

# Does the Moon influence the Korean water deer (*Hydropodes inermis aegyropus*)?



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## Background

The moon influences levels of illumination, gravity, and geomagnetism across its different phases. For cathemeral species such as the Korean water deer, the moon can be an important environmental factor that affects their ecology and movement patterns. This species has a controversial status; it's considered a pest in Korea, yet it holds a Vulnerable status on the IUCN Red List.

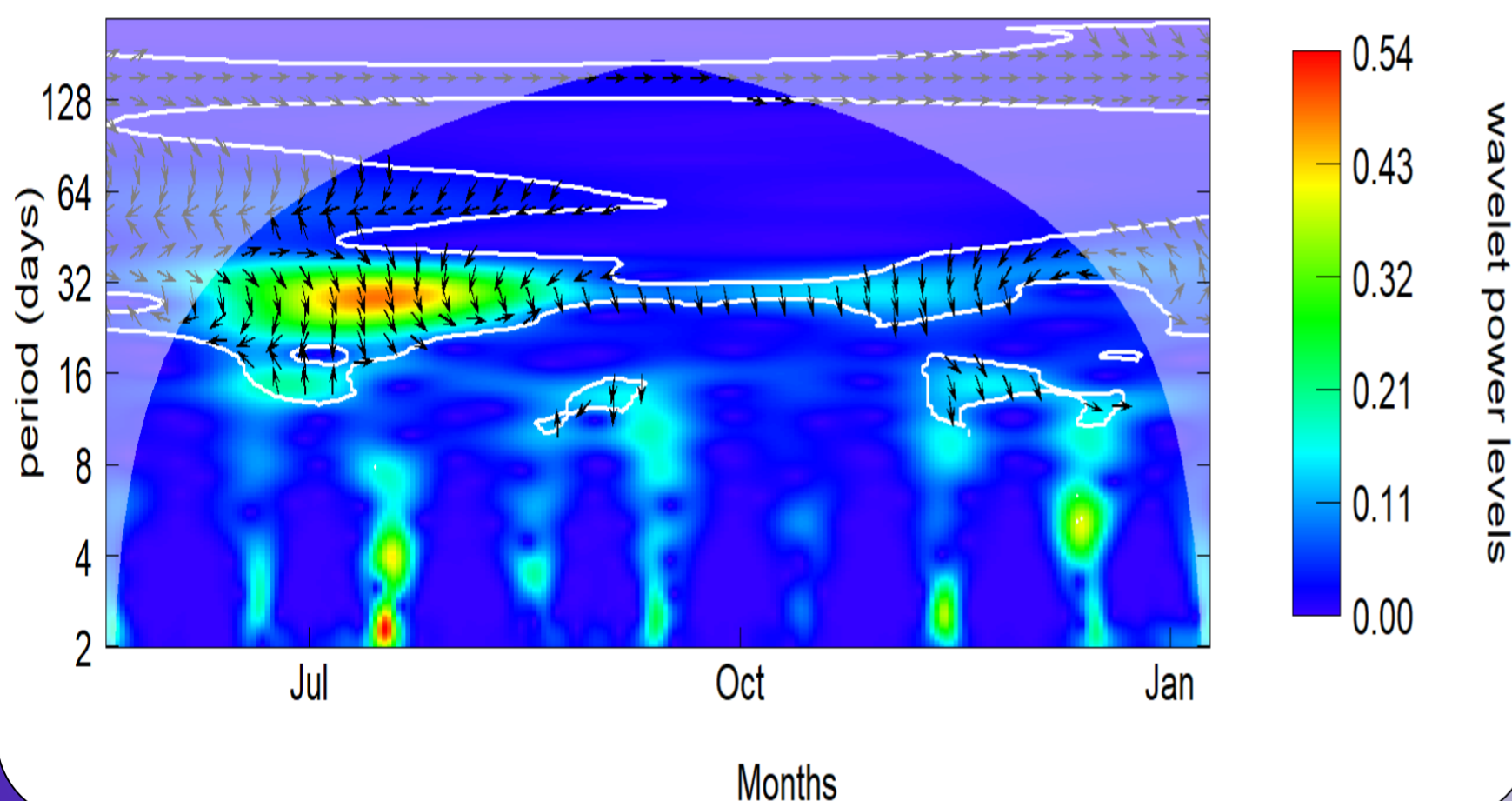
**The aim of this study was to determine the influence of the moon on the occurrence and behaviours of the Korean water deer.**

## Methods



Fourteen camera traps were placed in Mungyeong Doline Wetland reserve in South Korea, to monitor water deer occurrence and behaviour. Each occurrence and behaviours was registered along with environmental data and analysed statistically.

Figure 1: Wavelet analysis of the occurrence of Water deer compared with lunar cycle



## Results

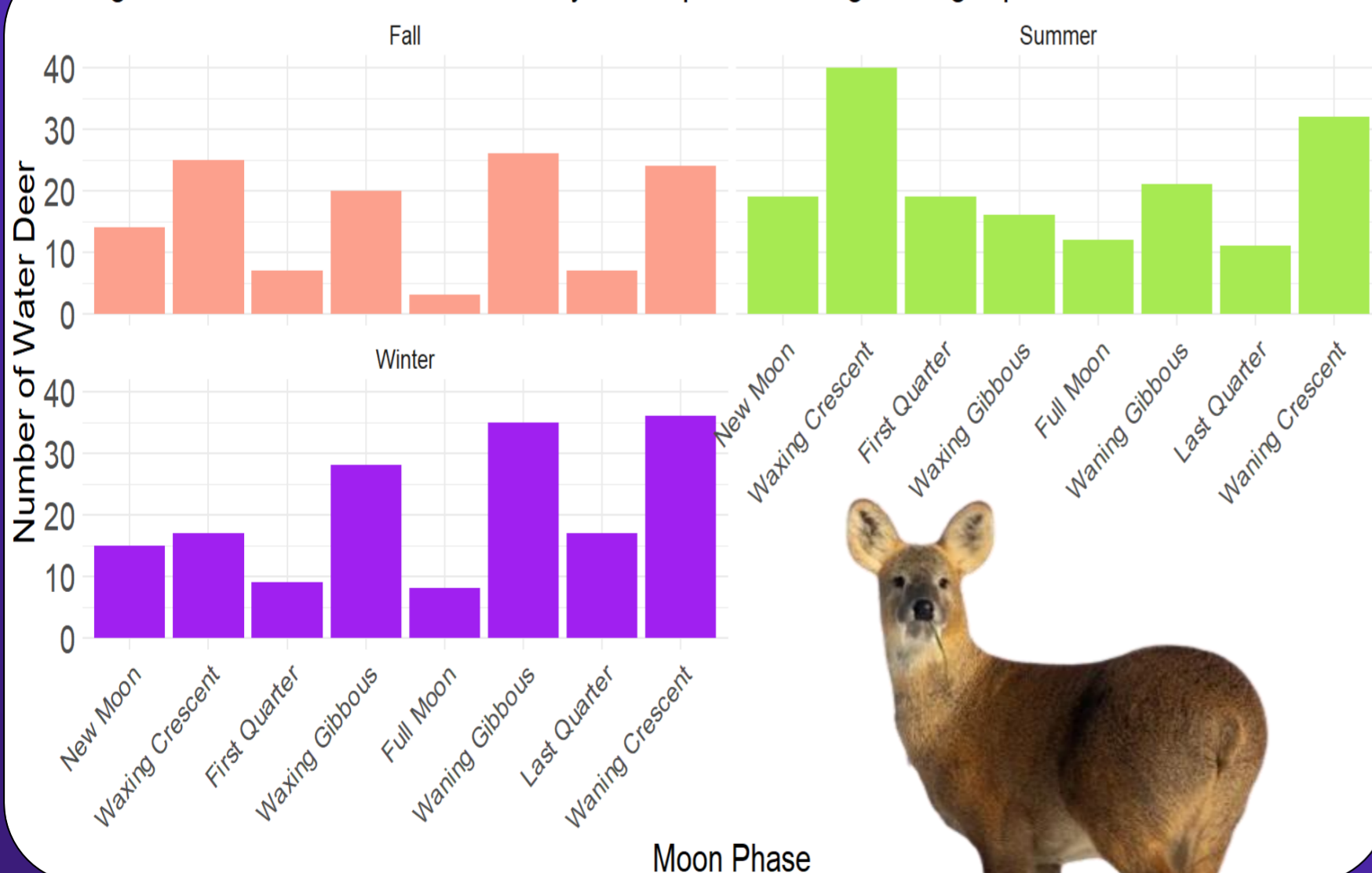
Figure 1

- It shows the occurrence of water deer is significantly similar with the lunar cycle around July and August
- The arrow indicate that the water deer peak occurrence happens slightly before the New Moon

Figure 2

- Water deer occurred more during dark night in Summer
- More occurrence during bright night in Winter

Figure 2: Water Deer occurrence by moon phase during the night period



## Discussion

- The Moon has an influence on the water deer mainly in Summer.
- Water deer shows a preference for bright or dark night that differ seasonally, reflecting their change in needs for better survival:
  - ❖ Dark night in summer to avoid predator when they have fawn
  - ❖ Bright night in winter to increase their forage efficiency
- No significant influence of the moon on the behaviour

## Conclusion

Water deer seems to be influenced by the moon when moving around the Doline wetland area. This should be considered when creating a species management plan and help decrease the wildlife-human conflict.

