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BIOLOGISTS ON THE BOTTLE

Colin Howes outlined, in a recent article (BCG Newsletter No. 9) some of the offbeat activities of 'punk' naturalists in Yorkshire museums to further research on the area's mammals. Whilst the extraction of delicacies from animal excrements and bird pellets has certain stomach-turning qualities, the investigation of discarded bottles and cans containing a variety of putrifying bodies must reign supreme in this class!

Discarded bottles and ring-pull cans which abound in the British countryside, often in remarkable localities, may act as lethal traps to small mammals. Having entered through the narrow neck of a bottle, unfortunate victims find difficulty in retracing their steps; and if the bottle has landed in a certain position, escape may be impossible. Death occurs some time later by drowning in accumulated rain-water, drink remains or decaying animal matter; or perhaps by starvation, hypothermia or shock. Skeletal remains can be extracted from the 'gravy' with forceps, and identified in the field. Basic requirements are a lens, glass tubes and a thick skin to overcome the ribald comments and stares from astonished onlookers.

'How' you may ask 'does this concern the museum curator?' Well! If you operate a Regional Biological Records Centre and your card index on mammals requires a boost, then this activity is for you. Morris and Harper (1965) showed that the contents of bottles can be an important source of mammal records. During a nationwide search in 1963/4 they found 510 specimens in 225 bottles, representing 11 different species. A situation existed in Sheffield at the start of the decade, when information on 'small' mammals, (mice, voles and shrews) was particularly sparse. However, a deliberate search for discarded bottles occupied many of my weekends during 1974-78, and proved very rewarding. 1033 individual specimens were found in 362 bottles and cans in the Sheffield area. (Whiteley 1978) Of these, shrews comprised 65% of the total and were found almost to the exclusion of other species in ring-pull cans, which have narrow, almost rodent-excluding entrances. (see Fig 1. reproduced from the Sorby Record).

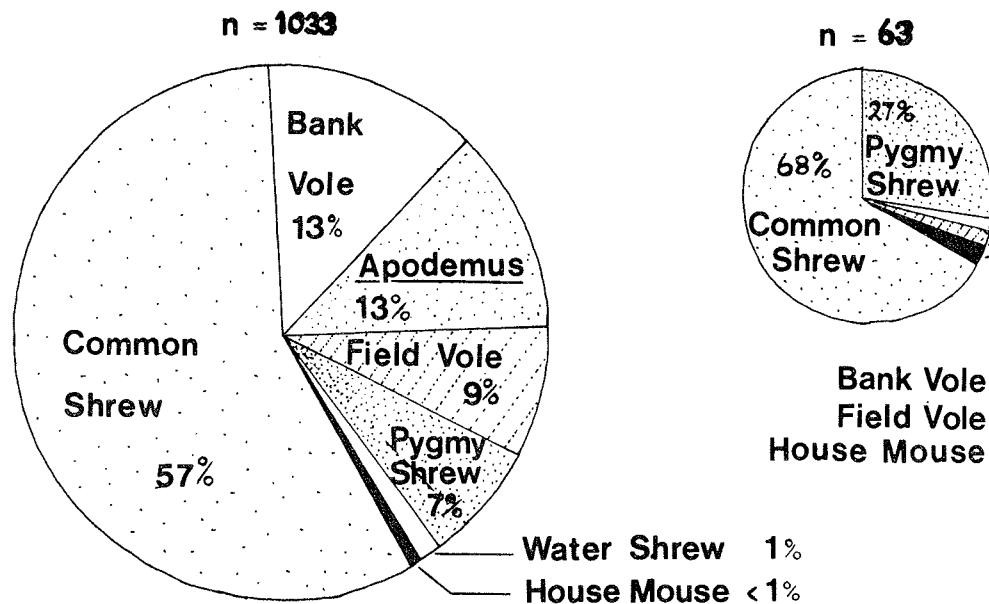


Fig.1 Species Frequencies (a)in all containers
(b)in ring-pull cans

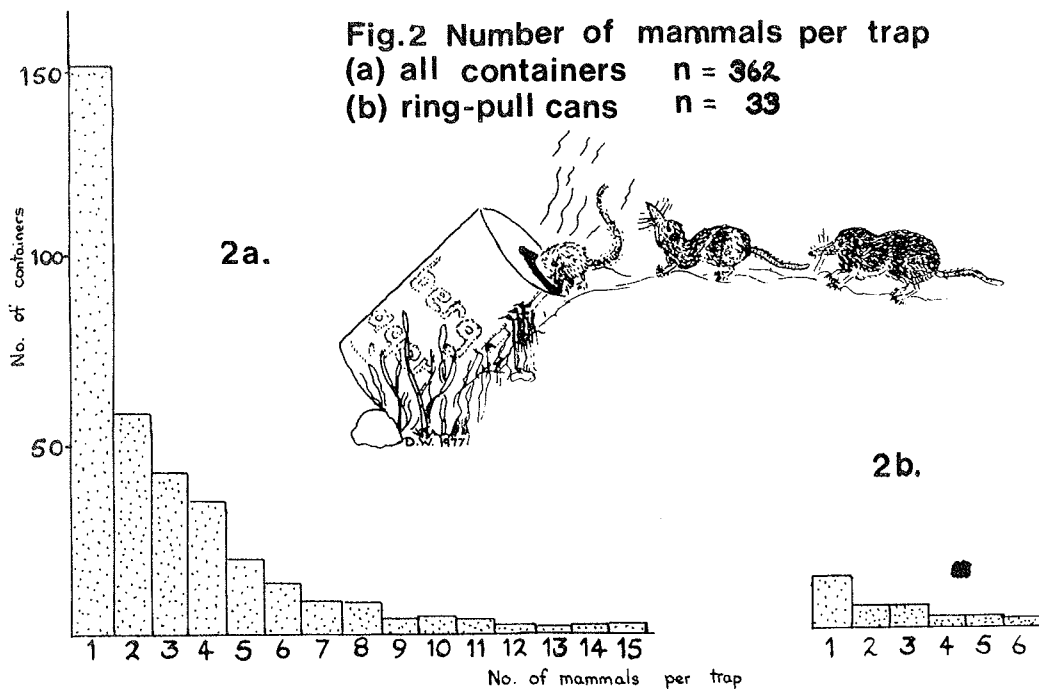


Fig 2. shows the number of mammals caught per trap. The maximum of 15 specimens came from a single pint milk bottle, although a quart bottle in Essex has been reported as holding no less than 28 individual small mammals. Ring-pull cans, owing to their smaller size tend to catch mammals in smaller numbers. Although an interesting study in itself, results from these analyses can be applied to mapping schemes, altitude distribution, habitat preference studies and site studies. Some sites, particularly roadside lay-bys, railway embankments and picnic sites, seem to have an endless supply of discarded bottles and produce high yields year after year.

Of course, this information can also be collected using traditional recording techniques. Longworth live-traps are useful, but have the disadvantage of requiring at least two visits to each locality to set and recover them. Owl pellets can provide masses of data from single roosts, but since owls may hunt over a wide variety of habitats and altitudes, it is impossible to say exactly where any particular prey item originated. On the other hand, each specimen found in a bottle can be given accurate grid reference, habitat and altitude details.

Examination of invertebrate contents may also prove interesting. Jeremy Lee (1977) found this technique useful for examining large numbers of nocturnal beetles, or species usually found in small numbers by traditional collection methods. Once again, useful data was collected for recording purposes, in this case the Sheffield Beetle Recording Scheme, and the national Carabidae mapping scheme. With a little practice, it is even possible to identify some millipedes, centipedes, woodlice, and molluscs from the same material.

Even the remains themselves can be put to good use. A comprehensive collection of local small mammals can be swiftly and readily accumulated. Skulls found in bottles are often complete, whereas in owl pellets they tend to be disfigured by the loss of the cranium and some teeth. They are easy to obtain, easy on the conscience (if like myself, you dislike killing mammals) and require little preparation. Such a reference collection serves as a useful aid to identifying bones from owl pellets, fox scats,

archaeological digs etc.etc. and a 'reserve' collection is a useful teaching tool, ever-popular with young naturalists. Some of the remains served as voucher specimens for 'rarer' members of the Sheffield fauna (Water Shrews, once considered to be uncommon around Sheffield are now known to be much more widespread using results from the 'bottling' project).

Finally, the whole subject lends itself well to a bizarre and entertaining, if not entirely conventional gallery display. Under the heading "Bottle Killers", skulls, whole mammals and invertebrates displayed in a realistic setting has proved to be popular with museum visitors, particularly school-children.

References

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PLANTS IN A GALLERY

INTRODUCTION

Sheffield City Museums opened a newly-designed gallery in October 1976, devoted to the geological evolution of the planet Earth and of life. We had decided at an early stage to incorporate growing plants in the gallery, both for decorative effect and for comparison with fossil material. Our consultant designer for the project, Roger Simpson of Tideswell, accommodated this basic idea, and his design provided us with a plant trough 4.35 x 1.35 x 0.40 metres deep. It was sited immediately behind a low desk-case to house fossil plants, on a platform giving visibility from most parts of the gallery. The trough was lined with impervious, welded PVC sheet, particularly necessary as a small office is immediately below.

We had also decided that the plants would be un-enclosed for visual impact, which meant that they would have to tolerate room temperatures and low relative humidity. These factors have governed our choice of plants, as did our requirement for mainly evergreen species to give continuous display, and to minimize fallen leaves. Daylight reaches the plants through louvres from skylights situated above.