



UNIVERSITÀ  
DEGLI STUDI  
DI MILANO



**divas**  
DIPARTIMENTO DI MEDICINA  
VETERINARIA E SCIENZE ANIMALI

# ATTI 75° Convegno



*Dicebamus hesterna die*

AIPVET • AISMVEM • AIVI • AMV • ANIV • ARNA • RNIV •  
SICLIM-Vet • SICV • SIFTVET • SIRA • SOFIVET • SOIPA

**15 - 18 Giugno 2022**

**Dipartimento di Medicina Veterinaria e Scienze Animali**  
**Università degli Studi di Milano**  
Via dell'Università 6, Lodi

Con il patrocinio di



PROVINCIA  
DI LODI



Regione  
Lombardia

## MAIN CAUSES OF DEATH IN INSECTIVOROUS BATS IN TURIN PROVINCE

Elena Colombino, Ilaria Prandi, Giuseppe Quaranta, Mitzé Maathe von Degerfeld, Maria Teresa Capucchio

Università degli Studi di Torino, Dipartimento di Scienze Veterinarie

Corresponding author: Ilaria Prandi (ilaria.prandi@unito.it)

Several studies describe the presence of biological agents and toxic elements in wild insectivorous bats [1, 2]. However, only few papers analyse the diseases of bats and the causes of their death.

The aim of this study is to examine the main causes of death and macroscopic findings observed during systematic necropsies of wild insectivorous bats. All animals were rescued by the Non-Conventional Animal Centre (CANC), unit of the Department of Veterinary Sciences, University of Turin.

A total of 83 bats belonging to 9 different species of the families *Vespertilionidae* and *Molossidae* (genera *Vespertilio*, *Pipistrellus*, *Hypsugo*, *Eptesicus*, *Myotis*, *Plecotus* and *Tadarida*) underwent anatomopathological examination. Macroscopic lesions were classified and grouped according to type and tissues involved: traumatic lesions (fracture, laceration, hemorrhage), skin or patagium lesions and organs abnormalities.

The main recorded causes of death were: trauma (50.6%), cachexia (15.6%) and predation (9.4%). In 25.3% of bats the cause of death remained unknown. Traumatic lesions were the most common causes of death, in according with literature [2, 3]. Trauma or predation caused bone fracture in 38.8% of cases (which interested mainly humerus, radius/ulna, carpus and phalanges), while patagium wound occurred in 53.1% of animals. Traumatic hemorrhages involved subcutis, muscles of neck or thoracic/abdominal walls, thoracic and abdominal cavities but also inner organs, such as liver. Regardless of the cause of death, 14.5% of bats displayed gastric dilation and 4.8% presented free nematodes (*Litosomoides* spp.) in thoracic and abdominal cavities.

This preliminary study confirms trauma as the main cause of death in wild bats also in Piedmont region. Histological and microbiological analysis are in progress in order to understand the role of biological agents in the death of these micromammals.

The authors are grateful to Mauro Negro and Emilia Brugali for their fundamental technical support.

[1] Farina LL L. In *Pathology of wildlife and zoo animals*. I ed. Elsevier, 2018.

[2] Cooper D. In *BSAVA Manual of Wildlife Casualties*. II ed. BSAVA, 2016.

[3] Mühldorfer et al. *Diseases and Causes of Death in European Bats: Dynamics in Disease Susceptibility and Infection Rates*, PLoS ONE, 6(12): e29773, 2011.