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Negative and Positive Reinforcement - A way to avoid unnecessary suffering

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sources (mostly *Macaca* spp.) over the past years by focusing on main sanitary issues. Prevalence of tuberculosis, herpes B virus, retrovirus, *Shigella*, *Salmonella*, and *Yersinia*, appear to lessen in statistics. Quarantine procedures, including 4 to 6 weeks of isolation, consecutive tuberculin skin tests, serology, fecal culture, parasitology exams, and baseline blood values will be discussed. Thanks to efforts of breeders, new methodology, regular health screenings of the animals and practice of quarantine when arriving in EU, NHP's health status has improved for the last years and ensures the quality of animals entering research programs.

S10-3 Macaque breeding management: introduction, success rate and tenure length of alpha males

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With the implementation of the new European Directive 63/2010 even more effort is put into improving primate welfare. In order to be able to offer the best experimental animals for biomedical research, the BPRC maintains a well-kept, self-sustaining breeding colony of rhesus macaques. Over 800 animals live in large social groups that mimic natural grouping patterns. This implies that groups consist of 1-4 matriline, that animals are not taken out of their natal group before being subadult and that a new, unfamiliar adult male is introduced every 4-5 years. Introduction of new males in this despotic species can cause severe trauma and needs specific introduction protocols. We will show data from more than 50 introductions over the previous 15 years. The success rate of males of different breeding status and the trade-off between produced number of offspring and introduction risk will be discussed: is there an optimal tenure length? Although the introduction of unfamiliar adult males in a large group is always risky we feel that our procedures will lead to "better" experimental animals. Our data show that BPRC's unique breeding strategy does not have a negative effect on interbirth intervals of females, and that it is not necessary to wean babies at an early age and raise them in peer groups. We demonstrate that it is possible to keep and breed rhesus macaques for research purposes in groups that fully meet their social, behavioral and environmental needs.

S10-4 Negative and Positive Reinforcement – A way to avoid unnecessary suffering

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The aims of this study were to compare if monkeys trained by negative reinforcement combined with positive reinforcement (NR/PR) learned a particular task at a different rate than those trained by only positive reinforcement (PR). In addition, we investigated how the different training methods affected the monkeys' attitude towards the trainer and how the faeces cortisol levels changed during the experiment. Twenty pair housed rhesus monkeys (*Macaca mulatta*) were divided into two groups, trained for 60 days to enter a squeeze box on cue and to accept the gate being closed. In the PR-group the monkeys were clicker trained and rewarded with treats when they performed the correct behaviour. In the NR/PR-group a cue was used as 'signalled' predictability, preceding the presentation of one or several aversive stimuli. When the correct behaviour was shown, the aversive stimulus was removed and followed by treats. As the animals learned, the use of aversives was gradually decreased. Signals unique to each pair, counter conditioning and husbandry training in the afternoons with PR were techniques used to effectively diminish the aversive impact of NR.

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