

# Review of pathological findings and causes of death in cetaceans stranded along the Catalan Coast (2012-2018)

**UAB**

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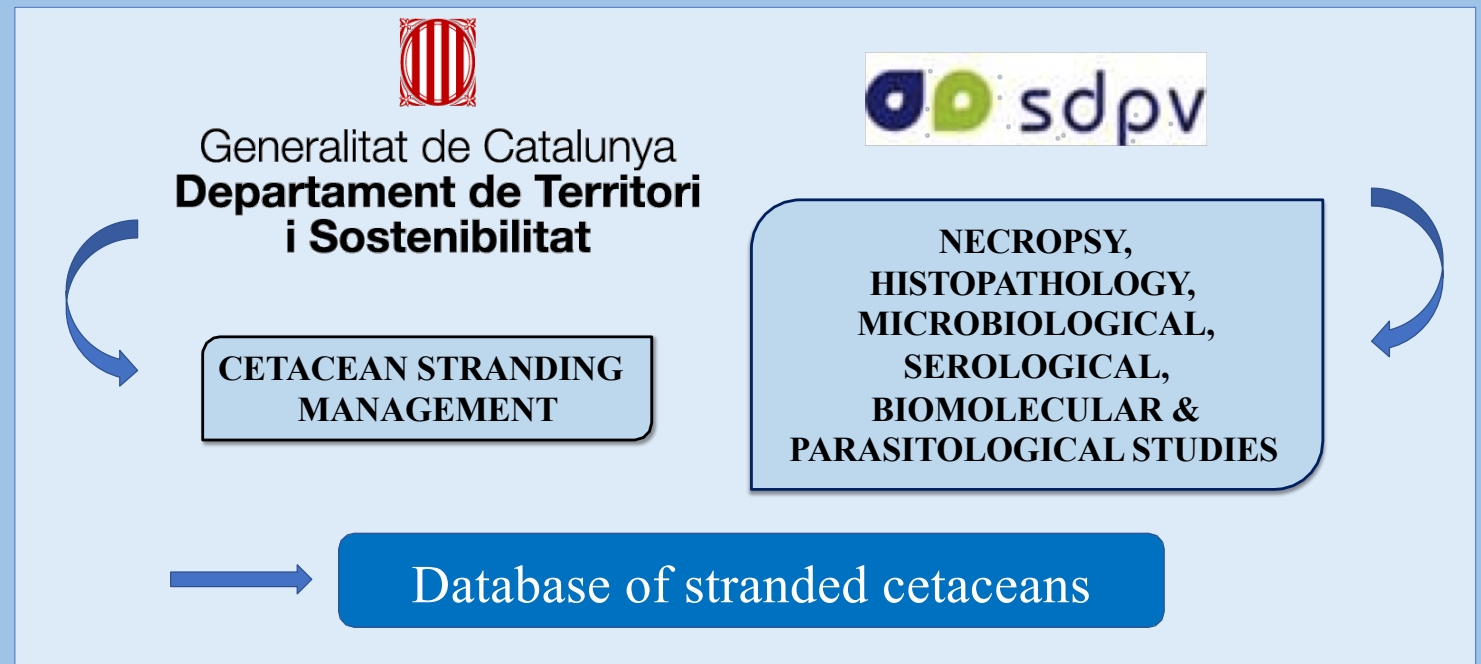
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## INTRODUCTION & OBJECTIVES

Post-mortem studies of stranded cetaceans provide valuable information about the diseases and other hazards to which these mammals are exposed to. This is the first six-year retrospective study to have been carried out of stranded cetaceans which have stranded along the Catalan Coast.

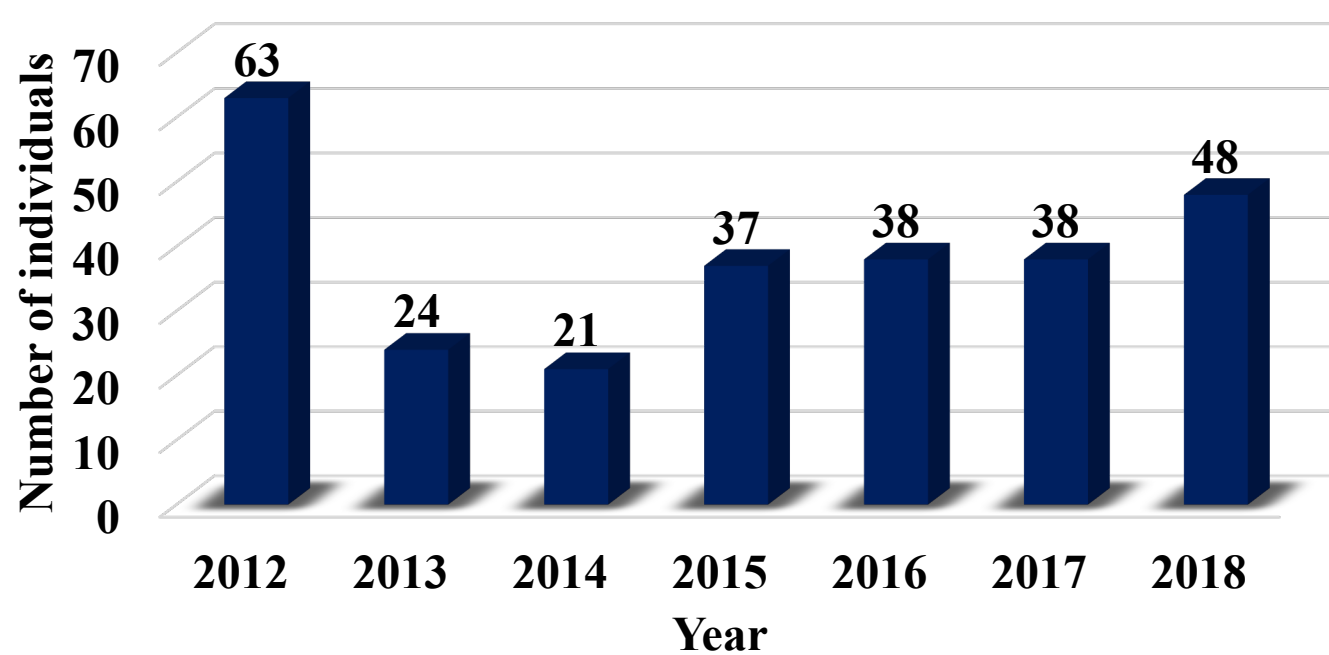
The objective of the present study is to identify the most relevant pathologies and causes of mortality in cetaceans stranded along the Catalan Coast between the years 2012-2018.

## MATERIALS & METHODS



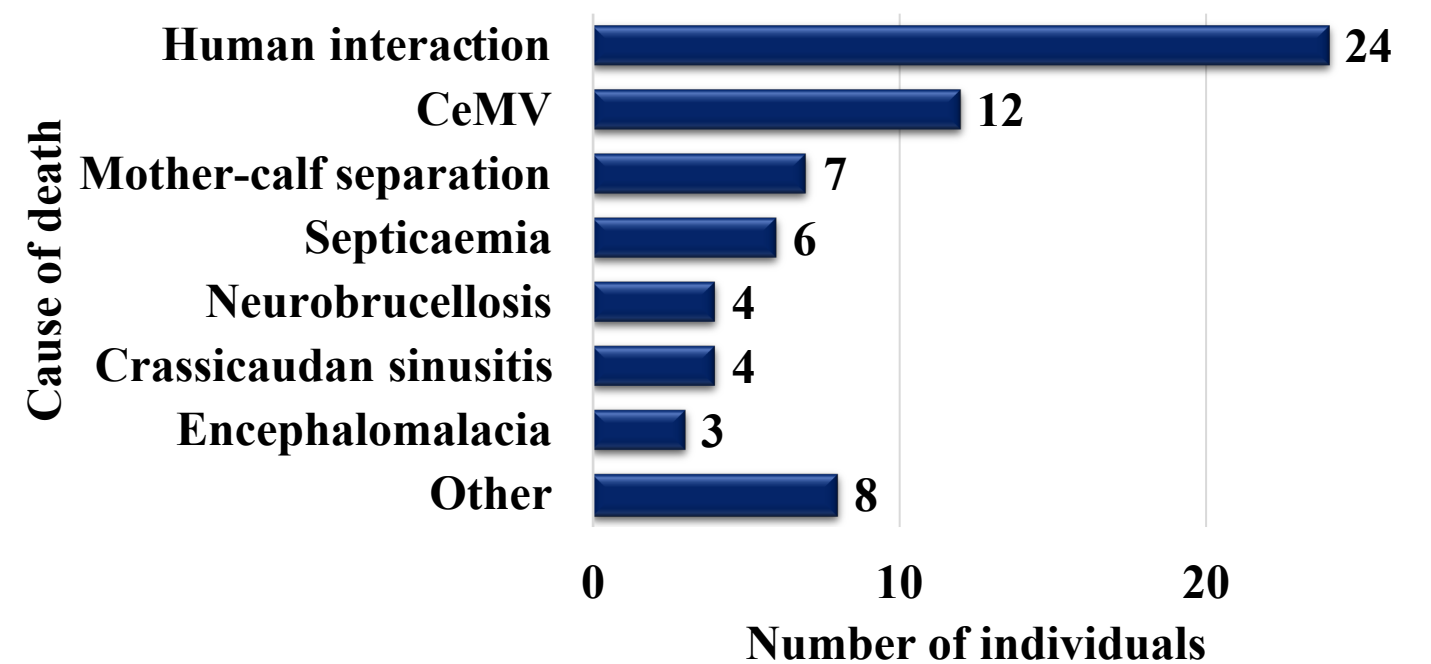
## RESULTS

### Stranded cetaceans per year

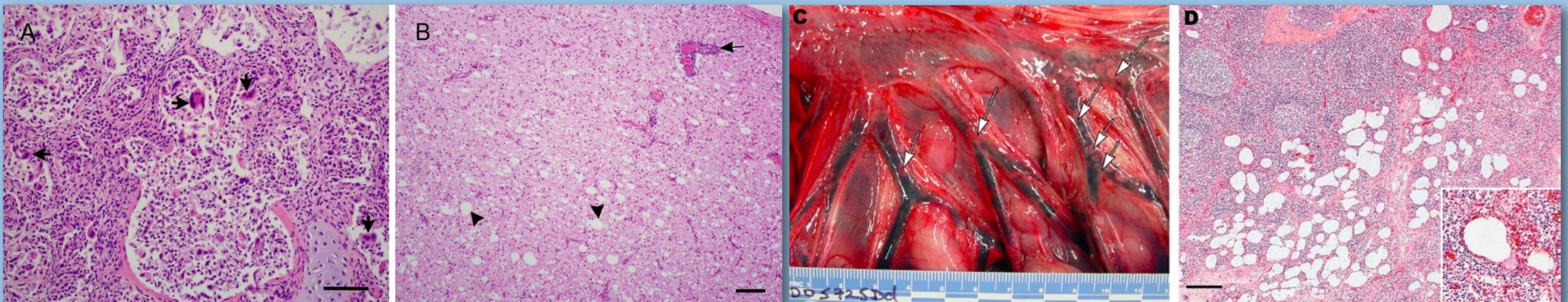


Stranded species: *Stenella coeruleoalba* (n=173, 64.3%), *Tursiops truncatus* (n=30, 11.2%), *Grampus griseus* (n=17, 6.3%), *Balaenoptera physalus* (n=11, 4.1%), *Physeter macrocephalus* (n=3, 1.1%), *Delphinus delphis* (n=2, 0.7%), *Ziphius cavirostris* (n=2, 0.7%) and non-identified cetaceans (n=31, 11.5%).

### Determined causes of death in necropsied cetaceans (2012-2018)



Necropsied species: *Stenella coeruleoalba* (n=63, 85.9%), *Grampus griseus* (n=8, 10.2%), *Tursiops truncatus* (n=5, 6.1%), *Delphinus delphis* (n=1, 1.3%) and *Balaenoptera physalus* (n=1, 1.3%).



**Figure 1. Cetacean morbillovirus infection. (A) Lung with bronchioalveolar pneumonia and presence of syncytial cells (arrows); (B) Brain with lymphocytic encephalitis (arrow) and axon loss (arrowheads). Source: Fauquier et al. (2017).**

**Figure 2. By-caught cetacean. (C) Gas bubbles in mesenteric veins; (D) Vascular dilation filled with gas in a lymph node. Source: De Quirós et al. (2018).**

## CONCLUSIONS

- By-catch is the major cause of death in stranded cetaceans along the Catalan Coast (2012-2018).
- In the period 2012-2018, 12 cases of CeMV infection appeared, 7 presenting its systemic form and 5 its chronic form. This is the third epizootic circulation of this virus in the Catalan Coast.
- Zoonotic pathogens such as *Brucella ceti* have been isolated from stranded cetaceans.

### References:

- De Quirós YB, Hartwick M, Rotstein DS, Garner MM, Bogomolni A, Greer W, Niemeyer ME, Early G, Wenzel F, Moore M. 2018. Discrimination between bycatch and other causes of cetacean and pinniped stranding. *Diseases of Aquatic Organisms*. 127(2):83-95.
- Fauquier D, Litz J, Sanchez S, Colegrove K, Schwacke L, Hart L, Saliki J, Smith C, Goldstein T, Bowen-Stevens S, et al. 2017. Evaluation of morbillovirus exposure in cetaceans from the northern Gulf of Mexico 2010-2014. *Endangered Species Research*. 33:211-220.