

Patterns and correlates of claims for brown bear damage on a continental scale

Carlos Bautista¹, Javier Naves², Eloy Revilla², Néstor Fernández^{2,3}, Jörg Albrecht¹, Anne K. Scharf⁴, Robin Rigg⁵, Alexandros A. Karamanlidis⁶, Klemen Jerina⁷, Djuro Huber⁸, Santiago Palazón⁹, Raido Kont¹⁰, Paolo Ciucci¹¹, Claudio Groff¹², Aleksandar Dutoš¹³, Juan Seijas¹⁴, Pierre-Ives Quenette¹⁵, Agnieszka Olszańska¹, Maryna Shkvryia¹⁶, Michal Adamec¹⁷, Janis Ozolins¹⁸, Marko Jonožovič¹⁹, Nuria Selva¹

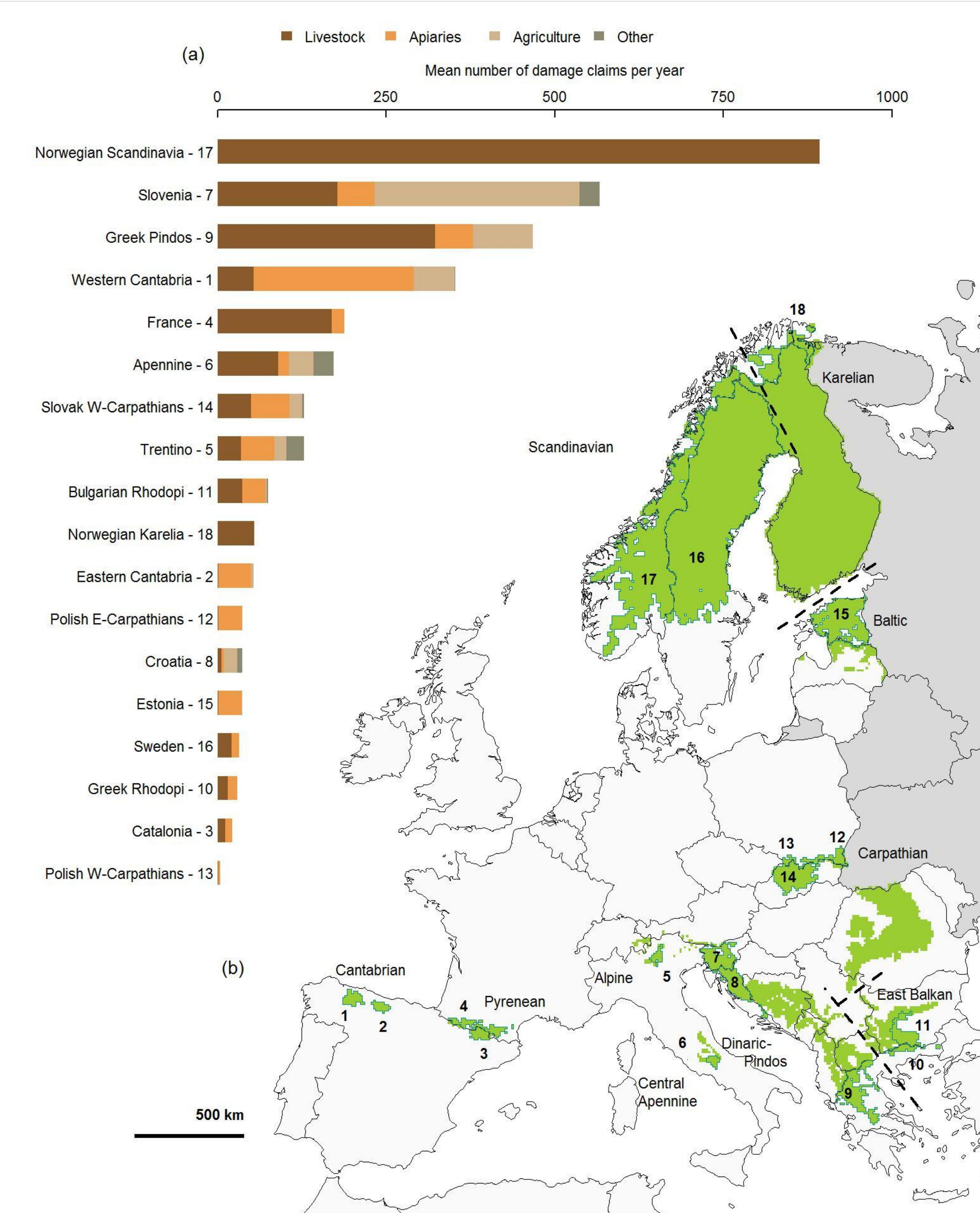
¹Institute of Nature Conservation, Polish Academy of Sciences, Mickiewicza 33, Krakow 31120, Poland. ²Estación Biológica de Doñana – CSIC, Av. Américo Vespucio s/n, 41092 Sevilla, Spain. ³German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig, Deutscher Pl. 5E, 04103 Leipzig, Germany. ⁴Max Max Planck Institute for Ornithology, Am Obstberg 1, 78315 Radolfzell, Germany. ⁵Slovak Wildlife Society, Post Office Box 72, 03301 Liptovský Hrádok, Slovakia. ⁶ARCTUROS – Civil Society for the Protection and Management of Wildlife and the Natural Environment, 53075 Aetos, Florina, Greece. ⁷University of Ljubljana, Biotechnical Faculty, Jamnikarjeva 101, 1000 Ljubljana, Slovenia. ⁸Faculty of Veterinary Medicine, University of Zagreb, Heinzelova 55, 10000 Zagreb, Croatia. ⁹Biodiversity and Animal Protection Service, Generalitat de Catalunya, Dr. Roux, 80, 08017 Barcelona, Spain. ¹⁰Institute of Ecology and Earth Sciences, Vanemuise 46, 51014, Tartu, Estonia. ¹¹University of Rome “La Sapienza,” Viale dell’Università 32, 00185 Roma, Italy. ¹²Provincia Autonoma di Trento – Servizio Foreste e Fauna, Via Trener no. 3, 38100 Trento, Italy. ¹³Balkani Wildlife Society, Boulevard Dragan Tzankov 8, 1164 Sofia, Bulgaria. ¹⁴C/Rio Sil 140, Golpejar de la Sobarriba, 24195 León, Spain. ¹⁵ONCFS-CNERRA PAD, Equipe Ours, Impasse de la Chapelle, 31800 Villeneuve de Rivière, France. ¹⁶Schmalhausen Institute of Zoology, National Academy of Sciences of Ukraine, 15 Bogdan Khmelnytsky, 01601 Kyev-30, Ukraine. ¹⁷State Nature Conservancy of Slovak Republic, Tajovskeho 28B, 97401 Banská. ¹⁸Latvian State Forest Research Institute “Silava,” Rīgas str 111, Salaspils, 2169 Latvia. ¹⁹Slovenia Forest Service, Večna pot 2 SI-1000, Ljubljana, Slovenia.

BACKGROUND

Conflicts arising from wildlife damage in human dominated landscapes threaten human-wildlife coexistence, making damage mitigation and compensation of special concern for wildlife conservation. Many large carnivores populations are transboundary, and while the same animals roam free at different sides of the borders, conflict management varies among countries. Improving our knowledge about the mechanisms underlying the occurrence of wildlife damage and claims on a continental scale is essential to achieve effective conservation policies at the regional, national and international level.

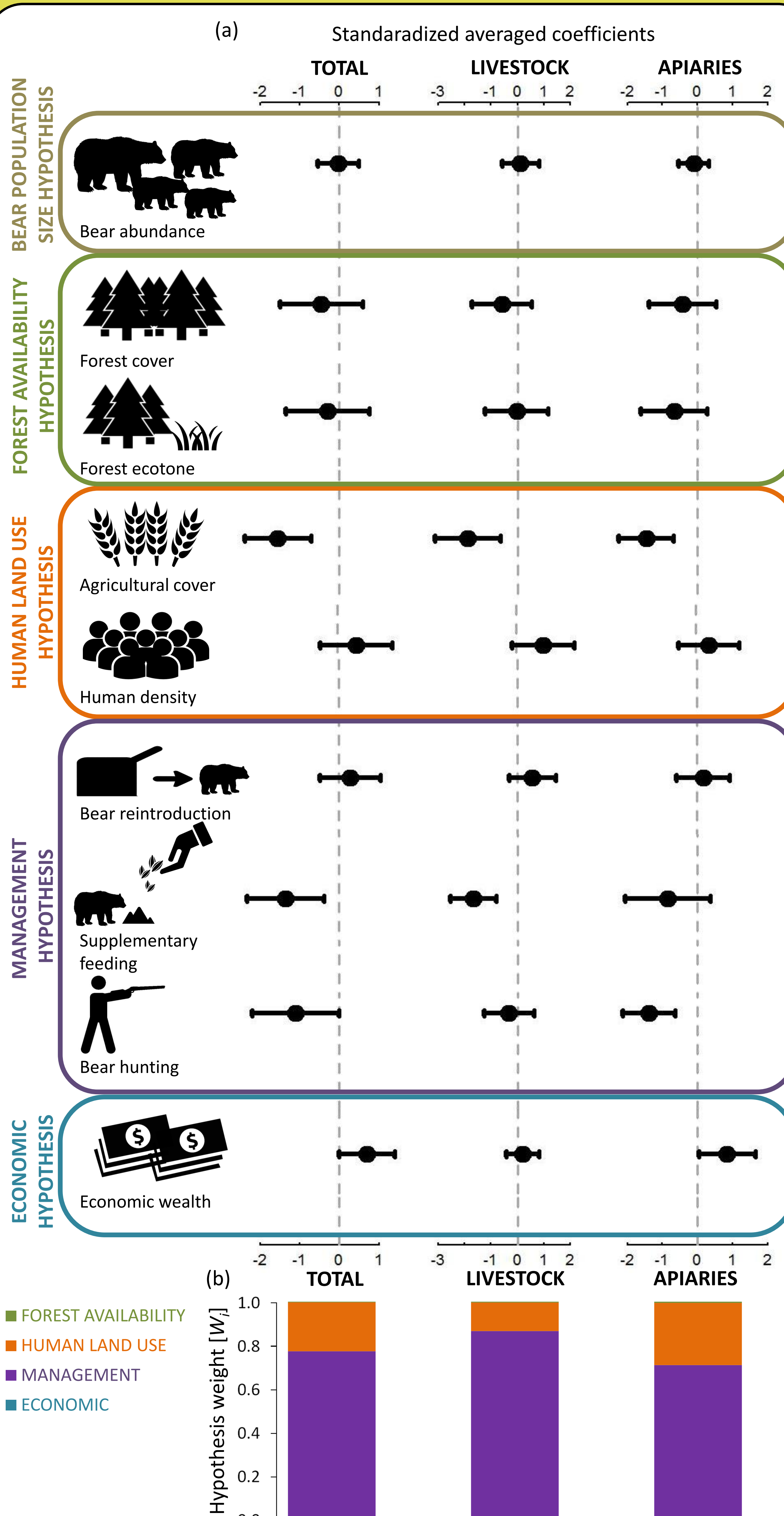
DATA

We compiled information about compensation schemes from 26 countries in Europe and analyzed 18,300 compensated claims for damages caused by brown bears across 18 European management units with different socio-ecological conditions.



We (a) averaged the number of damage claims compensated per year in 18 European management units in 2005-2012. We (b) delimited the management units (blue lines) based on the distribution of each bear population or subpopulation overlaying national, regional or county borders (distributions after Chapron *et al.*, 2014). Countries with grey color had no data on bear distribution.

ANALYSIS



We confronted multiple hypotheses to explain the variation on the number of compensated claims for bear damage each year in Europe in 2005-2012. We analyzed the total number of claims and the number of claims for livestock and apiary damage. We (a) averaged the standardized coefficients across GLMMs with the management unit as a random effect. We (b) compared the relative weights of each hypothesis using AIC.

CONCLUSIONS

- ✓ Compensations for bear damage varied in type and number across Europe
- ✓ The variation in the number of compensated damage was partly due to the compensation schemes
- ✓ Damage claims were less numerous in areas with supplementary feeding and with a high proportion of agricultural land
- ✓ The number of damage claims was NOT related to the bear abundance
- ✓ Policies that ignore this complexity and focus on a single factor, such bear population size, may not be effective in reducing claims
- ✓ To be effective, policies should be based on integrative schemes that prioritize damage prevention and make compensation payments a condition of the use of preventive measures

REFERENCE

Chapron, Guillaume, et al. "Recovery of large carnivores in Europe's modern human-dominated landscapes." *Science* 346.6216 (2014): 1517-1519.

ACKNOWLEDGEMENTS

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FURTHER INFORMATION

Bautista *et al.* (2016) Patterns and correlates of claims for brown bear damage on a continental scale. *Journal of Applied Ecology*, in Press

www.carpathianbear.pl
carlosbautistaleon@gmail.com
Carlos Bautista
@CBautistaLeon