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Bioinvasion threatens the genetic integrity of native diversity and a natural hybrid zone: Smoothshelled blue mussels (*Mytilus* spp.) in the strait of Magellan

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S mooth-shelled blue mussels of the *Mytilus edulis* species complex are widely distributed bivalve molluscs whose introductions threaten native marine biodiversity (non-indigenous species-NIS). The aim of the present study was to identify the species and hybrids of *Mytilus* present in the Magellan region (southern Chile). Results indicate that three mussel species of the Mytilus edulis complex are found in the region-*M. edulis, M. chilensis* (or the southern hemisphere lineage of *Mytilus galloprovincialis*), and *M. galloprovincialis* of northern hemisphere origin. For the first time, alleles of the introduced *M. trossulus* are reported from the southern hemisphere. In the strait of Magellan the native pacific blue mussel, *Mytilus chilensis* and the native Atlantic blue mussel, Mytilus edulis, meet and mix at a natural hybrid zone (about 125 km in length). This is the first record of a natural *Mytilus* hybrid zone in the southern hemisphere and is also the first record of the cooccurrence of genes from all four *Mytilus* species in any one region. These results contribute to the knowledge of the biodiversity and delimitation of mussel species in southern South America, and highlight how introduced species may threaten the genetic integrity of native species through hybridization and introgression.

Biography

Jorge E Toro has completed his PhD from Memorial University of Newfoudland. He is the Director of Instituto de Ciencias Marinas y Limnológicas, Universidad Austral de Chile. He has published more than 65 papers in ISI indexed journals and has been serving as an Editorial Board Member in some of them.

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