THE DIET OF THE TAWNY OWL (*Strix aluco*) ON MT. MENOIKIO, DRAMA PREFECTURE, BASED ON OWL PELLET ANALYSIS

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Introduction

Owl pellets (Fig. 1) are non-digestible food remains (bones, hair etc.), regurgitated by birds of prey. Pellet analysis is an efficient, non-invasive approach to study dietary habits of these predators and, indirectly, the fauna in their hunting area. This work addressed the Tawny Owl's (*Strix aluco*: Strigiformes) diet, through the analysis of pellets, in order to identify the microfauna hunted by this owl on Mt. Menoikio, Prefecture of Drama, Greece.

Materials and Methods

For this study, 28, mostly intact pellets were collected in July 1992 from Mt. Menoikio (Fig. 2). Dry and wet cleaning of the pellet material was followed by the isolation of the identifiable skeletal remains (Fig. 1). The taxa included in the collected material were determined with the help of identification keys and comparative material in the lab. The Minimum Number of Individuals (MNI) index was calculated a) for cranial only and b) for both cranial and post-cranial elements and the values compared. Finally, we conducted an assessment of the fragmentation level of skeletal elements in the pellets.

Results and Discussion

In general, our results showed that the Tawny Owl preyed mainly on mammals, allocated to Rodentia (88.73%), and Eulipotyphla (11.27%), although several arthropods were recorded as well (present in 62.07% of the studied pellets). In more detail (Fig. 3): (i) *Apodemus* sp. appeared to be by far the dominant prey of preference for the Tawny Owl in the study area; b) a number of species, which are otherwise difficult to detect, such as through trapping, were recorded with this analysis in the study area, i.e. the Hazel dormouse (*Muscardinus avellanarius*), **the Snow vole (*Chionomys nivalis*)** (Fig. 4), **recorded for the first time in the area** and the mole (*Talpa* sp.). The latter should be rather attributed to *T. europaea;* iii) non-mammalian vertebrates were quite rare, in the form of a few bones for birds and a jawbone section of an anuran amphibian; iv) The Average MNI per pellet (Table 1) was calculated to 2.67, based on cranial and post-cranial elements vs. 2.46, based only on cranial ones (MNI range: 1-5 in both cases). Thus, the former approach leads to slightly higher MNI values; v) The assessment of the condition of skeletal remains (data not shown), reinforced the general impression that *Strix aluco* causes intense modifications and fracturing of prey bones, compared to other Strigiformes (Andrews, 1990, Fernandez-Jalvo and Andrews, 1992), In overall, the diversity of identified species agrees with Anderson & Erlinge (1977), Hoffman (1988) and Lesiński, Gryz & Kowalski (2008) who consider owls as opportunistic predators and correlate the percentage of prey remains in pellets to prey abundance in the hunting environment.

Fig. 1: Skeletal elements isolated from a single *Strix aluco* pellet. Pellet in blue inset.

Fig. 2: Mt. Menoikio: The source of the pellet samples of this study

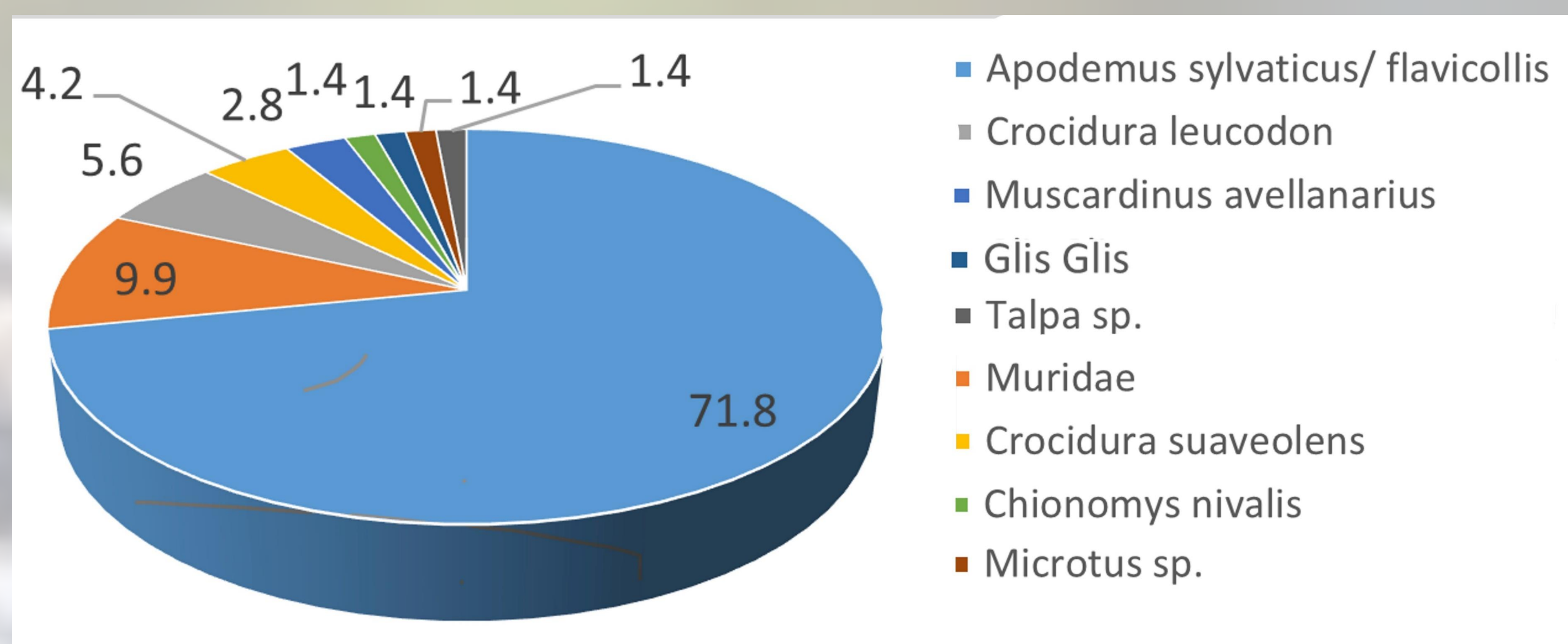

Fig. 3: Percentile contribution of each recorded mammalian taxon to Tawny Owl diet on Mt. Menoikio.

Fig. 4: Lower first molar of a) *Muscardinus avellanarius* (left) and b) of *Chionomys nivalis* (right- fragment of lower jaw).

Table 1: MNI, calculated based on exclusively cranial (left) and on both cranial and post-cranial elements (right).

	MNI (cr)	MNI (cr+ p-cr)
sum	69	75
average	2.46	2.67
median	2.5	2
st. dev.	1.28	1.29
min	1	1
max	5	5

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References

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