CATNIP AS AN OLFACTORY ENRICHMENT: EFFECTS ON BEHAVIOURAL AND ENDOCRINE PARAMETERS IN CAPTIVE TIGERS

Marco Sconfienza[1], *Valentina Isaja*[2], *Patrizia Ponzio*[1], *Elisabetta Macchi*[1]

1 University of Turin, Turin, Italy.
2 Zoom Park Torino, Cumiana (TO), Italy.

The Siberian tiger (*Panthera tigris altaica*) is an endangered species: its decline in the wild, mainly due to poaching and habitat loss, has increased the importance of *ex-situ* conservation programs. This study, was run at the Zoom Park Torino, Cumiana, Italy and aims to evaluate the welfare of three male Siberian tigers under different management conditions, focusing on the effects of catnip (*Nepeta cataria*) as an olfactory environmental enrichment. The study was divided in three phases: p1 (subjects housed in the exhibit), p2 (subjects housed in the indoor quarantine facility) and p3 (as p2, but 20 gr of catnip were sprinkled on the ground daily). The tigers' behaviour was recorded through focal animal sampling method and faecal cortisol levels were analysed through a faecal cortisol metabolite enzyme-immunoassay (FCM EIA). Recorded behaviours were split into three classes: inactive, alert and active behaviours. The Friedman test showed a significant difference in inactive behaviours ($\chi^2 = 7.194$, $df = 2$, $p = 0.027$), in alert behaviours ($\chi^2 = 10.225$, $df = 2$, $p = 0.006$) and in active behaviours ($\chi^2 = 9.340$, $df = 2$, $p = 0.009$) among the three phases. Subsequent pairwise comparisons (Dunn's test) showed a significant increase in inactive behaviours between p1 and p2 ($p = 0.028$), a significant decrease for alert behaviours between p1 and p2 ($p = 0.036$) and a significant increase for active behaviours between p2 and p3 ($p = 0.015$). A significant difference between the mean of FCM levels was found among the phases ($\chi^2 = 6.541$, $df = 2$, $p = 0.038$). This preliminary study has shown how a combined ethological and physiological approach is a reliable tool to assess the welfare of Siberian tigers. The employ of catnip has shown to be effective in increasing active behaviours of the subjects.