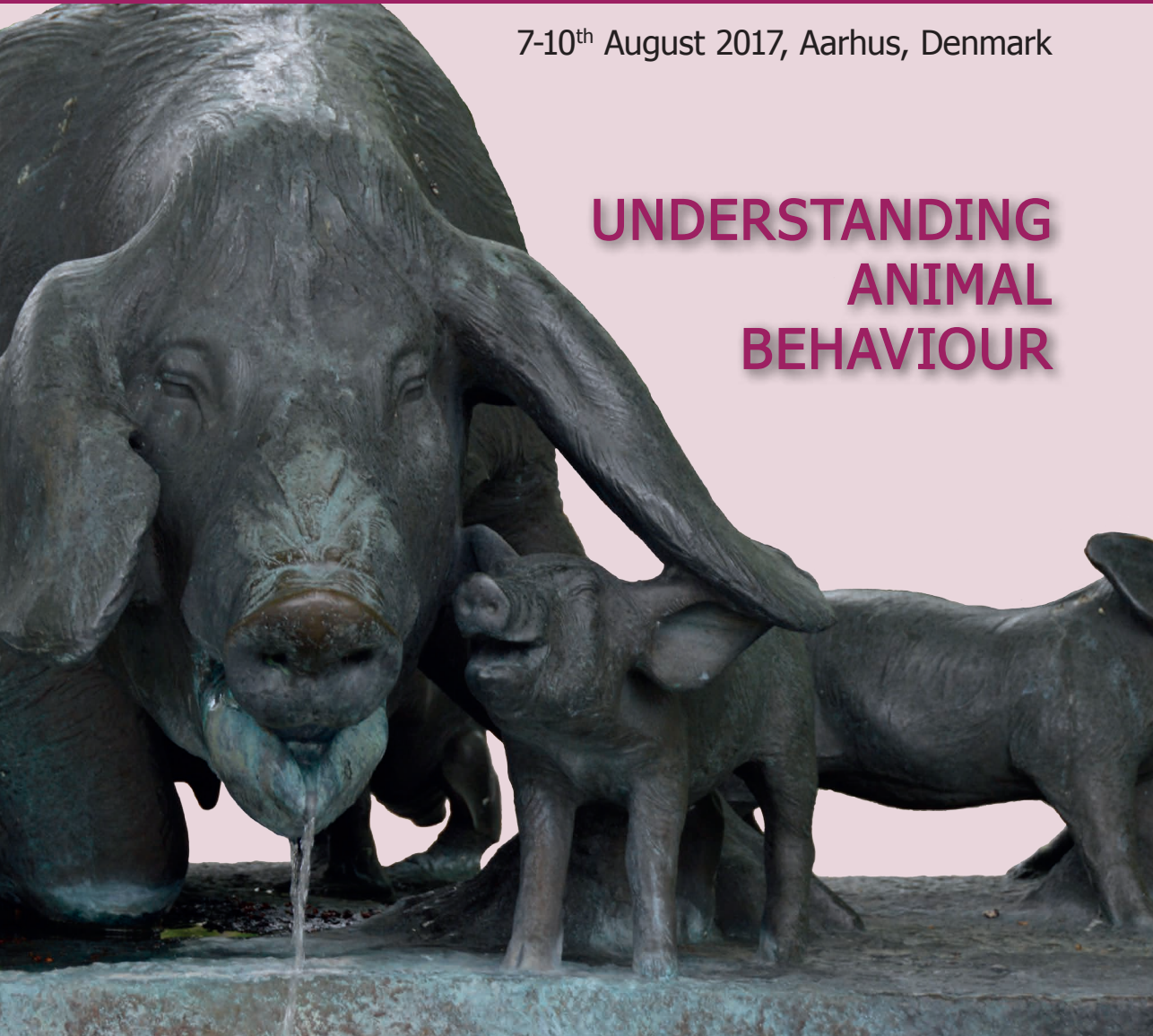


Proceedings of the  
**51<sup>st</sup> Congress of the  
International Society for Applied Ethology**

7-10<sup>th</sup> August 2017, Aarhus, Denmark

**UNDERSTANDING  
ANIMAL  
BEHAVIOUR**



edited by:  
Margit Bak Jensen  
Mette S. Herskin  
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**Factors affecting maternal protective behavior in Nellore cows**

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The aim of this study was to evaluate the effect of different factors on maternal protective behavior (MPB) of Nellore cows. A total of 3629 cows were evaluated around 24 h after calving, while their newborns were handled for navel care, ear tattoo and weighing. MPB was assessed by observing each cow reactions when its calf was caught in a corral pen. MPB score consisted of 5 levels, going from 1 (the cow paid no attention to the calf and remained indifferent to the procedure) to 5 (the cow showed aggressive behaviors toward the handler, trying to attack). The cow body condition was registered using the scale from 1 to 5. Information regarding cow age at calving was available from the farm and six classes were defined (1: one to two years old, 2: two to three years old, 3: three to four years old, 4: four to five years old, 5: five to six years old, and 6: six to eight years old at calving). A generalized linear mixed model was fitted to evaluate the effect of cow body condition, cow age at calving, calf sex and calf birth weight on MPB. The cow body condition score, its age at calving and the calf sex were considered as fixed effects. Additionally, calf birth weight was used as a covariate and the cow was included as a random effect in the model. Cows with the greatest body conditions were more protective with their calves ( $F=9.79$ ,  $P<0.0001$ ). Younger cows were less protective to their offspring ( $F=4.66$ ,  $P=0.0003$ ). Adjusted means  $\pm$  SE of MPB for each cow age class were:  $2.41\pm 0.06$  (1),  $2.56\pm 0.04$  (2),  $2.62\pm 0.03$  (3),  $2.67\pm 0.04$  (4),  $2.73\pm 0.06$  (5) and  $2.86\pm 0.11$  (6). The calf sex had a significant effect on MPB ( $F=6.25$ ,  $P=0.0126$ ) being higher for mothers of females calves ( $2.68\pm 0.03$ ) compared to male calves ( $2.60\pm 0.03$ ). Results from this study also showed that cows were more protective towards heavier calves at birth ( $F=19.05$ ,  $P<0.0001$ ). In conclusion, older Nellore cows, with a better body condition at calving, with females and heavier offsprings showed more intensive maternal protective behavior toward their newborns.