

Mixed Species Exhibits

Barbara Lester

Mixed species exhibits are valued for conserving space, providing positive and challenging stimuli to animals and for the education and entertainment aspect of a zoo's mission. The decision to house polyspecifics together must take into account the inherent problems associated with any animal introduction and management scheme but must include additional factors unique to mixed species exhibitry. Aggression between polyspecifics; multi-species competition for resources such as food, space, etc., and the potential for zoonotic disease transmission especially from high risk species, i.e. macaques, are some of the issues to be addressed when mixing species. In addition, psychological distress as the result of a mixed species situation should be considered as a potential health risk for the animals involved. Management of each individual species should be considered independently of the other especially with regards to cases where the mixed exhibit is not successful. Alternative plans for housing, feeding, etc., should be made prior to beginning the mixed species program.

Species housed with Orangutans

Orangutans have been housed with polyspecifics including **siamangs, white-handed gibbons, other gibbon species** (species not specified on survey), and **crab-eating macaques**. Exhibits with water moats have fish, bullfrogs, and various turtle species in them with no reports of interaction or aggression by the orangutans, even when the turtles bask on land. One report cites various old world monkeys opportunistically and briefly getting into an orangutan exhibit with no extraordinary outcome, although zoo managers did not want or plan these visits into the neighboring exhibit. Other animals that have been found living in orangutan exhibits are feral animals such as domestic cats and rabbits.

Survey

This report reflects a 2002 online survey of AZA zoos holding orangutans and information about two Australasian zoos that have housed orangutans in a mixed species situation. The total sample size is 11 exhibits, and some are multiple exhibits at the same zoo and one mixed species exhibit documented was 20 years ago.

The following is a synopsis of the answers to the two most important questions of the survey:

Q: Were there any interspecies problems with the mixed species exhibit? If so, what sort? Were they ever resolved, and if so, how?

A: Interactions observed:

- Interspecies grooming
- Food sharing
- Play
- Interspecies avoidance
- Interspecies challenges: Gibbons/siamangs as aggressors, gibbon challenges to orangutans, decreasing over time (6 mos.)
- Interspecies aggressions: Orangutans as aggressors (N=1)
- Petting and play with domestic cat

Q: Were there any management problems with the mixed species exhibit? If so, of what sort? Were they ever resolved and if so, how?

A:

- The species were separated for feeding to ensure all get appropriate amount to eat.
- Exhibit configuration (bottleneck) problematic.

Results summary

A summary of survey results (which include some of the respondent's comments) was given by Orangutan SSP® Coordinator Lori Perkins;

- It definitely appears that orangutans may be a good choice for mixed species exhibits, particularly with gibbons and siamangs.
- Problems encountered seem to be related to individual differences. One respondent commented that the less confident orangutans were the ones more likely to show aggression. Agonistic behavior, when observed at all, seems to be directed from the smaller primates towards the orangutans, not the other way around.
- Enclosure variables also seem to play a role in managing the mixed species exhibit. Bottlenecks, where smaller primates can be trapped, should be avoided, and "safe areas" to which orangutans cannot gain access should be created.
- Most zoos with mixed species orangutan exhibits separate the species for feeding to monitor and control consumption.

- One respondent reported that gibbon songs seemed to aggravate orangutans when the gibbons were singing in an indoor area (which probably caused echoes and/or amplifications).

Management considerations

Housing multiple species in an exhibit presents many management challenges. The species natural history, species specific requirements and preventing resource competition is a priority in planning a program. The following should be regarded as a basic list of facility design and program considerations but not to be taken as an exhaustive list:

- Sufficient space in the night quarters for each species and each individual as well as appropriate physical, visual, or auditory separation where needed.
- Exhibit must be large enough to meet the minimum standards for each species plus added square footage for the addition of extra animals.
- Exhibit must be properly furnished to supply species specific needs for each species without competition for furniture or space by polyspecifics
- Appropriate visual barriers if needed.
- A plan for feeding and watering to eliminate food competition or dominance over feeding/watering sites.
- Safety features in any shared living space which helps protect the smaller or less dominant animal retreat from harassment or aggressive behaviors from others.
- The environmental enrichment program used for orangutans must be re-evaluated to consider the polyspecifics to be housed in the exhibit. The safety and species appropriate nature of the enrichment items used in the program must ensure that the goals of enrichment are met for all of the species, in a safe and healthy manner.

As an arboreal species, orangutans should not have to compete for arboreal living space with another arboreal species such as a gibbon. The exhibit should be large enough and sufficiently furnished to where all animals are comfortable residing in their arboreal living areas. Providing arboreal travel pathways with differing load-bearing capabilities is one way to exclude larger and heavier animals from certain areas. This is one of a multitude of exhibit design features that captive managers must deal with in the development of a program.

In addition to the management plans and all of the design factors that take into account the animals' natural history and species specific needs, one very integral part of the formula is the individual personalities of the orangutans and the other animals to be housed with them. When all of the design work is complete and the correct safety features and plans are in place, individual personalities can be the difference in success or failure of a mixed species exhibit. A dominant personality within the group can affect the dynamics in both species for good or bad. Sedations, reintroductions, a change of animals in a group or death of an animal are all potentially devastating to a mixed species exhibit. One survey respondent gave an example of the death of a dominant male orangutan leaving the adult female orangutan vulnerable and a target for the male gibbon to harass her a great deal. This aspect of orangutan mixed species exhibits cannot be "programmed." Managers must be flexible and have the ability to observe the dynamics of all group members over time and effect change that counteracts new and unforeseen problems.