Biological control of invasive alien weeds in the UK: new initiatives

Richard H. Shaw and Robert H. Reeder
CABI Bioscience, UK Centre (Ascot) Silwood Park, Ascot, Berks, UK, SL5 7TA, UK

European Union member states have been the source countries for over 380 biocontrol releases against weeds around the world, yet have never benefited from such a program. Despite the considerable inertia hindering its use in the UK, this alternative approach is gaining credence as governments come to terms with their commitments to the Convention on Biological Diversity. It is likely that the UK Government’s recent review of its non-native species policy will open the door to the expansion of biocontrol through commitment to funding as well as improved legislation and education. Initiatives against Japanese knotweed (*Fallopia japonica*), giant hogweed (*Heracleum mantegazzianum*), bracken (*Pteridium aquilinum*), rhododendron (*Rhododendron ponticum*), buddleia (*Buddleja davidii*) and water fern (*Azolla filiculoides*) demonstrate the flexibility of biocontrol, as well as its many and varied challenges. The conclusion is drawn that the popularity of this tried and tested method of weed control will increase in Europe, but that its novelty will remain a hindrance until success overcomes prejudice.

Bionomy, seasonal incidence and influence of parasitoids of the field bindweed stem borer fly *Melanagromyza albocilia* (Diptera:Agromyzidae) in Slovakia

Peter Toth,1 Massimo Cristofaro2 and Ludovit Cagao1

1 Slovak Agricultural University, Department of Plant Protection, A. Hlinku 2, 949 76 Nitra, Slovak Republic
2 ENEA C.R. Casaccia, INN BIOAG–ECO, via Anguillarese 301, 0060, Rome, Italy

Studies on population density, seasonal incidence, impact on host plant and percentage parasitism of *Melanagromyza albocilia* were carried out in maize and sunflower fields infested by field bindweed (*Convolvulus arvensis*) in south-western Slovakia during 1998–2001. *Melanagromyza albocilia* infests field bindweed in Slovakia from May to October and completes two generations per year. The larvae of *M. albocilia* mine field bindweed shoots, causing them to dry up. The infestation, initially low during the first generation, reaches its peak from August till the end of the season (second generation). In natural conditions, the infestation rate of attacked plants ranges from 30 to 100%. The host range of *M. albocilia* is restricted to the target weed *C. arvensis*. Although feeding punctures (caused by adults) were observed on species in the closely related genera *Calystegia* and *Ipomoea* in no-choice laboratory tests, no larval feeding was recorded. A complex of seven hymenopterous parasitoids was shown to have a high impact on the populations of the stem borer fly. *Chorebus cyparissa* and *Bracon picticornis* (Braconidae) and the chalcid *Sphegigaster truncata* (Pteromalidae) were the most numerous, causing together up to 96.3% parasitism. *Sphegigaster aculeata*, *Cyrtogaster vulgaris* (Pteromalidae), *Macroneura (Eupelmus) vesicularis* (Eupelmidae) and *Aneuropria foersteri* (Diapriidae) were less abundant (about 3.7%). Parasitoids reduced the agromyzid population by about 80.0% in field conditions. Despite parasitization, *M. albocilia* was shown to be suitable for biological control because of its specificity and its high level of effectiveness.