Exotic (nonindigenous) species introductions represent a major threat to both society and the world’s biota. From an economic standpoint, the costs associated with species introductions have been high. During 1906–1991, monetary damages resulting from the establishment of 79 exotic species in the United States approximated $97 billion (OTA 1993). Now, however, with the introduction of about 50,000 nonnative species into the United States, economic damages (which also include control costs) are approximated at $137 billion per year (Pimentel et al. 2000). Beyond these economic considerations, many of the world’s ecosystems have suffered severe ecological damage—upon which no monetary value can be placed—following the introduction of exotic species. This damage, resulting from a variety of mechanisms (e.g., competition, predation, hybridization), has included restructuring of populations and communities, alteration of large-scale ecosystem processes, and loss of biodiversity (Lodge 1993a, 1993b, Williamson 1996, Vitousek et al. 1997, Pimentel et al. 2000). Owing to the negative impacts successful invaders can have on ecosystems, one can easily understand why human-based exotic species invasion is considered a leading threat to biodiversity (Vitousek et al. 1997, Sala et al. 2000) and most likely has contributed significantly to the recent increase in earth’s extinction rate, which is equal in magnitude to prehuman periods of mass extinction (Lawton and May 1995, Pimm et al. 1995).

Because of the increase in biological invasions during the 20th century (Mills et al. 1993, Lodge 1993a, Williamson 1996), research aimed at describing, understanding, and predicting species invasions has increased. In fact, interest in the process of biological invasions has been so overwhelming recently that its study has developed into a new subfield within ecology (Lodge 1993a), with its own theory and conceptual framework (e.g., Moyle and Light 1996, Williamson 1996). But just how novel is this subfield, given that much of what we know today about biological invasions—and accept as conventional wisdom—is similar to ideas espoused by 19th-century ecologists? In this article, we attempt to answer this question by focusing on ideas presented by Charles Darwin in The Origin of Species. Toward this end, we demonstrate that Darwin knew about and appreciated biological invasions, and that the current conceptual framework underlying biological invasions is akin to insights within Darwin’s seminal text. Ultimately, in discussing these parallels, we seek to bestow more kudos upon the already honored Charles Darwin.

Sources of information: Darwin and modern-day ecologists

This essay is neither a comprehensive review of biological invasion theory nor a critical evaluation of the ideas (or paradigms) espoused by modern-day ecologists or Darwin. Such an undertaking would have been monumental, detracting from our central purpose. Thus, we include only enough of the primary literature to demonstrate that Darwin’s views on biological invasions, as taken from the second edition of On the Origin of Species By Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life (1859; cited text, however, corresponds with Darwin 1996), parallel the thoughts and ideas espoused by contemporary ecolo-