

**Session:**

**Bear ecology, behaviour and physiology**

**BEHAVIOUR OF THE EURASIAN BROWN BEAR AT RUB TREES IN THE ITALY**

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**Abstract**

This study analyses the marking behaviour of the Eurasian brown bear filmed during a three-year survey by camera traps placed in front of 25 rub trees in the central Italian Alps. We cumulated over 500 videos of bears through a sampling effort of about 9000 camera days. The bears captured in the videos were classified according to age and sex, and type and duration of each behaviour was recorded. Data allowed to assess temporal patterns of rubbing behaviour, differences within sex, age and among individuals. Rubbing was significantly more performed by adult males with a peak during the breeding season. Adult males used a variety of positions to mark the trees compared to the other classes, confirming that this behaviour is mainly related to the mating strategy of the species. Rubbing was also observed during the non-breeding season, but with much less intensity, while investigation of rub trees was performed by bears of all ages and sexes throughout the seasons. The only tree female bears who rubbed the trees were recorded in autumn, outside the breeding season. Rubbing on a tree by a bear triggered a response in individuals subsequently passing by the same rub tree: 62% of the times the second bear either rubbed or investigated, with a proportion that differed significantly from a random sample. Results support the hypothesis that rubbing the trees is a mean of communication during the mating season, as already documented for grizzlies and brown bears in North America.

