

16) Owl Pellets Dissection and Analysis

INTRODUCTION:

Many birds produce pellets of indigestible parts of prey they have eaten. These include Kingfishers, Redwings, Bee-eaters, Birds of Prey, Gulls as well as Owls.

You are unlikely to come across pellets from most of these species but in farm buildings used for roosting or beneath a nest box occupied by Barn Owls is the best possibility. Owls feed largely on small mammals, but can also take other prey such as frogs and small birds. They usually swallow their prey whole and then eject the undigested parts as pellets (i.e. fur, bones, etc.) through the mouth. By examining these pellets you can tell what prey the owls have been feeding on. Their pellets are easy to recognise, can be quite large (30-70 mm long), smooth, rounded, black in colour, often with a varnished 'glossy' appearance when fresh and solid with the contents highly compressed. They do not smell.

Before undertaking any analysis you will require some basic items and you must take adequate 'Health & Safety' precautions.

GETTING PREPARED: –

First you will require a few items of equipment. A Petri Dish, forceps, tweezes, cocktail sticks, a magnifying glass, pencil and a note pad. Before touching the pellet put on a pair of disposable 'rubber' gloves (not latex gloves if you are allergic to this material).

Soak the pellet first in clean warm water to which has been added a few drops of disinfectant, then start to tease the pellet apart using tweezes and cocktail sticks. Use a reference to Owl pellet remains (see below).

DISCOVERING THE PELLETS CONTENTS: –

First find the small skulls and lower jaw bones: if mammals these will have teeth while the skulls of birds will not.

BASIC IDENTIFICATION: –

Sort out the Insectivores (Order *Insectivora*, which includes **Shrews** and **Moles**) from the Rodents (Order *Rodentia*, which includes **Mice**, **Rats** and **Voles**) and **Bats** (Order *Chiroptera*). In Rodents the front incisors are separated by a large gap from the cheek teeth, while in Insectivores and Bats there is a continuous row of teeth.

IN DEPTH IDENTIFYING OF THE SMALL MAMMALS: –

- ❖ Is it a **Vole** or a **Mouse**? Look at the cheek teeth. If there is a 'zigzag' pattern on the surface of the row of teeth, then the jaw bone is that of a **Vole**. If there is a row of cusps or knobs, then the jaw bone is that of a **Mouse** or a **Rat**.
- ❖ Identifying a **Vole**? If the jaw bone is more than 2 cm it is very likely to be a **Water Vole**. If it is less than 2 cm extract a cheek tooth using forceps. In the case of a **Bank Vole** the cheek teeth of older individuals end in two small roots, while the cheek teeth of the **Field Vole** (or **Short-tailed Vole**) have no roots.
- ❖ Identifying a **Mouse**? Extract the first (front) upper cheek tooth (if it is still fixed to the skull). Look at the number of sockets (holes) left behind. Three holes indicate a **House Mouse**, four holes indicate a **Wood Mouse** (or **Long-tailed Field Mouse**) and five holes indicate a **Harvest Mouse**.

- ❖ Identifying a Shrew? Look at the lower end tooth (incisor). If it has no cusps or knobs, it is a **Water Shrew**. If it has four small cusps in pairs, it is a **Common Shrew**. If it has four small cusps, evenly spaced, it is a **Pygmy Shrew**.

Expect to find at least three or even four sets of different prey remains in a single Barn Owl pellet. Other remains may also be found in pellets; for example those of **Bats**, which have short jaws and white teeth, and although not common, **Moles**, **Lizards**, **Frogs** and small **Birds**.

MOST IMPORTANT – *After recording all the information from each Barn Owl pellet dissected make sure you dispose of all the remains of the pellets responsibly along with the used cocktail sticks. Wash all other equipment (except the magnifying glass), in hot soapy water with anti-bacterial disinfectant, remove your gloves and dispose, wash your hands thoroughly and dry them on a clean towel or disposable paper towels.*

References: (1) 'Owl Pellets – How to study their Contents', available to download from www.rspb.org.uk/Images/Owlpellets_tcm9-133500.pdf.

(2) 'The Analysis of Owl Pellets', by D.W. Yalden, from The Mammal Society, 3 The Carronades, New Road, Southampton, Hants, SO14 0AA; www.mammal.org.uk.