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Editorial

Introduction to the special issue on Clinical ethology

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An estimated 285 million people suffer of anxiety disorders, 265 million people have depressions, and millions suffer of dementia or other mental disorders (WHO, 2019 as based on GBD 2017: see <https://www.who.int/news-room/fact-sheets/detail/mental-disorders>; GBD 2017 Disease and Injury Incidence and Prevalence Collaborators, 2018). Laboratory-, zoo- and farm animals, but also our companion animals, show behavioural problems that have clear similarities to what we see in humans. This creates the potential for an endless area of comparative research with practical and clinical implications for both animals and humans.

The scientific study of animal behaviour, ethology, started in the early thirties of the past century with well-known protagonists such as Niko Tinbergen and Konrad Lorenz. Ever since, the discipline has provided handles to apply its knowledge in many disciplines ranging from genetics to neurobiology. This knowledge of animal behaviour is also applied in clinical settings, behavioural diagnosis and therapeutical interventions to solve and prevent behavioural problems, hence *clinical ethology*. This field is characterized by the integration of interdisciplinary knowledge and incorporation of ultimate as well as proximate perspectives. In case of domestic animal species, where both human and animal share the same environment and may face the same environmental challenges, questions like *What can we learn from each other?* may be even more interesting.

The aim of this special issue is to outline how different disciplines work on related scientific questions, whereby the knowledge of behavioural diag-

nosis, treatment and prevention of cognitive and behavioural problems in (domestic) animals plays a central role. This special issue explores the benefits to foster further integration of that knowledge. The ultimate goal is to improve mental care for both animals and humans in the future and provide a better welfare for all. The integrated disciplines can be seen as a most illustrative example of the *One Health-One Welfare principle*.

The special issue on *clinical ethology* starts with conceptual questions and critical considerations on the term clinical ethology by Clive Wynne. He integrates previous ‘rival schools’, Ethology and Behaviourism, with other disciplines like applied behavioural analysis in what he proposes to call *Integrated Clinical Animal Behaviour (ICAB)*.

This special issue provides two detailed fundamental reviews. Lindsey Kitchenham addresses the neurobiological mechanisms of stereotypies and Aileen MacLellan discusses the question if animals can develop depressions? These two reviews from the group of Georgia Mason, expose many new insights and views on two topics known in human mental disorders as well.

Next you will find diagnosis and treatment: Karen Overall provides a review on clinical behavioural diagnostics and interventions in animals, with a discussion on psychopharmacotherapy in animals, followed by a clinical study on the effect of psychopharmaca. In a paper on EMDR (Eye Movement Desensitization and Reprocessing), Chantal Kapteijn explores and discusses the (im)possibilities of the EMDR technique for animals with anxiety disorders and gives a protocol to start new research. Precisely formulated objective descriptions of behavioural patterns in ethograms, as commonly used in the discipline of behavioural biology, are used by Ana Violeta Granados in the paper on non-verbal behaviours in children and adolescents with complex trauma. Finally, Ineke van Herwijnen discusses the consequences of the human-animal bonding in the paper on the influence of human parenting styles on the behaviour of our companion dogs.

We cannot improve mental health in practice if we cannot stand on each other’s shoulders regarding fundamental concepts and in-depth-research on underlying mechanisms. As guest editor, I am proud to present this special issue with a diverse set of papers covering the broad area of clinical ethology. The insight that animals not only share a behavioural basis with humans, but also behavioural dysfunctions, may open potential for a new fruitful research area that may benefit humans and animals alike.

References

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