Ecology, physiology and behaviour

How does hunting affect social contacts in wild boar populations?

Podgórski, Tomasz[1,2*]; Fattorini, Niccolò[3]; Augustsson, Evelina[5]; Baubet, Eric[6]; Cagnacci, Francesca[7]; Fiderer, Christian[8,9]; Fischer, Claude[10]; Heurich, Marco[8,9,11]; Ježek, Miloš[2]; Kjellander, Petter[5]; Klamm, Alis[12]; Licoppe, Alain[13]; Morelle, Kevin[14]; Náhlik, András[15,16]; Nivois, Eveline[6]; Olejarz, Astrid[2]; Said, Sonia[6]; Suter, Stefan[17]; Tari, Tamás [16]; Vicente Baños, Joaquin[18]; Focardi, Stefano[19]

[1] Mammal Research Institute, Polish Academy of Sciences, Białowieża, Poland
[2] Czech University of Life Sciences, Faculty of Forestry and Wood Sciences, Prague, Czech Republic
[3] University of Siena, Department of Life Sciences, Italy
[4] National Biodiversity Future Center, Palermo, Italy
[5] Swedish University of Agricultural Sciences, Grimsö Wildlife Research Station, Riddarhyttan, Sweden
[6] French Office for Biodiversity (OFB), Birieux, France
[7] Research and Innovation Centre, Fondazione Edmund Mach, San Michele all'Adige, Italy
[8] Bavarian Forest National Park, Grafenau, Germany
[9] University of Freiburg, Faculty of Environment and Natural Resources, Freiburg, Germany
[10] University of Applied Sciences of Western Switzerland, Department of Nature Management, Jussy, Switzerland
[11] Inland Norway University of Applied Sciences, Department of Forestry and Wildlife Management, Elverum, Norway
[12] Hainich National Park Administration, Department of Nature Conservation and Research, Bad Langensalza, Germany
[13] Service Public de Wallonie, Natural and Agricultural Environmental Studies Department, Gembloux, Belgium
[14] Max Planck Institute of Animal Behaviour, Department of Migration, Radolfzell, Germany
[15] Sapientia Hungarian University of Transylvania, Faculty of Life Sciences and Sports, Sfântu Gheorghe, Romania
[16] University of Sopron, Institute of Wildlife Biology and Management, Sopron, Hungary
[17] Zürich University of Applied Sciences (ZHAW), Wädenswil, Switzerland
[18] University of Castilla-La Mancha, Research Institute of Hunting Resources (IREC), Ciudad Real, Spain
[19] Istituto dei Sistemi Complessi Sezione di Sesto Fiorentino, Florence, Italy
* podgorski@fld.czu.cz

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Variation in animal social interactions emerges from individual responses to social and physical environments and plays a key role in shaping pathogen transmission, gene flow, and information transfer. Although hunting can induce changes in contact patterns through disruption of the social environment, the non-consumptive effects of hunting have not received much attention compared to demographic effects of harvest. Therefore, we examined the effects of hunting activities on contact rates in wild boar, a species particularly exposed to social disruptions owing to its high sociality and intense management. Using GPS-telemetry data from 21 populations across Europe (435 unique dyads) we analysed how hunting activities impact social contacts within and between wild boar groups. Additionally, we tested the effects of covariates potentially shaping contact heterogeneity (sex, seasonality, spatial proximity). We found that drive hunts, but not individual hunts, lowered contact rates within groups while contacts between members of different groups were not affected by the hunting methods. The frequency of between-group contacts was mainly shaped by a positive relationship with spatial proximity. Between-group contacts were predominantly maintained by males which is consistent with the matrilineal social system of wild boar. Contact rates varied seasonally within groups and were relatively even throughout the year between groups. Our study showcases how disturbance caused by hunting affects contact rates in a group-living species. Along with other (a)biotic drivers, hunting modality plays a significant role in shaping intra-group, but not inter-group, contacts. This novel result helps understanding the anthropogenic drivers of the intraspecific social contacts, with critical implications for individual fitness, population processes and wildlife management when species with high epidemiological relevance, such as wild boar, are involved.