



On the identity of *Cancer saxatilis* Herbst, 1785: an objective synonym of *Lophozozymus pictor* (Fabricius, 1798), by neotype designation and reversal of precedence (Crustacea: Decapoda: Brachyura: Xanthidae: Zosiminae)

MARTYN E. Y. LOW

Department of Marine and Environmental Sciences Graduate School of Engineering and Science, University of the Ryukyus, Senbaru, Nishihara, Okinawa 903-0213, Japan. E-mail: m.low@me.com

The name *Cancer saxatilis* was used by Herbst (1785: 187, 188) for the translated description and cited figure of “*Cancer saxatilis*” from the pre-Linnaean work of Rumphius (1705: 9, 10, pl. 5, fig. M). *Cancer saxatilis* Herbst, 1785, is an available name as it fulfils the requirements of Articles 3–12 of the *International Code of Zoological Nomenclature* (hereafter the *Code*, ICZN 1999). The description and figure of “*Cancer saxatilis*” Rumphius (1705), and therefore *Cancer saxatilis* Herbst, 1785, are readily identifiable with *Lophozozymus pictor* (Fabricius, 1798) (see Ng & Chia 1995: 428).

The name “*Cancer saxatilis* Henschel, 1833” which was listed in the synonymy of *Lophozozymus pictor* (Fabricius, 1798) by Ng & Chia (1995: 422) needs to be discussed. In an appendix to his biography of Rumphius, Henschel (1833: 203–215) identified the taxa figured by the latter with binomial names. Henschel (1833: 203) identified “*Cancer saxatilis*” (Rumphius 1705: pl. 5, fig. M) as “*Cancer saxatilis*. Herbst Naturg. der Krabb. u. Kreb. 1. p. 187”. It is clear that the author of the available name *Cancer saxatilis* is Herbst (1785).

The statement of Rumphius (1705: 9; repeated in Herbst 1785: 187), that “*Cancer saxatilis*” (*Cancer saxatilis*) is not poisonous and can be consumed does not necessarily contradict its identification with *Lophozozymus pictor* (Fabricius, 1798). The toxicity of *Lophozozymus pictor* (Fabricius, 1798), is thought to be exogenous (see Chia *et al.* 1993), and this species is even consumed in some areas (see Holthuis 1968: 218).

To fix the identity of *Cancer saxatilis* Herbst, 1785, the lectotype male of *Lophozozymus pictor* (Fabricius, 1798) in the Zoological Museum, Copenhagen University (ZMUC 109-1/ZMUC Cru-4616; Ng & Chia 1995: 428, fig. 1B) is designated as the simultaneous neotype of *Cancer saxatilis* Herbst, 1785. No extant type material of *Cancer saxatilis* Herbst, 1785, is known (see Sakai 1999). This neotype designation means that *Cancer saxatilis* Herbst, 1785, becomes a senior objective synonym of *Lophozozymus pictor* (Fabricius, 1798).

The objective synonymy of *Cancer saxatilis* Herbst, 1785, and *Lophozozymus pictor* (Fabricius, 1798), is not in the interest of nomenclatural stability as the latter name is in current and widespread use (especially in toxicology) for a highly-poisonous Indo-West Pacific crab (see Ng & Chia 1995), and the Principle of Priority (Article 23 of the *Code*) requires that the oldest available name for a taxon must be used (i.e. *Cancer saxatilis* Herbst, 1785).

The Principle of Priority is mediated by Article 23.9.1 of the *Code* that requires a reversal of precedence of a junior synonym when the senior synonym has not been used as a valid name after 1899 (Article 23.9.1.1) and the junior synonym “has been used for a particular taxon, as its presumed valid name, in at least 25 works, published by at least 10 authors in the immediately preceding 50 years and encompassing a span of not less than 10 years” (Article 23.9.1.2).

All post-1899 usage of “*Cancer saxatilis*” has been attributed to re-issues of Rumphius (1705) (e.g. Rumphius & Beekman 1999). Ng & Low (2010: 37) have discussed that “[t]he use of a ‘valid name’ by an author in the sense of Article 23.9.1.1 must be unambiguous and make a clear indication that the name is still in current use”, and mere repetition in the context of re-issued historical publications does not equate valid usage. Thus, the requirements of Article 23.9.1.1 of the *Code* are fulfilled.

To fulfil Article 23.9.1.2 of the *Code*, 30 publications by 38 authors in the past 46 years which have used *Lophozozymus pictor* (Fabricius, 1798) as a valid name for the taxon it denotes are cited (viz. Brösing 2010: 41; Chia *et al.* 1993: 901–903; Clark 2009: 226, 228; Clark & Ng 1998: 201–218; Dai & Yang 1991: 280; Dai *et al.* 1986: 280; Davie 2002: 565; Guinot 1967: 91; 1979: 61, 64, 65, 303, 317; Ho *et al.* 2006: 439; Holthuis 1968: 218; Hwang *et al.* 1999: 145–147, 151, 152, 155, 157, 159, 160; Johnson 1966: 438; Lai *et al.* 2011: 418, 423, 425, 426, 436, 443, 445; Miyake 1983: 224; Ng 1998: 1048, 1098; Ng & Chia 1997: 422–425, 429, 430, 434, 435; Ng & Holthuis 1993: 90–92;