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REPRODUCTIVE PARAMETERS OF REHABILITANT FEMALE ORANGUTANS (PONGO SPP.); HIGH INFANT MORTALITY RATE AND YOUNG AGE AT FIRST REPRODUCTION

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The orangutan (Pongo spp.) has become one of the world's most endangered apes, and with increased displacement from an ever-shrinking habitat more attention is being focused on reintroduction/rehabilitation programs as a potential avenue for their conservation. To improve these programs, we collected reproductive parameters of free-ranging female rehabilitant orangutans (Pongo spp.) at seven release sites; Bukit Lawang (Sumatra), Bukit Tigapuluh (Sumatra), Camp Leakey (Borneo), Kaja Island (Borneo), Sei Wain (Borneo), Meratus (Borneo) and Sepilok (Borneo) over several years or decades. Results indicate significant differences (Ryan test: $p<0.05$ or $p<0.01$) in ages at first reproduction (AFR), infant mortality rates (IMR), inter-birth intervals (IBI) and birth sex-ratio (BSR) compared with wild. Younger AFR (10.8-12.4 year) and shorter IBI (5.5-6.6 year) were probably caused by improved nutrition, by provisioning during human-rearing and after release. High IMR (19-67%) might be caused by less skilled mothering (an effect of human-rearing) and perhaps by provisioning induced competition in release sites. Explanations for biased BSR (proportion of male: 68%, 64% and 14% at sites of sample size $n>25$) were not clear. The implications of these results on conservation shall be discussed, with the conclusion that provisioning at release sites may negatively impact the success of reintroduction/rehabilitation programs, so methods of provisioning at these sites should be improved to avoid these reproductive problems.

Keywords: conservation, great-ape, reintroduction, provisioning