

Case 3502***Coluber nummifer* Reuss, 1834 (currently *Hemorrhois nummifer*; Reptilia, Serpentes): proposed conservation of the specific name**

Beat Schätti

Apartado postal 9, San Pedro Pochutla, Oaxaca 70900, Mexico
(e-mail: beatschaetti@hotmail.com)

Frank Tillack

Draesekestraße 8, D-12487 Berlin, Germany
(e-mail: frank-tillack@t-online.de)

Abstract. The purpose of this application, under Article 23.9.3 of the Code, is to conserve the widely used specific name *nummifer* Reuss, 1834 for an eastern Mediterranean colubrine snake originally published within *Coluber* Linnaeus, 1758 and currently referred to the genus *Hemorrhois* Boie, 1826. It is threatened by its putative senior synonym *Coluber tyria* Linnaeus, 1758, which after 1899 has been applied to *Coluber cliffordii* Schlegel, 1837, a taxon considered conspecific with the Saharo-Sindian *Coluber diadema* Schlegel, 1837 belonging to *Spalerosophis* Jan, 1865 (*Spalerosophis diadema* ssp.).

Keywords. Nomenclature; taxonomy; Reptilia; COLUBRIDAE; *Coluber*; *Hemorrhois*; *Spalerosophis*; *Coluber tyria*; *Hemorrhois nummifer*; *Spalerosophis diadema diadema*; *S. diadema cliffordii*; coin snake; diadem snake; eastern Mediterranean; Saharo-Sindian.

1. *Coluber tyria* Linnaeus (1758, p. 224) was established for a colubrine from Egypt ('Habitat in Ægypto') collected by Fredrik Hasselquist. The holotype is lost (Andersson, 1899) and the specific name not mentioned in Hasselquist's (1757) posthumously published 'Iter Palaestinum'. It was used as valid in, for instance, Gmelin (1789), Lacépède (1789), Bonnaterre (1790), Donndorff (1798), Suckow (1798), Bechstein (1801), Sonnini & Latreille (1801), Shaw (1802), Daudin (1803), Oken (1816) and Cuvier (1818); *tyria* was also cited by Merrem (1820) under *Natrix* auctt. (for further citations until 1820 see Schätti et al., 2009b).

2. Geoffroy Saint-Hilaire (1827, pp. 150–151) regarded the description of *Coluber tyria* as too short and deficient to permit a positive identification. Nevertheless, he speculated that with the exception of the number of subcaudals, considered to be rather unimportant, the morphological characters of *C. tyria* agreed perfectly with his 'Couleuvre aux raies parallèles' from Egypt (Geoffroy Saint-Hilaire, 1827, p. 147, pl. 8, fig. 1, in the text also as 'Couleuvre à raies parallèles', later named *Coluber cliffordii* Schlegel, 1837). However, he explicitly used the vernacular name in order to avoid making a possible mistake and replacing a doubt by an error. The specific name *tyria* was not mentioned in herpetological contributions between 1828 and the 1930s

(e.g. Gray, 1831; Schlegel, 1837; Duméril et al., 1854; Günther, 1858), except for two tentative entries in synonymies (Boulenger, 1893; Anderson, 1898) and a few quotations in encyclopaedias (e.g. Drapiez, 1838; Glaire & Walsh, 1846). The alleged citation in Figari (1864) reported by Schätti et al. (2009b) actually refers to *Coluber cahirinus* Gmelin, 1789, a nomen oblitum as declared by these authors.

3. *Coluber diadema* Schlegel (1837, vol. 1, p. 146; vol. 2, p. 148) was described based on Russell's (1807, p. 34, pl. XXX) two specimens of 'Coluber' (both probably lost) from the vicinity of 'Buchier' (Bushehr or Bushire), Iran, and erroneously reported from the vicinity of Mumbai, India (Schlegel, 1837, vol. 2, p. 148, 'dans les environs de Bombay'). This species, currently referred to the genus *Spalerosophis* Jan, 1865, is distributed from North Africa to Central Asia and probably Northwest India (Schätti et al., 2009a).

4. *Coluber cliffordii* Schlegel, 1837 (vol. 1, p. 148; vol. 2, p. 163; pl. VI, figs. 13–14) from Barbary ('dans les États barbaresques' according to vol. 2) is based on an unknown number of specimens received from Clifford Cocq van Breugel, the Dutch Consul at Tripoli, Libya, which is considered to be the type locality (e.g. Marx, 1959; Kramer & Schnurrenberger, 1963). Mertens (1940) referred to the individual illustrated in the original description as the 'Typus' and this qualifies as a lectotype designation (Article 74.5 of the Code); the specimen's present whereabouts are unknown. Two extant paralectotypes from Tripoli (RMNH 476a-b) are in the herpetological collection of the National Museum of Natural History/Naturalis, Leiden, The Netherlands. Schlegel (1837) cited Geoffroy Saint-Hilaire's (1827, p. 147, pl. 8, fig. 1) 'Couleuvre aux raies parallèles' as an early reference to *C. cliffordii* and listed *C. nummifer* Reuss, 1834 as a senior subjective synonym of the latter.

5. Reuss (1834, p. 135) described *Coluber nummifer* on the basis of a single specimen from Egypt (SMF 18236) in the herpetological collection of the Forschungsinstitut und Naturmuseum Senckenberg in Frankfurt am Main, Germany (Boettger, 1898, no. 7407a; Mertens, 1967). *Coluber nummifer* (currently assigned to *Hemorrhoids* Boie, 1826) ranges from the eastern Mediterranean to Central Asia. The name *nummifer* (in combination with *Coluber* auctt. or *Hemorrhoids* Boie) has been used as a specific or subspecific name in taxonomic papers, faunistic surveys, conservation reports, identification keys, field guides, zoogeographical analyses, classifications, phylogenies and molecular studies as well as in notes about its distribution, biology, anatomy, physiology and parasites (e.g. Corkill & Cochrane, 1966; Mertens, 1967; Werner, 1971; Andren & Nilson, 1976; Baran, 1976; Başoğlu & Baran, 1980; Schätti & Agasian, 1985; Disi et al., 1988; Gruber, 1989; Leviton et al., 1992; Amr et al., 1994; Böhme & Wiedl, 1994; Schleich et al., 1996; Saleh, 1997; Wallach, 1998; Latifi, 2000; Göçmen et al., 2001; Schätti & Utiger, 2001; Hille et al., 2002; Auliya, 2003; Nagy et al., 2004; Baha El Din, 2006; Sindaco et al., 2006; Franzen et al., 2008; Valakos et al., 2008; Arikan et al., 2009).

6. Terentjev & Chernov (1936, p. 64) believed *Coluber tyria* to be a senior synonym of *C. diadema* Schlegel. The name *tyria* has since been in common use in the herpetological literature of the former USSR (e.g. Terentjev & Chernov, 1949; Chernov, 1959; Bogdanov, 1960, 1962; Vasiljev et al., 1960; Terentjev, 1961; Drosdov, 1967; Shammakov, 1971; Jadgarov, 1972; Said-Alijev, 1973; Shukurov, 1973; Atajev, 1974, 1975a-b; Tselarius, 1975; Said-Alijev, 1979). It should be emphasised that this practice was entirely limited to this country; elsewhere, except

for early references (see para. 2), *C. tyria* has never been used as a valid name for any snake species. Mertens (1940) noted that Linnaeus's (1758) description of *tyria* better fitted *C. ravergieri nummifer* than *Spalerosophis diadema*. However, in the absence of the holotype, Mertens (1940) and Dundee (1994) considered the identity of *C. tyria* uncertain, and the former chose to reject this name. Although Lanza (1964) concurred with the opinion of the authors from countries of the former USSR, he proposed to suppress *tyria* for the sake of taxonomic stability. The name *tyria* was finally abandoned by herpetologists but continued to appear sporadically in ecological and physiological papers until recently (e.g. Lioubimtseva, 2002; Kazakov et al., 2003, 2004).

7. Most herpetologists (e.g. Terentjev & Chernov, 1936, 1949; Chernov, 1959; Marx, 1959; Baig & Masroor, 2008; Schätti et al., 2009b) considered *Coluber cliffordii* as a subspecies of *C. diadema*. These names are simultaneous synonyms and Marx (1959, p. 350), acting as the First Reviser, gave precedence to *diadema*. However, Schmidt (1939) and a few subsequent authors (e.g. Khalaf, 1960; Latifi, 1991; Trape & Mané, 2006) treated *cliffordii* as a distinct species. Marx (1959) distinguished *cliffordii* from *diadema* by the number of subcaudals but Lanza (1964) observed that the lectotype of *diadema* figured by Russell (1807) had a count that would render illusory the morphological separation of *diadema* from *cliffordii* sensu Marx (1959).

8. '[B]ased on the description provided and on Lacepède's [sic] (1789: p. 86, 264) statement that the species occurs in Egypt', Smith & David (1999) concluded that *Coluber tyria* was a senior subjective synonym of *Coluber nummifer* Reuss, 1834 (these authors quoted Reuss's name in parentheses and attributed *Coluber tyria* to Linnaeus, 1766). Their synonymy was supported by Schätti et al. (2009b). However, Smith & David's (1999) rationale that Linnaeus's name should be regarded as a nomen oblitum, and *C. nummifer* as a nomen protectum in that context is not correct because the condition to be declared a nomen oblitum as stipulated in Article 23.9.1.1 of the Code (i.e. not used as valid after 1899) is not met. *C. tyria* has been used as valid after 1899, though for a different species (see para. 6).

9. Although the conservation of Linnaean names certainly provides stability of nomenclature, replacing the well-established specific name *nummifer* Reuss by its senior subjective synonym *tyria* Linnaeus would result in enormous confusion in various fields of empirical and applied biology, the more so as *Coluber tyria* was temporarily used for *Spalerosophis diadema* (see para. 6), while *C. nummifer* has universally been considered to be the valid scientific name of the coin snake, except for confusions with *Coluber ravergieri* Ménériés, 1832 (p. 69).

10. In an attempt to conserve *C. tyria*, an alternative approach to our petition (para. 11) was proposed during the review process of this application. It consists of a reversion to the former standard practice in the USSR, when *tyria* was used in place of its putative junior synonym *diadema* (see para. 6), i.e. by making the former a senior subjective synonym of the latter. Since *tyria* as originally proposed is not considered to be conspecific with *diadema*, the designation of a neotype for *C. tyria* from among geographically relevant specimens of *C. diadema* would require action by the Commission using the plenary power, under Article 75.6 of the Code, to avoid the violation of Article 75.3.5. This proposal suggesting the conservation of the name *nummifer* by changing the identity of *tyria*, seems undesirable. The designation of a neotype for *C. tyria* would entail a precarious situation due to the as yet unresolved

taxonomic status of *C. cliffordii*, which may be specifically distinct from *diadema* (see para. 7), and uncertain origin of the type series of *diadema*, based in particular on conflicting morphological data (Schmidt, 1955) of diadem snakes from the vicinity of Bushehr, the supposed type locality of *diadema*. Although we are convinced that *Coluber tyria* is a senior subjective synonym of *C. nummifer*, the absence of a name-bearing type makes an unequivocal assessment of the identity of *C. tyria* impossible and future opinions advocating an alleged status as a senior synonym of *C. cliffordii* cannot be excluded. If *cliffordii* were found to be specifically distinct from *diadema*, the designation of a neotype for *C. tyria* would lead to further confusion.

11. We prefer the suppression of *C. tyria* as proposed by Mertens (1940) and Lanza (1964) instead of asking precedence over this name for *C. nummifer* and the potential junior synonyms *C. diadema* and *C. cliffordii*. Even though *C. tyria* has been used as valid up to the present time and, therefore, one of the two conditions for the reversal of precedence (Article 23.9.1.1 of the Code) is not met, this name has never been applied to the coin snake, for which *C. nummifer* has been used as valid in many works, including all works in the preceding 50 years (see list in para. 5), thereby fulfilling the conditions of Article 23.9.1.2 of the Code.

12. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to suppress the specific name *tyria* Linnaeus, 1758, as published in the binomen *Coluber tyria*, for the purposes of the Principle of Priority, but not for those of the Principle of Homonymy;
- (2) to place on the Official List of Specific Names in Zoology the name *nummifer* Reuss, 1834, as published in the binomen *Coluber nummifer*;
- (3) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the name *tyria* Linnaeus, 1758, as published in the binomen *Coluber tyria* and as suppressed in (1) above.

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