



On the original description of the Sacred Shrew, *Sorex religiosa* I. Geoffroy Saint-Hilaire, 1826 [*nec* 1827] (Mammalia: Soricidae)

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Abstract

The original description of the Egyptian Pygmy Shrew or Sacred Shrew, *Sorex religiosus* I. Geoffroy Saint-Hilaire (Mammalia: Soricidae: *Crocidura religiosa*), was based on mummies obtained by Joseph Passalacqua from the ancient Egyptian necropolis at Thebes, Egypt. The description and naming of this species is commonly credited to Geoffroy Saint-Hilaire's (1827) compendium and review of shrews in the *Mémoires du Muséum d'Histoire naturelle*. However, this author also described this species in two earlier publications. The first was in a footnote to Passalacqua's (1826) *Catalogue raisonné et historique des antiquités découvertes en Égypte*; the second in January 1827 in the 11th volume of the *Dictionnaire classique d'Histoire naturelle*. In each case, he explained what he considered to be the distinguishing characteristics of the species and presented its common and scientific names. Priority, therefore, goes to Geoffroy Saint-Hilaire's description in Passalacqua's (1826) *Catalogue*.

Key words: Insectivora, *Sorex*, *Crocidura*, mummy, systematics, taxonomy

Introduction

The Egyptian Pygmy Shrew or Sacred Shrew, *Sorex religiosus* I. Geoffroy Saint-Hilaire (Mammalia: Soricidae: *Crocidura religiosa*), is an endemic Egyptian species originally described from embalmed remains obtained by the Italian antiquarian Joseph Passalacqua (1826) in the ancient animal tombs at Thebes in central Egypt (Geoffroy Saint-Hilaire 1826, 1827*a–b*). It was not until May 1901, when a series of individuals was obtained by N. Charles Rothschild near Cairo, that the species was determined to be a member of the contemporary Egyptian fauna (de Winton 1902). Further collecting established the modern distribution of the species to be the lower Nile River Valley from Giza north into the Nile River Delta (Bonhote 1909, 1912; Flower 1932; Setzer 1957; Osborn & Helmy 1980). *Crocidura* Wagler, 1832, came into common usage as the genus for African and Eurasian white-toothed shrews in the 1850s (e.g., Peters 1852: 52; see also Hutterer 2005), and *Sorex religiosus* was subsequently identified as *Crocidura religiosa* (e.g., de Winton 1902).

The description and naming of *Sorex religiosus* is commonly credited to Isidore Geoffroy Saint-Hilaire's (1827*b*) general work on shrews in the *Mémoires du Muséum d'Histoire naturelle* (e.g., de Winton 1902; Lortet & Gaillard 1903, 1909; Bonhote 1909, 1912; Dollman 1916; Setzer 1957; Heim de Balsac & Verschuren 1968; Heim de Balsac & Mein 1971; Corbet 1978; Osborn & Helmy 1980; Hutterer 1993, 2005; Happold 2013). In contrast, Flower (1932) cited I. Geoffroy Saint-Hilaire's (1827*a*) entry on shrews in the *Dictionnaire classique d'Histoire naturelle* as the original description. In fact, this shrew was described as

new in three nearly contemporaneous publications (I. Geoffroy Saint-Hilaire 1826, 1827*a–b*), and the authority for the species is vested in the earliest description, published as a footnote on pages 294–295 in Passalacqua's (1826) *Catalogue raisonné et historique des antiquités découvertes en Égypte*.

Isidore Geoffroy Saint-Hilaire's descriptions of *Sorex religiosus*

Passalacqua's (1826: 21) *Catalogue* describes the collection of ancient Egyptian artifacts he had accumulated in Egypt, including a number of human and animal mummies. Among the embalmed animal remains are two large shrews ('rats': his catalog numbers 396, 397) and 24 smaller shrews ('souris développées' [developed mice]: numbers 398–421) recovered from the ancient necropolis at Thebes. To discuss the animal remains, Passalacqua turned to the eminent French naturalist Étienne Geoffroy Saint-Hilaire, who provided a zoological assessment regarding the historical and biological significance of the mummified shrews, but was noncommittal about their specific identity. Regarding the smaller soricids, he stated (É. Geoffroy Saint-Hilaire 1826:234):

“398 à 421. Vingt quatre individus de la musaraigne (vulgaire?). Nous sommes assuré de cette détermination quant au genre, mais nous ne pouvons rien affirmer quant à l'espèce: nous connaissons plusieurs musaraignes d'une aussi petite taille.”

[398 to 421. Twenty-four individuals of the (common?) shrew. We are sure of the determination of the genus, but we cannot say anything as to the species: we know several shrews of such a small size.]

In a footnote to a subsequent section of the *Catalogue* by Jacques Joseph Champollion-Figeac that addressed the archeology and chronology of individual artifacts, É. Geoffroy Saint-Hilaire's son Isidore Geoffroy Saint-Hilaire described a large subset of the smaller shrews (numbers 398–419) as a new species (I. Geoffroy Saint-Hilaire 1826: 294–295):

“398 à 419. Espèce nouvelle de musaraigne, décrite par nous sous le nom de musaraigne sacrée (*sorex religiosus*), dans le *Dictionnaire classique d'Histoire naturelle*, tom. XI.

Ces nombreux individus, découverts par M. Passalacqua, avaient d'abord été considérés comme appartenant à l'espèce commune de France (le *sorex araneus* des naturalistes); mais l'examen attentif de plusieurs d'entre eux, qui se trouvent dans le plus parfait état de conservation, (tels que les 402, 405, 414, etc.), nous a montré qu'ils diffèrent, par plusieurs caractères, de toutes les espèces connues dans ce genre: ils se distinguent particulièrement de la musaraigne ordinaire par leur queue fort allongée et de forme carrée, et par leur petite taille.”

[398 to 419. New species of shrew, described by us as the sacred shrew (*sorex religiosus*), in the *Dictionnaire classique d'Histoire naturelle*, vol. XI.

These many individuals, discovered by Mr. Passalacqua, were initially considered as belonging to the common species of France (the *sorex araneus* of naturalists); but a careful examination of several of them that are in the most perfect state of preservation (such as 402, 405, 404, etc.), has shown that they differ by many characters from all known species in this genus: they are particularly distinguished from the common shrew by their greatly elongated and square tail, and by their small size.]

As I. Geoffroy Saint-Hilaire (1826:294) stated in this footnote, he also described *S. religiosus* in volume 11 of the *Dictionnaire classique d'Histoire naturelle*. That volume was not published, however, until January of the year following the publication of Passalacqua's *Catalogue*. In the *Dictionnaire*'s description of *S. religiosus*, he expanded on some of his original characters and added some additional ones. He also referred here to his previous description in Passalacqua's (1826) *Catalogue*, noting: “Telle est la Musaraigne sacrée dont nous avons déjà fait connaître les principaux caractères dans le *Catalogue raisonné des antiquités égyptiennes* de Passalacqua, p. 294” [This is the Sacred Shrew whose main characters we already made

known in Passalacqua's *Catalogue raisonné des antiquités égyptiennes*, p. 294] (I. Geoffroy Saint-Hilaire 1827a: 324).

The third rendition, and the one most often referenced as the original description of *S. religiosus*, is in an article that, because it appeared in the eighth issue (of 12) of *Mémoires du Muséum d'Histoire naturelle* for 1827 (i.e., volume 15, issue 2), was presumably published in August. In this account, I. Geoffroy Saint-Hilaire (1827b: 128–131) provides additional context for the new species, but mostly repeats identifying characteristics previously published in the *Dictionnaire*. Here, he (I. Geoffroy Saint-Hilaire 1827b: 130) again references his first description in the Passalacqua's (1826) *Catalogue*: “C'est cette Musaraigne que j'ai indiquée dans le *Catalogue des antiquités égyptiennes* de M. Passalacqua, sous le nom de Musaraigne sacrée, *Sorex religiosus*” [It is this Shrew that I indicate in the *Catalogue des antiquités égyptiennes* of Mr. Passalacqua, as the Sacred Shrew, *Sorex religiosus*]. Unfortunately, this statement has subsequently been ignored or misinterpreted.

Although the last published of I. Geoffroy Saint-Hilaire's three descriptions of *S. religiosus*, that in the *Mémoires* may have had greater national and international circulation among natural historians and taxonomists than Passalacqua's *Catalogue*, and possibly even the *Dictionnaire classique d'Histoire naturelle*, and consequently, it became entrenched in the literature as the original description. Regardless of the reason, priority of publication remains with I. Geoffroy Saint-Hilaire's description in Passalacqua's (1826) *Catalogue*.

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