

## A new species of *Didemnum* (Ascidiacea, Tunicata) from the Atlantic coast of North America

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### Abstract

*Didemnum lahillei* Hartmeyer, 1909 from Europe, *Didemnum vexillum* Kott, 2002 from the eastern coast of New Zealand and *Didemnum vestum* sp.nov. from the Atlantic coast of the USA, have similar three dimensional growth forms and are found attached to vertical and undersurfaces. These three species have been informally proposed as conspecific and invasive, but are found to have significant differences from one another and from some other species that share some of their characteristics. Although the New Zealand species appears not to have been observed before populations were found in Whangamata Harbour late in 2001, both the European and the newly described North American species have been known from the vicinity of their type locations (but not elsewhere) since 1872 and 1921 respectively. Significant taxonomic investigations of the American ascidian fauna have not been pursued since the publication of Van Name's monograph (1945) in which, despite the diversity of this vast continent, only nine *Didemnum* spp. are documented. Access to previously unexplored habitats and regions will undoubtedly result in the discovery of undescribed indigenous taxa and reflect an urgent need for taxonomic work to reveal their biology and relationships.

**Key words:** *Didemnum lahillei*, *Didemnum perlucidum*, *Didemnum misakiense*, *Didemnum vestum*, *Didemnum vexillum*, conspecific, invasive, three-dimensional growth form, spicules, provisional identification, indigenous pest species, New Hampshire, Mediterranean, New Zealand

### Introduction

Recent publicity has been given to three *Didemnum* spp. with a similar complex, three-dimensional growth form occurring, respectively, off the Atlantic coast of North America, the South Island of New Zealand and the Mediterranean, the North Sea and the English