



# The nomenclatural status of the nomina of amphibians and reptiles created by Garsault (1764), with a parsimonious solution to an old nomenclatural problem regarding the genus *Bufo* (Amphibia, Anura), comments on the taxonomy of this genus, and comments on some nomina created by Laurenti (1768)

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## Abstract

The nomenclatural consequences of the recent rediscovery of the works of Garsault (1764, 1765, 1767) in amphibians and reptiles are examined in detail. The 13 new nomina of these two groups created by Garsault (1764) distribute in three categories: (1) three of these nomina (*Lacertus*, *Rana viridis*, *Testudo marina*) cause no problem, being just junior synonyms of senior nomina created by Linnaeus (1758); (2) four of them (*Bufo*, *Salamandra*, *Scincus*, *Vipera*) become the valid nomina of taxa, in replacement of identical nomina created later by Laurenti (1768), thus entailing no change in the nomina of their included species and subspecies but changes in their complete nominal-complexes (including their authors and dates); (3) six of these nomina are here rejected as invalid senior synonyms (*Ranetta*, *Serpens*, *Lacertus aquatilis*, *Lacertus terrestris*) or homonyms (*Lacertus viridis*, *Testudo terrestris*) of nomina in current use, by virtue of Article 23.9.1 of the *Code*. A very positive result of the rediscovery of these works is that it allows to solve for the best an old nomenclatural problem, concerning the nucleospecies (type-species) of the genus *Bufo*: whereas the nucleospecies (type-species) of *Bufo* Laurenti, 1768 is *Bufo viridis* Laurenti, 1768, we hereby designate *Rana bufo* Linnaeus, 1758 as nucleospecies of *Bufo* Garsault, 1764. This case shows that it is sometimes possible, even in complex nomenclatural situations, to solve them through a proper use of the Rules of the *Code*, without having to appeal to the ICZN for the use of its Plenary-Powers. From a taxonomic point of view, we think the data published so far do not allow currently to stabilise the generic taxonomy of the *BUFONIDAE*. Pending additional data, we support a conservative attitude, maintaining in the genus *Bufo* most species traditionally referred to this genus. In particular, we think all Eurasian species of this family, which include several pairs of species known to be able to produce viable adult hybrids, should be kept in this genus, but in three distinct subgenera: *Bufo* Garsault, 1764 for the group including *Bufo bufo* (Linnaeus, 1758); *Bufotes* Rafinesque, 1815 for the group including *Bufo viridis* (Laurenti, 1768); and *Epidalea* Cope, 1864 for the group including *Bufo calamita* (Laurenti, 1768). This survey also allows to discuss the appropriateness of the current Article 11.9.5 dealing with specific trinomina, especially as they appear in Laurenti (1768), and to point again to the need to implement more drastic Rules regarding the conditions required for a nomen being compliant for protection through Article 23.9.1 of the *Code*.

**Key words:** Garsault (1764), Laurenti (1768), nomenclature, *Code*, Article 11.9.5, Article 23.9.1, synonymy, homonymy, priority, old publications, well-known nomina, subgenus, amphibians, reptiles, *Bufo*

## Introduction

Welter-Schultes *et al.* (2008) “rediscovered” the long forgotten works of the French artist and naturalist Garsault (1764, 1765, 1767). Beside plates showing plants, a first book (1764) contains 87 plates illustrating animals, and a final table of plates, but no text. A second volume (1765, reproduced together with the plates in 1767) provides rather detailed explanatory texts of the plates of the first volume. In the latter, Garsault published, for the first time after 1757, and thus created, in nomenclatural terms, about 30 zoological scientific names or *nomina* (Dubois 2000). Among them, 5 apply to amphibians and 8 to reptiles (fig. 1–3). Although Welter-Schultes & Klug (2009) briefly discussed the status of some of these 13 nomina, they left several questions unanswered. We here clarify the status of these 13 nomina. Unexpectedly, this “rediscovery” allows to solve an irritating question, that of the “type-species” or *nucleospecies* (Dubois 2005a) of the amphibian genus *Bufo*. This generic nomen was until now credited to Laurenti (1768), but strict implementation of the Rules of the *International Code of Zoological Nomenclature* (Anonymous 1999), here referred to as the *Code*, resulted in a nomenclatural problem. Crediting this nomen to Garsault (1764), as suggested by Welter-Schultes & Klug (2009), allows to solve this problem without having to apply to the International Commission of Zoological Nomenclature (ICZN) for a use of its Plenary-Powers. This case fully justifies to pay a close attention to the amphibian and reptile nomina of Garsault (1764), some of which only “automatically disappear” as invalid synonyms of nomina in universal use.

## Historical background

Welter-Schultes *et al.* (2008) presented a detailed history of the set of publications which led to the works of François Alexandre Pierre de Garsault (1691–1778). Actually, although Geoffroy’s name was mentioned by the latter on the title page, and as author or co-author in some references, the physician Etienne François