A NEW DISTRIBUTION RECORD OF CHAMBARDIA WAHLBERGI

Of the 693 recorded extinctions of animal species since the year 1500, molluscs represent 42%, which includes 31 bivalve species (Lydeard et al., 2004). According to these authors only a fraction of the known molluscan species have had their conservation status properly assessed and therefore their level of imperilment is poorly documented and most probably underestimated. Little is known regarding the conservation status of invertebrates of South Africa; however, in the revised edition of the IUCN Red Data List (2011) the conservation status of both Unio caffer and Chambardia wahlbergi is considered as ‘of least concern’. In recent reports on the geographical distribution and habitat preferences of these two species in South Africa, concern was expressed regarding their conservation status. However, specimens of C. wahlbergi collected at several sites on several occasions in the Vaal River were the first evidence that the geographical distribution of this bivalve was wider and not restricted to water bodies located in east-flowing catchments in the warmer areas of South Africa. The fact that populations of C. wahlbergi can become established in habitats on the Highveld was further supported by a number of valves collected on the dry bed of the Schoonspruit (26° 37’ 55.2”S, 26° 35’ 32.3”E), near Klerksdorp in the North West Province, on 16 February 2016. A number of valves of U. caffer which were collected on the same occasion at the same locality are also the first record of this species from this river body.

Little is known with regard to the conservation status of invertebrates of South Africa; however, in the revised edition of the IUCN Red Data List (2011) the conservation status of both Unio caffer and Chambardia wahlbergi is considered as ‘of least concern’ (Seddon et al., 2011). However, in reports on the geographical distribution and habitat preferences of these two species in South Africa, De Kock and Wolmarans (2010; 2012) expressed their concern regarding their conservation status. This concern was based on the absence of these two species in several previously position localities and the lower numbers recovered from others in the Kruger National Park (De Kock and Wolmarans, 1998; De Kock et al., 2002; Wolmarans and De Kock, 2006). However, specimens of C. wahlbergi were collected at a number of sites on several occasions in the Vaal River, as recently as 2007. These records were the first to prove that the geographical distribution of C. wahlbergi was wider and not restricted to water bodies located in east-flowing catchments in the warmer areas of South Africa, as suggested by earlier records in the database of the National Freshwater Snail Collection (NFSC) and on reports in literature (Connolly, 1939; Jubb, 1976). The fact that populations of C. wahlbergi can become established in habitats on the Highveld was further supported by 8 closed, 9 right and 12 left valves that were collected in the Schoonspruit, near Klerksdorp in the North West Province (26° 37’ 55.2”S, 26° 35’ 32.3”E) (Fig. 1). The valves were found over a stretch of 100 m on the dry bed of the Schoonspruit on 16 February 2016. The substratum of this site consists mainly of dry sand and mud and 5 closed valves, 8 right and 5 left valves of U. caffer were also found together with those of C. wahlbergi. Sand and mud was earlier reported by De Kock and Wolmarans (2010; 2012) as the preferred substratum for both of these species. The size of the valves of C. wahlbergi ranged from 6.7 to 14.9 cm and those of U. caffer from 4.6 to 7.5 cm. Judging from the growth lines on the valves, the age of the largest specimens of both species seems to have been more than 10 years at time of death, which was most probably caused by the complete drying up of the habitat due to persistent conditions of drought experienced in some areas in the North West Province.

Although this specific site was surveyed on 2 different occasions in 1965 and on 3 different occasions in 1969, by personnel of the Snail Research Unit at the Potchefstroom University and the State Ecologist at Johannesburg, respectively, no specimens of either Chambardia wahlbergi or Unio caffer were recovered. Furthermore, many samples of other freshwater mollusc species collected during surveys elsewhere in the Schoonspruit between 1960 and 1969 are on record in the database of the NFSC. However, during these surveys also, neither Chambardia nor Unio caffer were ever collected. This is therefore the first report in print of the occurrence of both these bivalve species in the Schoonspruit.

According to Jubb (1976), adult freshwater mussels possess little means of dispersal, but because of their unique adaptions during their larval stages, which entail a phase where they become compulsory parasites on fish, they can rapidly disperse through an interconnected freshwater system. According to Seddon et al. (2011), little is known regarding these parasitic larval stages. In an investigation of the interaction between the larval stages of several bivalve and fish species. Kenmuir (1980) infected several species of fish successfully under experimental conditions. However, this author could not establish
whether or not these parasitic larval stages are host specific. The Schoonspruit is a tributary of the Vaal River and in view of the means of dispersal mentioned above, it is not surprising that *C. wahlbergi* was found in both these water bodies. However, the Mooi River is also a tributary of the Vaal River and in a recent extensive survey (Wolmarans et al., 2015) no specimens of *C. wahlbergi* were recovered and there are also no previous records of this species from the Mooi River catchment in the NFSC.

A survey is planned for the near future to determine whether any reservoir habitats might have remained elsewhere in the Schoonspruit which could lead to reestablishment of populations of these two bivalve species.

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**Figure 1**

Location of the study area
REFERENCES


