

# FROM SOLITARY TO SOCIAL: THE PROCESS OF RESOCIALISATION OF RESCUED PRIMATES

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## Introduction

Generally, non-human primates are social species. Literature indicates that suboptimal housing conditions and social deprivation may lead to the development of abnormal behaviour, which is considered a sign of impaired welfare (Shyne, 2006; Novak et al., 2002; Novak, 2003; Dellinger-Ness and Handler, 2006). Most non-human primates that are rescued by AAP, a rescue centre for exotic animals, have a history which is characterized by social deprivation or isolation. Therefore, it is no surprise that many of these animals display abnormal behaviour when they arrive at AAP. Social housing of rescued primates is essential for improving their welfare and usually leads to an increase in natural behaviour and a decrease in abnormal behaviour. Social housing of primates is an important part of the resocialisation process, which is defined as reverting to a natural behaviour repertoire as much as possible. Social housing starts with introducing rescued primates to conspecifics, further referred to as social introductions. This paper will discuss some of the issues to take into account when performing social introductions.

## Group Composition

In the wild, group composition is determined by natural processes such as birth, death, dispersal from adolescent offspring, or fusion of groups (Newton, 1987; Price and Stoinski, 2006). In captivity, artificial processes such as social introductions determine the initial group composition. AAP aims to form groups of primates that reflect the group composition in the wild as much as possible in order to stimulate natural behaviour. In the wild, many primates live in multimale-multifemale groups in which males emigrate and females remain in their natal group. However, most primates that are introduced into social groups are unfamiliar (adult) individuals, making group formation dangerous as it can be associated with aggression, injuries and sometimes even death (Reinhardt et al., 1995). Nevertheless we have successfully formed bachelor groups, singlemale-multifemale groups and multimale-multifemale group. The latter usually consists of more females than males.



Olive baboons Lucy and Marta. Photo: Petra Sonius/AAP

Important aspects that should be taken into consideration for group formation in captivity are species characteristics, such as group composition in the wild, and individual characteristics such as sex, age and social skills. For instance, multiple adult males in a social group with females can result in aggression because of competition over females (Price and Stoinski, 2006). Generally, group formation is more difficult when individuals of the same age or same sex are introduced to each other. Furthermore, age is also important in determining the chances of developing appropriate social behaviour (Fritz, 1986). The time it takes to form a group depends on the individual history and social capacities of the individual. In practice, individuals that display abnormal behaviour seem to have more difficulties to adapt to a change in their environment, and it takes more time to resocialise them.

## Social Introductions at AAP

The social introduction of the individual consists of two phases. The first phase is non-contact familiarisation, during which the individual primate is placed in an enclosure adjacent to the group that it will be introduced to. The animals have visual, auditory and olfactory, as well as limited tactile access to each other to prevent serious injuries. The duration of the familiarization can vary between several hours to several weeks, but on average lasts one weeks. This provides the opportunity to monitor social interactions and the animals can get familiarized. The second phase starts when the individual has physical access to its new group member(s). At AAP, a sequential introduction of the group members to the

newly introduced individual is preferred, because of the reduced risk of aggression and reduced stress for the animals, compared to simultaneous introduction. Furthermore, if individuals are introduced one by one, it is easier to intervene if aggression is displayed and it enables a strategic decision which individuals are introduced first. Usually, group formation is started with the introduction of individuals that displayed affiliative interactions during the familiarisation phase. Alternatively, high ranking individuals may provide protection during the remaining time of the group formation. Younger animals are generally introduced later on to reduce the risk of aggression to these young individuals.



Barbary macaque Ulli with a younger conspecific. Photo: Petra Sonius/AAP

### Monitoring Social Introductions

By carefully preparing and planning the social introduction and observing the behaviour, a high success rate of resocialisation can be achieved (Reinhardt et. al, 1995; Reinhardt and Reinhardt, 2000). During social introductions humans should be present to monitor the resocialisation process and intervene in cases of escalated aggression (Fritz and Howell, 2001). However, human presence can affect (social) behaviour of primates, especially in rescued primates that have lived in close contact with humans

in the past. Especially during social introductions between primates, interactions between humans and primates should be reduced to a minimum as interactions with or support to an individual animal could lead to aggression against conspecifics. The (long-term) effects of social introductions can be determined by analysing behavioural observations that were collected prior to, during and after a social introduction.

At AAP, behavioural biologists train caretakers to conduct behavioural observations. Since 2010, caretakers have been trained to introduce primates to conspecifics and to monitor these social introductions. This increased the total number of introductions that were carried out and the rate of successfully performed introductions remained stable (see Table 1). Between 2009 and 2011, a total number of 144 introductions were performed and results of 117 introductions could be analysed. Of these analysed introductions, 77% was successful (i.e. the individual was still in the group or with part of the group after 2 months) and 23% did not succeed (the introduction was stopped).

	2009	2010	2011
No. of introductions	31	54	59
% of successful introductions	85	71	78

Table 1. The total number of introductions per year, the same number of staff was maintained throughout these years.

### Summary

In summary, social housing is necessary in terms of welfare in social primate species. A high success rate of social introductions can be achieved by careful planning of group composition and monitoring social introductions by using behavioural observations. Before, during, and after the social introduction the animals should be monitored to decrease the risk of injuries as much as possible. Social introductions should be a gradual process that consists a non-contact familiarisation phase and a phase during which the individuals are sequentially introduced to each other. Involving caretakers into monitoring social introductions can increase efficiency in rescue centres.

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