

# The Recent Introduction of a Freshwater Asiatic Bivalve, *Limnoperna fortunei* (Mytilidae) into South America

by

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**Abstract.** The temporal and spatial distribution of *Limnoperna fortunei* in the Argentine littoral of the Río de la Plata is reported. Its distribution is limited by the most contaminated area and by an increment in the saline concentration. A decrease in density was recorded between August 1992 and January 1993. Subsequently there was an increase in density up to a maximum of 82,000 ind·m<sup>-2</sup> in May 1993. It is concluded that because of its functional and morphological characteristics, *L. fortunei* will spread quickly. With *Corbicula fluminea* and *C. largillierti*, *Limnoperna fortunei* is the third invading species to be introduced into South America from Southeast Asia. Its possible entry into Argentina, by trading ships from Korea and Hong Kong, is suggested. Import peaks correspond with the estimated arrival of these three invaders.

## INTRODUCTION

*Limnoperna fortunei* (Dunker, 1857) (Mytilidae) is a freshwater species, which is found in rivers and streams of China and Southeast Asia (Morton, 1977). It was first discovered in South America in 1991, at Bagliardi (34°55'S–57°49'W) (Darrigran et al., 1993; Pastorino et al., 1993).

A great diversity of mollusks occurs along the littoral of the Río de la Plata, Argentina, and 27 species of gastropods and 23 species of bivalves have been recorded (Darrigran, 1991). There are six species of freshwater, infaunal bivalves, i.e., *Corbicula fluminea* (Müller, 1774), *C. largillierti* (Philippi, 1811), *Anodontites tenebricosus* (Lea, 1834), *Diplodon paranensis* (Lea, 1834), *Musculium argentinum* (d'Orbigny, 1835), and *Pisidium sterkianum* Pilsbry, 1897.

The only species of Mytilidae recorded from the Río de la Plata is *Mytella charruana* (d'Orbigny, 1842) (= *M. falcata* (d'Orbigny, 1842)), which occurs in Punta Piedras, Buenos Aires, Argentina (35°26'S–57°8'W) and in Montevideo, Uruguay (Darrigran, 1991).

The aim of the present work is to report upon the temporal and spatial distribution of *Limnoperna fortunei* (Dunker) in the littoral of the Río de la Plata, Argentina, and identify its way of arrival.

## MATERIALS AND METHODS

*Limnoperna fortunei* populations occur on all available hard substrates such as trunks, roots, and stones, even on those placed artificially for coastal stabilization. In this case, they are found in the interstices formed by the piles of stones.

During summer 1993, samples were obtained from 10 littoral localities (Figure 1; Table 1). The discontinuous settlement of *L. fortunei* made the taking of samples difficult by uniform sampling protocol. Consequently, the area of the sampling quadrats varied according to the heterogeneity of the habitat. Taking into account such temporal variability, sampling was undertaken at approximately 60 day intervals in the locality where *L. fortunei* was first recorded from (Bagliardi).







