Invertebrate community structure in Kenyan highland streams
Dr Mike Dobson, Manchester Metropolitan University

The aim of this study was to determine the importance of detritivores in Kenyan highland streams, with particular reference to freshwater crabs. To this end, an extensive field study was required to determine invertebrate populations and diet in a range of different stream types. Fieldwork was carried out around Mount Kenya, whose size ensures a significant regional climatic influence, resulting in clear differences between the wet eastern and southern sides and the dry western and northern slopes. Therefore, a relatively small geographical area encompasses a variety of different stream types.

One of the first problems to overcome was how to sample crabs. Standard methods of sampling benthic invertebrates in rivers (kick sampling, Surber sampling etc) are believed to miss crabs, which can be highly mobile. Baited traps are very effective, but act as attractants, so catches cannot be used to estimate populations. After piloting several methods, we opted for a procedure best described as 'vigorous Surber sampling' using a sampler with an area 25 × 25 cm. The sampler was carefully placed on the streambed and loose substrata within its quadrat were rapidly thrown into the net, which was then lifted to ensure that animals could not escape. We do not know what proportion of the actual crab population this technique managed to catch, but we did succeed in catching large numbers, even in sites where more leisurely Surber sampling two years previously had caught none.

During the field survey, which took place in October 2001, we were concerned that the imminent rains would curtail sampling. Therefore, we tried to sample a large number of rivers as quickly as possible and limited our survey at each site to five benthic samples (rather than the ten originally anticipated), plus a range of physico-chemical and land use parameters. In the event the rains held off; the only real problem occurred within Mt Kenya National Park, where we were unable to reach a site that we were particularly keen to sample because the roads had liquefied.

In total we sampled 21 sites on 19 rivers, from all sides of the mountain, more than twice as many as we originally anticipated. These included 5 in forest, 12 cultivated and 4 grazed; the last two categories included both open and shaded sites. Field observations suggest that crabs were most abundant in forested sites, with secondary abundance in the shaded cultivated areas.

The money from the HC Gilson Award was used to fund the collecting trip, which took place in October 2001. The second stage of the project is laboratory sorting and identification at Egerton University, Kenya, which is due for completion in June 2002. The third stage will be to examine gut contents of invertebrates captured, and to relate their abundance to detritus biomass, numbers and biomass of other organisms, and land use. When this is complete, we should be able to state whether crabs act as the shredding guild that is otherwise apparently missing from Kenyan highland streams.

In 2002 the award has been made to María de los Ángeles González Sagrario from the University de Mar del Plata in Argentina. María is carrying out a PhD on the ecological role of submerged macrophytes in shallow Pampasic lakes. Part of the project was for a supervised term of six months to be carried out at the Centre for Limnology in the Netherlands and the National

Environmental Research Institute in Denmark. Because of the financial collapse of the Argentinian currency, María was unable to find the funds for this part of the work programme, although her original grant covered it. The Hugh Cary Gilson Memorial Award has been provided to María to enable her to complete her studies. There will be an account in next year's Annual Report to describe the use of the award.