

Accepted Manuscript

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PII: S0168-1591(17)30149-1
DOI: <http://dx.doi.org/doi:10.1016/j.applanim.2017.05.007>
Reference: APPLAN 4454

To appear in: *APPLAN*

Received date: 16-10-2016
Revised date: 25-3-2017
Accepted date: 7-5-2017

Please cite this article as: Polanco, Andrea, Campbell, Dana L.M., Díez-León, María, Mason, Georgia, Towards a taxonomy of stereotypic behaviours in the American mink (*Neovison vison*), a model Carnivore: Homogeneous or heterogeneous?. *Applied Animal Behaviour Science* <http://dx.doi.org/10.1016/j.applanim.2017.05.007>

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Towards a taxonomy of stereotypic behaviours in the American mink (*Neovison vison*), a model Carnivore: Homogeneous or heterogeneous?

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Highlights

- Research on the causes of different forms of stereotypic behaviour (SB) is limited
- Farmed mink display many SB forms including pacing, stationary, and scratching SBs
- We assessed whether these SBs clustered together, which may imply similar causation
- Stereotypic scratching was verified as being distinct from pacing and stationary SBs
- Whether pacing and stationary SBs clustered depended on the ethogram used

Abstract

Stereotypic behaviours (SBs) are sometimes assumed homogeneous, despite their diverse morphologies, as if sharing a common aetiology. However, if different SB forms are instead heterogeneous, they may have different causes, potentially impacting how best to prevent or manage them. We therefore conducted two exploratory studies with mink (*Neovison vison*) to investigate whether ‘loco’ SBs (locomotor forms like pacing, and ‘stationary’ forms like head-bobbing) are homogeneous or heterogeneous, and to corroborate previous findings that ‘scrabbling’ (stereotypic scratching at cage walls) is distinct from loco SBs. We assessed correlations between their time-budgets (Studies 1 and 2), followed young mink as they aged (Study 2), and used chi-square goodness-of-fit tests to explore whether some SB forms co-occur within bouts more or less frequently than expected by chance (Study 2). Co-occurrence in bouts and positive correlations between different SB forms would indicate homogeneity and perhaps shared causal factors. Conversely, SB forms appearing on their own in bouts and/or showing absent or negative correlations with other forms would indicate heterogeneity. Study 1 demonstrated negative

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