Prospects for classical biological control of torpedograss, *Panicum repens* (Poaceae), in the USA

J.P. Cuda,¹ G.E. MacDonald² and C.G. Hanlon³

¹ Department of Entomology and Nematology, Institute of Food and Agricultural Sciences, University of Florida, PO Box 110620, Gainesville, FL 32611-0620, USA
² Department of Agronomy, Institute of Food and Agricultural Sciences, University of Florida, PO Box 110500, Gainesville, FL 32611-0500, USA
³ South Florida Water Management District, PO Box 24680, West Palm Beach, FL 33416-4680, USA

Torpedograss (*Panicum repens*) is a non-native, perennial grass species that is found throughout much of the southeastern United States. This aggressive rhizomatous grass thrives in a variety of agricultural and natural settings, and is considered an invasive weed of terrestrial, wetland and aquatic environments in tropical and subtropical regions worldwide. Current control strategies in the USA have focused exclusively on mechanical and chemical methods, either alone or in combination. However, these conventional weed-management practices are non-selective, expensive, and rarely provide long-term control of torpedograss in most situations. In order to achieve effective long-term suppression of torpedograss in the USA, all available management options should be considered including classical biological control. Torpedograss is not presently a candidate for classical biological control, but its biology, distribution, damage, and other control methods are under investigation. In addition, domestic surveys of the fauna using torpedograss as a host plant have been initiated in Florida. As is the case with all weedy members of the Poaceae, the botanical position of torpedograss makes it a high-risk target for biological control because the grasses are the most important group of plants in terms of their value to human society. They not only provide food for humans and forage for livestock, but also form extensive grassland ecosystems that support countless grazing animals and complex food webs. Consequently, the feasibility of initiating a classical biological control program for torpedograss was critically examined using the Peschken–McClay scoring system. By using this approach, the suitability of torpedograss as a legitimate target for classical biological control was objectively assessed. Land managers charged with controlling torpedograss infestations can use this information to decide whether public agencies should allocate resources for implementing a classical biological control program against torpedograss in the USA.

Sub-specific differentiation in the selection of a suitable biotype of *Dactylopius tomentosus* for biocontrol of *Opuntia fulgida* var. *fulgida* in South Africa

C.W. Mathenge,¹³ J.H. Hoffmann² and H.G. Zimmermann¹

¹ Plant Protection Research Institute, Agricultural Research Council, P. Bag X134, Pretoria 0001, South Africa
² Zoology Department, University of Cape Town, Rondebosch 7700, South Africa
³ Postal address: GPO Box 2486, Sydney, NSW 2001, Australia

*Opuntia fulgida* var. *fulgida* (Cactaceae), commonly known as rosea cactus, was until recently referred to as *Opuntia rosea* in South Africa, where it was introduced, supposedly from Mexico, for ornamental purposes and subsequently became a noxious weed with infestations developing in the Free State, Northern Cape, and Limpopo provinces. Mechanical and chemical control measures have proved ineffective, and biological control has become the preferred method to curtail the spread of this weed. Cochineal insects (*Dactylopius* spp.) feed exclusively on cactus plants and some species consist of different strains or biotypes which are extremely host-specific. This may explain why *D. tomentosus*, a supposedly generalist species on “chollatype” cacti, has successfully controlled *Opuntia imbricata* in