

**To the Chairmen of IUCN Specialist Groups and IUCN Officials
To UNEP**

7th February 2013

RE: Excessive species splitting in mammals and its bearing on conservation

Dear Madam, Dear Sir,

Over the last decade, there has been a trend to split existing mammal species into two or more separate species, mostly through the elevation of (former) subspecies to species (Zachos et al. 2013 and references therein). The theoretical basis behind this important development is mainly a shift from the biological to the phylogenetic species concept. The *biological species concept* (BSC) holds that species are groups of (actually or potentially) interbreeding populations (e.g. Mayr 1963). In contrast, variations of the *phylogenetic species concept* (PSC) define species either as the smallest cluster sharing genetically transmitted characters, such that all individuals of a species are unequivocally diagnosable on the basis of those characters (Cracraft 1983), or as monophyletic assemblages such that all individuals which share a common ancestor belong to one species with common ancestry being inferred on the basis of a shared derived character state (Wilkins 2009).

We suggest (Clutton-Brock et al. in press) that the PSC has numerous shortcomings, particularly if interpreted in its strict form under which diagnostic features are considered a sufficient criterion for species status. For example, on this basis, the number of bovid species has been doubled in a recent monograph (Groves and Grubb 2011) – often without convincing evidence of the biological validity of the new species and sometimes based on very few specimens (< 10 or even 5). In some taxa, every geographically isolated population has been given species status: the above-mentioned monograph lists 11 species of klipspringer (*Oreotragus*) instead of one and 12 species of red deer/wapiti (*Cervus*) instead of two.

In addition to the theoretical confusion over the functional meaning of a species, taxon splitting has immediate, and potentially detrimental effects on conservation (cf Zachos et al 2013). If threatened species are incorrectly split into several units and managed as such, for example in the context of captive breeding or meta-population management, further unnecessary loss of genetic variation and increased extinction risk may ensue. Acceptance of

new species would call into question the suitability of existing Red List assessments and the legality of species currently identified in national laws and international agreements. It is essential to identify true species as conservation units, ideally based on adequate sample sizes and information on genetics, morphology and behaviour. Many of the recent splits, however, appear to have been proposed in the absence of published data in peer-reviewed journals. **We therefore encourage caution over species splitting. A prerequisite for erecting new species should be sound evidence of their biological credibility.**

Yours sincerely,

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