

Distribution and habitats of the alien invader freshwater snail *Physa acuta* in South Africa

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Abstract

This article focuses on the geographical distribution and habitats of the invader freshwater snail species *Physa acuta* as reflected by samples taken from 758 collection sites on record in the database of the National Freshwater Snail Collection (NFSC) at the Potchefstroom Campus of the North-West University. This species is currently the second most widespread alien invader freshwater snail species in South Africa. The 121 different loci ($1/_{16}$ - degree squares) from which the samples were collected, reflect a wide but discontinuous distribution mainly clustered around the major ports and urban centres of South Africa. Details of each habitat as described by collectors during surveys were statistically analysed, as well as altitude and mean annual air temperatures and rainfall for each locality. This species was reported from all types of water-bodies represented in the database, but the largest number of samples was recovered from dams and rivers. Chi-square and effect size values were calculated and an integrated decision tree constructed from the data which indicated that temperature, altitude and types of water-bodies were the important factors that significantly influenced the distribution of *P. acuta* in South Africa. Its slow progress in invading the relatively undisturbed water-bodies in the Kruger National Park as compared to the recently introduced invader freshwater snail species, *Tarebia granifera*, is briefly discussed.

Keywords: *Physa acuta*, invasive species, freshwater snail, geographical distribution, habitat preferences