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Update to the catalogue of South Australian freshwater fishes (Petromyzontida & Actinopterygii)

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Abstract

South Australia is a large Australian state (~1,000,000 km²) with diverse aquatic habitats spread across temperate to arid environments. The knowledge of freshwater fishes in this jurisdiction has advanced considerably since the last detailed catalogue of native and alien species was published in 2004 owing to significant survey and research effort, spatial analysis of museum data, and incidental records. The updated list includes 60 native and 35 alien species. New additions to the native fauna include cryptic species of *Retropinna semoni* s.l. (Weber) and *Galaxias olidus* s.l. (Günther). Two others have been rediscovered after long absences, namely *Neochanna cleaveri* (Scott) and *Mogurnda adspersa* (Castelnau). Range extensions are reported for native populations of *Galaxias brevipinnis* Günther, *Leiopotherapon unicolor* (Günther), *Hypseleotris* spp. (hybridogenetic forms) and *Philypnodon macrostomus* Hoese and Reader. There are five new alien species records (all aquarium species) including *Phalloceros caudimaculatus* (Hensel), *Poecilia reticulata* Peters, *Xiphophorus hellerii* Heckel, *Astronotus ocellatus* (Agassiz) and *Paratilapia polleni* Bleeker, with confirmation of *Misgurnus anguillicaudatus* (Cantor). Other range extensions for alien (exotic or translocated native) species in different drainage divisions (various modes of human-mediated dispersal) include *Nematalosa erebi* (Günther), *Cyprinus carpio* Linnaeus, *Oncorhynchus mykiss* (Walbaum), *Salmo salar* Linnaeus, *Salvelinus fontinalis* (Mitchell), *Melanotaenia fluviatilis* (Castelnau), *Atherinosoma microstoma* (Günther), *Macquaria novemaculeata* (Steindachner), *Nannoperca australis* Günther, *Pseudaphritis urvillii* (Valenciennes), and *Hypseleotris* spp. (hybridogenetic forms). New records are a combination of greater available information and new incursions, highlighting the need for ongoing detailed surveys and reporting to detect rare native and alien species.

Key words: conservation, management, taxonomy

Introduction

Up-to-date regional species lists help to inform researchers and managers on the extent of local biodiversity, plus provide a contemporary perspective on the correct taxonomy, conservation targets and potential control issues that relate to the organismal group concerned. More than ever, freshwater fishes are seen as a key part of natural resource management due to their diversity in number and form, intriguing life history and adaptations, links within food-chains, value as bio-indicators, role in human culture and use, and as icons for aquatic conservation and environmental awareness (Berra 2001; Bunn & Arthington 2002; Kennard *et al.* 2006; Hammer *et al.* 2009). The Australian state of South Australia has a diversity of aquatic habitats and a corresponding relatively high richness in freshwater fishes (Allen *et al.* 2002). This update documents advances in knowledge on the presence and distribution of freshwater fishes in South Australia since a previous catalogue published in 2004 (Hammer & Walker 2004).