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Historical and Current Misuse of Gender Agreement in the Names of South African Lizard Species

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Abstract

Some South African lizard species have been given the incorrect adjectival endings to their species names when transferring species from genera of one gender to that of another gender over the past 120 years. Three instances are discussed: the first uses an incorrect subsequent spelling of the species name (*anguineus* instead of *anguinus*) declined in the correct gender; the second (*mirus*) is currently used in the correct form while the third (*caffer*) is currently still using the original masculine gender although now combined with a generic name of another gender. Examples of the use of the adjectives *afer*, *afra*, *afrum* and *caffer*, *caffra*, *caffrum* in both botany and zoology are provided. It concludes that the correct spellings of these names should be amended to agree in gender with that of whatever genus they are currently assigned.

Keywords

Species names, gender agreement, nomenclature, South African lizards, *Scelotes*, *Bradypodion*.

Introduction

Article 31.2 of the International Code of Zoological Nomenclature (ICZN) states “A species-group name, if it is or ends in a Latin or latinized adjective or participle in the nominative singular, must agree in gender with the generic name with which it is at any time combined.” This paper discusses three specific names of South African lizards that historically have confusing and incorrect gender agreement when transferred between genera. In two cases these errors persist in current usage while the third has been corrected.

The names in their correct spelling (in bold) for the three species and their principal synonymies are given below. The term [*sic*] indicates the actual spelling used where the incorrect gender or spelling has been used for the specific name. The use of the spellings *anguinea* and *anguineus* are incorrect subsequent spellings of *anguina* and *anguinus* (Art. 33.3 of the Code).

***Scelotes anguinus* (Boulenger, 1887)**

Herpetoseps anguinus Boulenger, 1887

Herpetosaura anguinea [*sic*] Tornier (1902, 704), incorrect subsequent spelling of *Herpetoseps anguinus* Boulenger, 1887.

Herpetosaura anguina Boulenger (1910, 488).

Scelotes anguina [*sic*] Hewitt (1921, 4)

Scelotes anguina [*sic*] FitzSimons (1943, 197).

Scelotes anguina [*sic*]* Branch (1988, 120).

Scelotes anguineus [*sic*]* Branch (1998, 140).

Scelotes anguineus [*sic*]* Whiting, Bauer and Sites (2003, 584).

(Note: Curiously, Branch (1988, 120) correctly used *Scelotes arenicola* (a noun in apposition) for another species in the genus but later (1998, 140), without attribution, changed this to the incorrect adjectival form *arenicolus*.)

***Scelotes mirus* (Roux, 1907)**

- Herpetosaura mira* Roux, 1907, 435.
- Scelotes mira* [sic] Hewitt (1921, 4).
- Scelotes mira* [sic] FitzSimons (1943, 182).
- Scelotes mirus* Broadley (1994, 243).

***Bradypodion cafferum* (Boettger, 1889)**

- Chamaeleon caffer* Boettger, 1889, 292.
- Lophosaura caffer* [sic] Hewitt (1935, 300)
- Microsaura caffer* [sic] FitzSimons (1943, 161).
- Chamaeleo pumilus caffer* Hillenius (1959, 56).
- Bradypodion cafferum** Raw (1976, 149).
- Bradypodion caffer* [sic]* Klaver & Böhme (1986, 59).
- Bradypodion pumilum caffer* [sic] Klaver & Böhme (1997, 25).
- Bradypodion cafferum** Tolley, Tilbury, Branch & Matthee (2004, 362).
- Bradypodion caffer* [sic] Tilbury (2010, 245).

* Species authority not stated.

Discussion

In the three cases considered here, Tornier (1902) and Hewitt (1921, 1935) made the original errors. Tornier (1902) with a spelling error (*anguinea* rather than *anguina*) and Hewitt (1921), when transferring the species names *anguina* and *mira* from the genus *Herpetosaura* (feminine) to the genus *Scelotes* (masculine) without replacing the feminine form of the specific names with the correct masculine forms *anguinus* and *mirus*. Subsequently Hewitt (1935) made a similar error when transferring the masculine specific name *caffer* (originally combined with the masculine generic name *Chamaeleon*) to the feminine genus *Lophosaura*, in this case using the masculine form of the name *caffer* rather than using the feminine *caffra*.

FitzSimons (1943) followed Hewitt (1921) in using the feminine spellings for the two *Scelotes* species and Hewitt (1935) in using the masculine spelling *caffer* rather than the feminine spelling *caffra* when transferring the species from *Lophosaura* to the similarly feminine genus *Microsaura*. Raw (1976) correctly used the neuter spelling *cafferum* when transferring the species to the neuter genus *Bradypodion*.

The name *caffer*, as well as the similar name *affer*, may have been confused by some authors with the compound nouns ending in *-fer* such as *globifer*, *crisifer*, etc. and therefore might be thought to be fixed and unchanging. This is not true as they are neither compound words nor nouns. Klaver & Böhme (1986) list *Bradypodion caffer* without attribution but, later, they (Klaver & Böhme, 1997) used *Bradypodion pumilum caffer* when including all South African dwarf chameleons described before 1976 as subspecies of *B. pumilum* while, strangely, recognising the four species described by Raw (1976, 1978) as full species. In both publications they gave no explanation for their use of the name *caffer*. When he also reverted to the name *B. caffer*, Tilbury (2010) cited the opinion of C.J.J. Klaver (*in litt*, 2003) who believed that Article 31.2.2 of the ICZN implied that the name should be regarded as a noun. Although Article 31.2.2 of the ICZN states “Where the author of a species-group

name did not indicate whether he or she regarded it as a noun or as an adjective, and *where it may be regarded as either and the evidence of usage is not decisive* (my italics), it is to be treated as a noun in apposition to the name of its genus (the original spelling is to be retained, with gender ending unchanged; see Article 34.2.1)", in this case there is no accepted noun "*caffer*" in Latin and therefore this article does not apply.

It seems that Klaver considered the chameleon name in isolation and was not aware of the errors in Hewitt (1921) and in FitzSimons (1943), nor the almost universal use of the name *caffer* as an adjective (except in this particular case) as shown below. I therefore reject his opinion as mistaken. The name *caffer* with its gender variants *caffra* and *caffrum*, i.e. *Bradypodion caffrum* as used by Raw (1976), should have been *Lophosaura caffra* and *Microsaura caffra* if the name had been used correctly by Hewitt (1935) and by FitzSimons (1943).

The status of the name *caffer* as an adjective, including its use as such by Linnaeus, is confirmed by Zuccon (2011), David & Bruce (2016) and Jobling (2010: 83).

Brown (1956) lists both *afer* and *caffer* as adjectives with *afer*, *afra*, *afrum* on p. 72 and *caffer*, *-fra*, *-frum* on p. 177 for those who wish to enquire further.

The website <https://casabio.org/taxa/adenostemma-caffrum> gives the etymology of *caffrum* as: "From the Latin *caffrorum* referring to British Kaffraria, the name given to the area between the Kei and Keiskamma rivers in the latter half of the 19th century."

Elsewhere in biological nomenclature both these two names (*caffer* and *afer*) are treated as adjectives and follow gender agreement, some botanical examples of this being: (masculine genus) *Encephalartos caffer* (Thunb.) Lehm.; (feminine genera) *Dovyalis caffra* (Warb.); *Erythrina caffra* Thunb.; (neuter genera) *Adenostemma caffrum* DC; *Combretum caffrum* (Eckl. & Zeyh.) Kuntze; *Harpephyllum caffrum* Bernh. and *Lycium afrum* L.

Some zoological examples include (masculine genera) *Caffrogobius caffer* (Günther, 1874); *Hipposide ros caffer* (Sundevall, 1846); *Syncerus caffer* (Sparrman, 1779); *Sphenarches caffer* (Zeller, 1852) and *Unio caffer* (Krauss 1848); (feminine genera) *Africaspis caffra* (Brain, 1920); *Cossypha caffra* (Linnaeus, 1771); *Cynotilapia afra* (Günther, 1894); *Eunidia caffra* Fähræus, 1872; *Miomantis caffra* Saussure, 1871; *Pheidole caffra* Emery, 1895 and *Solenopsis punctaticeps caffra* Forel, 1894; (neuter genera) *Orthetrum caffrum* (Burmeister, 1839); *Pseudagrion caffrum* (Burmeister, 1839) and *Vexillum caffrum* (Linnaeus, 1758).

In the case of *anguinus*, there was also another original error by Tornier (1902) who, while using the correct gender agreement when transferring Boulenger's (1887) *Herpetoseps anguinus* (masculine) to the genus *Herpetosaura* (feminine), used a different species name *anguinea* rather than *anguina*, the feminine form of *anguinus*. Interestingly, Branch (1988) used the names *Scelotes anguina* and *Scelotes mira* but changed these to *S. anguineus* and *S. mirus* without attribution in his revised (1998) field guide. Whiting *et al* (2003) used the correct gender for *Scelotes* but then used the incorrect name *anguineus*, possibly following Branch (1998).

It is important to note at this point, that while species names for separate taxa only need to differ by a single letter to be regarded as different (except in the case of adjectival or other changes for gender agreement) (ICZN Art. 57 and 58), in this case it is clear that this was an unintentional spelling error.

The appropriate versions of the names concerned are shown in Table 1 below.

Masculine	Feminine	Neuter
<i>anguinus</i>	<i>anguina</i>	<i>anguinum</i>
<i>mirus</i>	<i>mira</i>	<i>mirum</i>
<i>caffer</i>	<i>caffra</i>	<i>caffrum</i>

Table 1. The three species names providing the appropriate gender versions.

Conclusions

The above discussion shows conclusively that in the case of the chameleon species, this specific name is without doubt an adjective and was correctly used as such in the original description. It should therefore agree in gender with the genus name as *Bradypodion caffrum* (Boettger, 1889). In the case of the two skinks they should be *Scelotes mirus*, as corrected by Broadley (1994) and as currently used by other authors; and *Scelotes anguinus*, rather than the incorrect *Scelotes anguineus*, as currently misused. Authors should ensure that any future change of genus follows the requirement for gender agreement.

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