

Largest genetic survey to date shows major success of giant panda breeding programs

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Heroic worldwide conservation efforts have made great strides in saving China's endangered national treasure, the giant panda. Now, in China, there are over 65 giant panda reserves that have been established and three large breeding centers. But despite these efforts, just 1596 pandas remain in the wild.

Breeding programs in conservation centers and zoos hope to save the panda by improving [genetic diversity](#), avoid inbreeding and ultimately, introduce pandas back to the wild. Just how are these high-profile programs doing so far?

In a new study appearing in the advanced online edition of *Molecular Biology and Evolution*, Fuwen Wei, et al., performed the most comprehensive genetic survey so far. They evaluated the diversity of 240 captive [giant pandas](#) from 4 Chinese breeding centers locations (Wolong, Chengdu, Louguantai, and the Beijing zoo account for 64 percent of the 341 pandas kept in captivity).

In good news for the breeding centers, high levels of genetic diversity and low levels of inbreeding were found in the captive populations, which indicate that the whole captive population is genetically healthy, and it is therefore unnecessary to capture more wild pandas for captive breeding. However, one center, the Louguantai population, faces a higher risk of inbreeding and requires urgent attention to correct, such as scientific-based breeding pairs.

Finally, the authors recommend that selection of captive pandas for reintroduction into the wild should consider their geographic origin, genetic background and genetic contribution. By combining the new molecular genetic data with pedigree data, the authors hope that panda research centers can successfully release [pandas](#) back into the wild.

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