

A decade of new weed records in South Australia: an overview from the State Herbarium of South Australia

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Summary Since 2009 there has been a major effort made by the State Herbarium of South Australia in collecting weed specimens to document the occurrence, establishment and spread of new weed species, including plants that are showing early signs of self-establishing. Scientific verification and official recognition of weed taxa is achieved through the lodgement of voucher specimens for identification by taxonomic botanists in the State Herbarium. For taxa not previously recorded for South Australia, an entry is then made in the Census of South Australian Vascular Plants, Algae and Fungi (<http://flora.sa.gov.au/census.shtml>). These new weeds are typically found at only one or few locations, and in low numbers. Early recognition of new incursions offer land managers the best opportunity for containment or eradication of potential new weed threats. We reviewed new weed herbarium records spanning 10 years from July 2009 to June 2019. Over this period, 217 new weed taxa were added to the Census. These come from 69 plant families, with 37 represented by a single

taxon. However, 11 plant families each contain five or more taxa and together account for 126 taxa, over 55 % of the total. For each taxon, initial invasion pathways into South Australia were assigned, based on collection details and context, to the following categories: 'garden/planted', 'agricultural', 'both' or 'unknown'. The 'garden/planted' category has the overwhelming majority of taxa (184 or 84.79%): gardens and other non-agricultural plantings are now the most common pathway for plants becoming established as weeds in South Australia. The 'agricultural' pathway only has three taxa (1.38 %). Six taxa (2.76 %) were assigned to the 'both' category and 24 (11.06 %) to the 'unknown' category. These results are illustrated with case studies and we discuss the role of surveillance to help to prevent the establishment of further invasive weeds in this State.

Keywords New weeds, identification, taxonomic, herbarium, South Australia, voucher specimens