Many biologists claim that beetles are the most diverse of all animal groups, with the number of described forms commonly cited as around 350,000. Whether or not they will prove eventually to be outnumbered in species by Hymenoptera (with their vast array of tiny parasitic taxa still largely not enumerated), Coleoptera are undoubtedly enormously rich in species and widespread in many terrestrial and freshwater environments throughout the world. As a consequence of the widespread knowledge that Charles Darwin was a beetle enthusiast as a young man, of Haldane’s comment about the likings of the Creator, and of Erwin’s (1982) focus on tropical beetles to estimate wider species abundance, as well as around two centuries of hobbyist and collector interests, beetles are amongst the most popular insects. Their richness is acknowledged widely as valuable both per se and in wider evaluations of ecological condition. Beetles are important also in a variety of other applied and more esoteric contexts. Ball-rolling scarabs were venerated in ancient Egypt as an analogue of the sun-god (Ra) rolling the sun across the heavens. Beetles have long been attractive to collectors, with rare species (or large ‘trophy individuals’ of taxa such as stag beetles [Lucanidae]) sometimes commanding enormous sums—but one outcome of this interest is a critical mass of interest and accumulation of sound substantial taxonomic and ecological information on a wide variety of taxa, particularly in the northern hemisphere, together with information on responses of beetles to environmental changes. Thus, studies on responses of beetles to habitat fragmentation in many parts of the world have given important ecological insights of much wider relevance in practical conservation: see papers in this journal by Lövei and Cartellieri (2000, New Zealand Carabidae) and Trumbo and Bloch (2000, North American Silphidae), as examples.

Some beetles are decidedly ‘charismatic’, and a number of the more distinctive such groups have been promoted widely in conservation. The tiger beetles (Carabidae: Cicindelinae—sometimes treated as a separate family, Cicindelidae), for example, have become sufficiently popular to merit a specialist journal ‘Cicindela’, founded in 1969) and, following impetus suggested by Pearson (1988), have become a significant global flagship group for beetle conservation, with numerous recent studies on the management of individual species, particularly in Europe and North America. Many beetles command attention as major pests of crops or stored products, with some, conversely, valuable as predators to suppress a wide range of pest arthropods. Efforts to promote the wellbeing of carabids and others as native predators through conservation biological control have been important contributions to understanding the management of habitats for beetles, and have much wider conservation implications. The designs of ‘beetle banks’ and conservation headlands, for example, have much wider relevance as refuges and reservoir habitats in highly altered landscapes (New 2005, for references).

Evans and Bellamy (1996) used the term ‘beetle-philia’ (extending from Wilson’s [1994] ‘biophilia’) to summarize the fascination of these insects to many people and, in one of very few general essays to do so, emphasized the values and needs to conserve beetles as
important components of the biosphere, with numerous keystone species and sustainers of numerous terrestrial ecosystem services. Freshwater beetles also can be important ‘indicators’, and members of about 11 families are obligately marine, most of them confined to intertidal or littoral zones (Doyen 1976). More generally, beetles are divided amongst about 160 families, with around two-thirds of all species allocated to only about 8 of these. The largest family, Curculionidae s.l. (the weevils), contains around 50,000 described species and the other large families (Buprestidae, Carabidae, Cerambycidae, Chrysomelidae, Scarabaeidae, Staphylinidae, Tenebrionidae) are all widespread terrestrial groups.

Beetles are important in conservation. Their long representation in the fossil record (facilitated by hardness and persistence of their elytra and other diagnostic structures in more modern deposits) has given them a unique role in helping to interpret long-term faunal changes, particularly for Quaternary assemblages. Their immense ecological variety leads to meaningful information on changes in richness and composition of local assemblages with changing conditions, and studies on pest species and their natural enemies have strengthened the framework of knowledge available for conservation studies. Beetles are among the most frequently cited species of insects as conservation targets. A number of species have undoubtedly become extinct as a result of human activities, but we have little idea of how many. Sixteen taxa are listed as extinct in the 2004 IUCN Red List of threatened species. The largest component of these (6) is from Hawaii, followed by the continental United States (3) and New Zealand (2), but this number seems almost certainly to be a severe underestimate. We have no real idea of the extent of continuing centenelan extinctions over much of the tropics, for example. Mawdsley and Stork (1995) recorded only 10 reported extinctions of Coleoptera, all of them from islands, and with the New Zealand taxa probably exterminated there by predation from introduced rats. These authors, in a wider examination of reductions in British beetles, found a substantial variety of threats, with various threats differentially affecting different beetle groups and their habitats. The early, 1988, IUCN Red List of threatened animal species listed at least 350 beetle species (uncertainty because of listings such as ‘all species of genus X’), even more than for butterfly species at that time. More recent changes have lessened this number somewhat, but additions include a series of Coleophon (Lucanidae) from South Africa which are apparently threatened by over-collecting: ‘beetlephilia’ can be a two-edged sword in conservation! But the passions beetles arouse, together with the interests and concern they foster, may assuredly be an asset in promoting conservation awareness.

Concerns for beetles, and exploration of their values in wider environmental appraisal have involved studies ranging from single species (with some becoming notable flagship taxa in various parts of the world) to assemblages. Such studies continue to diversify, and to contribute to a wider and more informed spectrum of activities in insect conservation. This special issue brings together some recent information on beetle conservation studies, ranging from overviews to specific cases. They are a small fraction of current activities, but indicate a variety of ways in which beetles are contributing to wider conservation, as foci of specific conservation programmes and as organisms with values in broader environmental assessments in many parts of the world. And, as with other insects in conservation, it is pertinent to consider the varying levels of capability and interest in different places. For the United Kingdom, with (as for butterflies and others) one of the best documented and understood beetle faunas on Earth, the fine filter species level approach to beetle conservation is well-advanced, with a number of species (such as the stag beetle, Lucanus cervus) important flagships for conservation endeavour. Species Action Plans exist (at March 2006) for 87 individual species and for three “groups” (river shingle beetles, Harpalus spp., saproxylic beetles). The last of these draws on longer-term concerns for persistence of dead wood and the need for continuity of mature timber habitats, and includes also the need for construction of artificial habitats for rare saproxylic Elateridae, and includes themes in common for 10 species. Concerns for saproxylic beetles have resulted in a series of European Symposia on the theme (see Barclay and Telnov 2005), with concerns evident also in North America and Australia. The Species Action Plans for British beetles are short documents, including brief statements on current status, factors causing loss or decline, current actions, action plan objectives and targets and proposed actions with lead agencies. They thereby specify the major trends and threats and note what is needed, and who is to have responsibility for undertaking the necessary conservation actions. In contrast, the recovery plans for several of the dozen beetles listed under the United States Endangered Species Act are much more detailed: thus the plan for the American burying beetle (Nicrophorus americanus, the first-listed beetle [1989] under the Act) occupies 81 pages (USFWS 1991), and that for the Puritan tiger beetle (Cicindela puritana), 47 pages. As for Britain, some North American beetles have become flagships for particular threatened