); to ‘permanently and retroactively eliminate epithets’ containing perceived racial slurs (Smith & Figueiredo, 2021a) or honouring colonial actors (Smith & Figueiredo, 2021b); or to replace established and accepted scientific names with new scientific names based on indigenous ones (Gillman & Wright, 2020). These proposals have received both support (Knapp *et al.*, 2020; Thiele *et al.*, 2022) and criticism (Palma & Heath, 2021; Mosyakin, 2021, 2022a, b). Besides reactions published in the scientific literature, debates have also erupted on social media platforms, such as ResearchGate.

Similar proposals are now being put forward in zoology. Recently, a suggestion was made to replace the scientific names of several North American freshwater fishes ‘named after people who advocated racist and sexist views, used derogatory names in their writings, or did reprehensible things during their careers’ (Tracy, 2022). Likewise, in the field of hominid taxonomy, a proposal to replace a long-established scientific name that carries ‘social-political baggage’ with a new and putatively neutral one has been debated (Roksandic *et al.*, 2021, 2022; Delson & Stringer, 2022; Sarmiento & Pickford, 2022).

As members of the International Commission on Zoological Nomenclature (ICZN), we feel compelled to present our official position regarding this topic and to clarify the role, mission and powers entrusted to the Commission.

As stated in the Introduction to the fourth edition of the International Code of Zoological Nomenclature (herein, the Code; ICZN, 1999), the ‘fundamental aim’ of the Code ‘is to provide the maximum universality and continuity in the scientific names of animals compatible with the freedom of scientists to classify animals according to taxonomic judgements’. As such, the Code has been the main reference and working document to regulate, inform and guide zoological nomenclature and its practitioners and users for more than a century, with the aim of promoting stability and universality.

The Code has eight main underlying principles that define its nature and spirit. Of special relevance is Principle 4, which states that ‘Nomenclatural rules are tools that are designed to provide the maximum stability compatible with taxonomic freedom’.

Article 18 of the Code addresses the possible ‘inappropriateness’ of names, but entirely in terms of factual data (such as traits or distribution) incorrectly associated with a taxon. Other Articles of the Code are explicit in the requirement that the oldest available name for a given taxon is the name to be used, regardless of its ‘appropriateness’ (ICZN, 1999). Beyond the rather general coverage of ‘inappropriate’ names in Article 18, the Code addresses potentially offensive names in a separate Code of Ethics: ‘No author should propose a name that, to his or her knowledge or reasonable belief, would be likely to give offence on any grounds’. The Code of Ethics is not part of the Code’s legislative text, and ‘the observation of these principles is a matter for the proper feelings and conscience of individual zoologists, and the Commission is not empowered to investigate or rule upon alleged breaches of them’ (ICZN, 1999). However, we emphasize the importance of taxonomists being aware of and following the Code of Ethics.

In our estimate, ~20% of all names in use (based on a sample of > 200 000 accepted animal names) are eponyms (i.e. names intended to honour a specific person or people) and thereby represent the largest class of names likely to cause offence. Toponyms (i.e. names that refer to a place or topographic feature), which make up ~10% of names, can also be perceived

as offensive (e.g. if disputes arise over the names of places, countries or their borders; Pyne, 2005). Thus, several hundred thousand accepted scientific names could potentially be challenged.

Replacing accepted scientific names because of perceived offensiveness is not, and should not be, regulated by the Code. Although the Commission recognizes that some scientific names might cause discomfort or offence to parts of the community (such as eponyms of dictators or historical figures considered by some as racists, or because a word currently has negative connotations), the commitment to a stable and universal nomenclature remains the priority. It is well outside the scope of the Commission to assess the morality of persons honoured in eponyms or the potential offensiveness or inappropriateness of certain names. Owing to the inherently subjective nature of making such assessments, it would be inappropriate for the Commission to assert judgments on such matters of morality, because there are no specific parameters to determine thresholds for offensiveness of a scientific name to a given community or individual, either in the present day or in the future (but see Smith *et al.*, 2022). There is also a possibility that neutral and non-offensive names proposed as replacements could themselves be considered offensive as attitudes change in the future, prompting further new replacement names. Moreover, any names replaced for ethical reasons would not simply disappear but would remain in the literature in perpetuity as part of taxonomic and nomenclatural synonymies.

Legislative changes accommodating the replacement of scientific names based on ethical considerations would affect the work of thousands of researchers, conservationists and other users of zoological names worldwide. Such disruptions would be particularly serious today, when the biodiversity of the world is increasingly under threat (Ceballos *et al.*, 2017) and when conservation efforts will be particularly dependent on a universal naming and classification system that minimizes changes in names (Schuh, 2003). The establishment of a 'Committee on Culturally Offensive or Inappropriate Names', as suggested by Hammer & Thiele (2021) and Thiele *et al.* (2022), is outside the Commission's purview and would be against the core principles of the Code, difficult to implement and unlikely to be recognized by the whole biological community.

In conclusion, the stability of scientific names is essential for all activities under the umbrella of the biological sciences, including biodiversity conservation. The Commission acknowledges and understands ongoing debates about the appropriateness of certain names based on a variety of ethical arguments and is aware of the various proposed approaches on how to tackle these situations. However, the aim of the

Commission is to promote nomenclatural stability without constraining taxonomic judgement. The ICZN's current Constitution (<https://www.iczn.org/>) and its duties and powers as defined in the Code (ICZN, 1999), both of which have been ratified by the International Union for Biological Sciences (IUBS), preclude the Commission from adjudicating on the ethical merits of names or from establishing a skilled body dedicated to such a task. The Commission stands behind this and recommends the continued usage of scientific names as prescribed and regulated by the Code, thus promoting clear and unambiguous communication and essential linkages across the scientific literature as a top priority.

REFERENCES

- Ceballos G, Ehrlich PR, Dirzo R. 2017. Biological annihilation via the ongoing sixth mass extinction signaled by vertebrate population losses and declines. *Proceedings of the National Academy of Sciences of the United States of America* **114**: E6089–E6096.
- Delson E, Springer C. 2022. The naming of *Homo bodoensis* by Roksandic and colleagues does not resolve issues surrounding Middle Pleistocene human evolution. *Evolutionary Anthropology* **31**: 233–236.
- Gillman LN, Wright SD. 2020. Restoring indigenous names in taxonomy. *Communications Biology* **3**: 609. doi: [10.1038/s42003-020-01344-y](https://doi.org/10.1038/s42003-020-01344-y)
- Hammer TA, Thiele KR. 2021. (119–122) Proposals to amend Articles 51 and 56 and Division III, to allow the rejection of culturally offensive and inappropriate names. *Taxon* **70**: 1392–1394.
- ICZN. 1999. *International code of zoological nomenclature, 4th edn*. London: International Trust for Zoological Nomenclature.
- Knapp S, Vorontsova MS, Turland NJ. 2020. Indigenous species names in algae, fungi and plants: a comment on Gillman & Wright (2020). *Taxon* **69**: 1409–1410.
- Mosyakin SL. 2021. (091–092) Proposals to amend Recommendation 7A on deposition of type material in institutions of countries of origin, and to add a new Recommendation 51A regarding avoiding potentially inappropriate or unacceptable names of taxa. *Taxon* **70**: 1379–1380.
- Mosyakin SL. 2022a. If “*Rhodes-*” must fall, who shall fall next? *Taxon* **71**: 249–255.
- Mosyakin SL. 2022b. Defending Art. 51 of the Code: Comments on Smith & al. (2022). *Taxon* **71**: 1141–1150.
- Palma RL, Heath ACG. 2021. Science versus vernacular: should some taxa of animals and plants be renamed according to ‘indigenous’ practices? *Bionomina* **22**: 32–38.
- Pyne S. 2005. Taxonomy, Turkish style. *Science News*. doi: [10.1126/article.33985](https://doi.org/10.1126/article.33985).
- Roksandic M, Radović P, Wu X-J, Bae CJ. 2021. Resolving the ‘muddle in the middle’: the case for *Homo bodoensis* sp. nov. *Evolutionary Anthropology* **31**: 20–29.

- Roksandic M, Radović P, Wu X-J, Bae CJ. 2022.** *Homo bodoensis* and why it matters. *Evolutionary Anthropology* **31**: 240–244.
- Sarmiento EE, Pickford M. 2022.** Muddying the muddle in the middle even more. *Evolutionary Anthropology* **31**: 237–239.
- Schuh RT. 2003.** The Linnaean system and its 250-year persistence. *The Botanical Review* **69**: 59–78.
- Smith GF, Figueiredo E. 2021a.** Proposal to add a new Article 61.6 to permanently and retroactively eliminate epithets with the root *caff[e]r-* or *caffle[r]-* from the nomenclature of algae, fungi and plants. *Taxon* **70**: 1395–1396.
- Smith GF, Figueiredo E. 2021b.** “Rhodes-” must fall: some of the consequences of colonialism for botany and plant nomenclature. *Taxon* **71**: 1–5.
- Smith GF, Figueiredo E, Hammer TA, Thiele KR. 2022.** Dealing with inappropriate honorifics in a structured and defensible way is possible. *Taxon* **71**: 933–935.
- Thiele KR, Smith GF, Figueiredo E, Hammer TA. 2022.** Taxonomists have an opportunity to rid botanical nomenclature of inappropriate honorifics in a structured and defensible way. *Taxon* **71**: 1151–1154.
- Tracy BH. 2022.** What’s in a fish species name and when to change it? *Fisheries* **47**: 337–345.