



An IUCN SSC Primate Specialist Group
Section on Human-Primate Interactions
Position Statement
Regarding the Capture of Wild Primates
for Biomedical and Pharmaceutical Research

Justification

Since the COVID-19 pandemic, we, the members of the IUCN SSC Primate Specialist Group Section on Human-Primate Interactions, have noted a worrying surge in the capture of wild, non-human primates worldwide for the purposes of biomedical research. This intensification of wild capture is occurring simultaneously with increasing conservation concern about the survival of most primate species and elevated uncertainty on the use of non-human primates (hereafter primates) as biomedical models. Recent research has documented the substantial negative impact on population sizes and demographics of such capture, even for primate species considered to be abundant, with severe consequences for primate conservation efforts.

In 1979, the IUCN SSC Primate Specialist Group first raised concerns regarding the use of primates in laboratory research, especially the use of wild-caught individuals and produced a statement that was adopted by the World Health Organisation and the Ecosystem Conservation Group, (which included UNESCO, UNEP, FAO and IUCN)²². It seems pertinent to reiterate our concerns and publish a new and updated statement to tackle the intense pressure many primate populations are currently facing due to the demand for laboratory subjects. Here, we describe some examples and provide a new statement.

Populations of the long-tailed macaque (*Macaca fascicularis*) have drastically declined and in 2022, it was reclassified as Endangered^[1]. Capture for laboratory research is listed as one of the major threats to the species^[1]. This threat, combined with habitat destruction and capture for the pet trade and entertainment industry, will lead to a population decline of 50% within the coming three generations, if threats are not mitigated^[1]. Recent surveys conducted in Bangladesh have found *no* extant populations of long-tailed macaques and researchers are also struggling to find the species in Laos. Surveys in other countries (Cambodia, Vietnam and Indonesia) also suggest a dramatic decline^[1]. Additionally, surveys in Indonesia have highlighted that synanthropic populations of long-tailed macaques, meaning populations that can use human resources and landscapes, can be overestimated due to this ability to use anthropogenic habitats.^[2,3]

Since the onset of the COVID-19 pandemic, trade from habitat countries has increased substantially due to an increase in demand for long-tailed macaques as research subjects and

due to China ceasing exports of the species^[4]. This, for example, led to a 200% increase in live exports from Cambodia (14,000 to 30,000 individuals) in just one year, 2019-2020^[5]. Since then, indictments and subpoenas have been served on individuals and companies involved with the trade, revealing their involvement in laundering wild-caught long-tailed macaques as captive bred^[6].

Rhesus macaques (*M. mulatta*) have been captured for use in COVID-19 related preclinical trials in Bangladesh^[7]. This not only impacts wild primate populations but also violates the standard research practice for vaccine efficacy trials, which requires the use of purpose-bred, specific pathogen-free (SPF) animal models. For decades, the international biomedical research community has acknowledged that rigorous scientific investigations require a thorough understanding of any potentially confounding factor that may obscure scientists' knowledge of their research model's immune function. When the decision is made to use an animal model, the scientific community should have used well-characterised SPF animals, capable of exhibiting a normal immune response to viral infection or vaccination. ^[8,9,10]

The long-term extraction of wild night monkeys (*Aotus nancymae* and *A. vociferans*) for malaria research has caused a decline in wild populations at the Colombian-Peruvian Amazonian border^[11,12]. Despite being transferred from Least Concern to Vulnerable by the IUCN,^[13] and its Endangered status in Colombia, the regional Colombian environmental authority, Corpoamazonia, granted permits for a biomedical facility (FIDIC) to trap 1,200 *A. nancymae* in 2020-2022 (Resolution 0366, 2020). No population assessment is required to issue such a permit^[13,14]. Night monkey populations in the border area are further threatened by the influx of primates that outlive biomedical experiments in the same facility. FIDIC released 4,041 such individuals between 2006 and 2012, and at least 815 in 2017^[14]. Only 10% of the released animals were assessed by a veterinarian^[14] potentially exposing resident populations to disease risk^[15]. In July 2021, FIDIC stated in the national media that they are using night monkeys for COVID-19 research.^[16] Primatologists have requested an investigation into this apparent illegal use of primates.^[17] To date, South American monkeys have not been proven to be a suitable model for COVID-19 research ^[18,19]. Biomedical use for this type of research would be unjustified and would put pressure on primate populations without evidence that it provides any benefit or scientific advancement^[20].

It is essential that, in our quest to protect and improve human health, we do not lose sight of the inherent value of wild primate populations. Five years ago, three quarters of the world's primate species were known to be in decline^[21]. This number is likely higher now. The extraction of primate individuals from the wild for any reason must not threaten population survival or jeopardise the ecosystems they inhabit and human communities they live alongside.

The following position statement updates the 1979 policy statement by the IUCN SSC Primate Specialist Group regarding the use of primates for biomedical research^[22].

Position Statement

Regarding the capture of wild primates for use in biomedical and pharmaceutical research

WHEREAS the trade in live primates is a major threat to primate conservation,

WHEREAS the demand for non-human primates in biomedical and pharmaceutical pre-clinical and toxicity testing appears to be increasing, despite promotion of the three Rs (replace, reduce, refine) and development of new methods that do not require live subjects,

WHEREAS in the last decade, and especially since the beginning of the COVID-19 pandemic, several primatologists have noted a rise in the capture of wild primates for pre-clinical and toxicity testing and countries have begun reinstating wild capture and export quotas to meet a rising demand, often without adequate population monitoring to accurately justify offtake levels. To meet demand breeding centers of captive bred primates for export may instead launder wild-caught primates as captive bred and regularly capture wild primates to maintain supply and upkeep of breeding stock,

WHEREAS legal capture and a high demand encourages and provides cover for illegal trade, furthermore adding to the detrimental impact on wild populations,

The IUCN SSC Primate Specialist Group Section on Human-Primate Interactions urges:

Biomedical and pharmaceutical research facilities to make a commitment to end their use of wild-caught primates, including those for use for biological sample collection (blood, tissue, etc.).

Biomedical and pharmaceutical research facilities to carefully review the sourcing of the primates they acquire.

Editors of scientific journals to refuse to publish biomedical research that is conducted on primates sourced from wild populations, or that may harm wild populations in any way.

Biomedical and pharmaceutical research facilities and the advising authorities to become active players in conservation by using and promoting alternative research strategies that do not involve capture of wild non-human primates as the primary supply for research.

References

- [1] Hansen, M.F., Ang, A., Trinh, T.T.H., Sy, E., Paramasivam, S., Ahmed, T., Dimalibot, J., Jones-Engel, L., Ruppert, N., Griffioen, C., Lwin, N., Phiapalath, P., Gray, R., Kite, S., Doak, N., Nijman, V., Fuentes, A. and Gumert, M.D. 2022. *Macaca fascicularis* (amended version of 2022 assessment). *The IUCN Red List of Threatened Species* 2022: e.T12551A221666136. <https://dx.doi.org/10.2305/IUCN.UK.2022-2.RLTS.T12551A221666136.en>. Accessed 16 March 2023.
- [2] Hansen, M. F., Gill, M., Nawangsari, V. A., Sanchez, K. L., Cheyne, S. M., Nijman, V. and Fuentes, A. 2021. Conservation of long-tailed macaques: implications of the updated IUCN status and the Covid-19 pandemic. *Primate Conserv.* 35: 207-217
- [3] Hansen, M. F., Nawangsari, V. A., Beest, F. M. van, Schmidt, N. M., Fuentes, A., Traeholt, C., Stelvig, M. and Dabelsteen, T. 2019. Estimating densities and spatial distribution of a commensal primate species, the long-tailed macaque (*Macaca fascicularis*). *Cons.Sci. and Practice*, 1(9) e88. <https://doi.org/10.1111/csp2.88>
- [4] Hansen, M. F., Gill, M., Briefer, E. F., Nielsen, D. R. K. and Nijman, V. 2022. Monetary value of live trade in a commonly traded primate, the long-tailed macaque, based on global trade statistics. *Front. Conserv. Sci.* 3: 839131.
- [5] I Warne R, Moloney, G. K. and Chaber, A-L. C. 2023. Is biomedical research demand driving a monkey business? *One Health*, vol. 16.
- [6] CITES Trade Database 2023. <https://trade.cites.org/>. Accessed 16th March 2023
- [7] Gazipur bdnews24.com. 2021. Globe biotech workers allege assault while catching monkeys to trial COVID vaccine. <https://bdnews24.com/bangladesh/2021/07/05/globe-biotech-workers-allege-assault-while-catching-monkeys-to-trial-covid-vaccine>
- [8] Morton, W. R., Agy, M. B., Capuano, S. V. and Grant, R. F. 2008. Specific pathogen-free macaques: definition, history, and current production. *ILAR J.* 49: 37-144.
- [9] Yee, J. L., Vanderford, T. H., Didier, E.S., et al. 2016. Specific pathogen free macaque colonies: a review of principles and recent advances for viral testing and colony management. *J Med. Primatol.* 45: 55-78.
- [10] Anderson, D. M. 2008. The nonhuman primate as a model for biomedical research. In: *Sourcebook of Models for Biomedical Research*, P. M. Conn (ed.), pp 251-258. Springer.
- [11] Maldonado, A. M., and Peck, M. R. 2014. Research and in situ conservation of owl monkeys enhances environmental law enforcement at the Colombian-Peruvian border. *Am. J. Primatol.* 76: 658-669. doi: 10.1002/ajp.22260
- [12] Maldonado, A. M. and Waters, S. 2017. Primate trade (Neotropics). In: *The International Encyclopedia of Primatology*, Fuentes A. (ed.), John Wiley & Sons, Inc.
- [13] Maldonado, A. M., Guzmán-Caro, D., Shanee, S., Defler, T. R. and Roncancio, N. J. 2017. *Aotus nancymaae*. *The IUCN Red List of Threatened Species* 2022: <http://dx.doi.org/10.2305/IUCN.UK.2017-3.RLTS.T41540A121725532.en>. Accessed 18 March 2020.

- [14] Maldonado, A. M., Soto-Calderón, I. D., Moreno-Sierra, A., Lafon, T., Hinek, A. C., Londoño, D., Peralta-Aguilar, A. P., Inga-Díaz, G., Sánchez, N. and Mendoza, P. 2023. Conservation status of the Nancy Mae's owl monkey (*Aotus nancymaae*, Hershkovitz, 1983) on the Colombian-Peruvian Amazon border. In: Fernández-Duque E (ed) *Owl Monkeys: Biology, Adaptive Radiation, and Behavioral Ecology of the Only Nocturnal Primate in the Americas*, E. Fernández-Duque (Ed.).
- [15] Roncancio-Duque, N., Osorno, M., Calderón-Espitia, L. M., Acosta-Castañeda, A., García-Loaiza, L. M., Gómez-Melendro and N., Henao, B. E. 2019. Densidad poblacional y composición de grupos de *Aotus nancymaae* en áreas de aprovechamiento de la especie para experimentación biomédica en el Trapecio Amazónico colombiano. *Neotrop. Primates* 25: 30-37.
- [16] Corpoamazonia 2017. A-009-2017. Comité de ética Estación de Primates FIDIC-CEEPA. Visita general por parte del comité a las instalaciones y valoración de 120 especímenes de *Aotus vociferans* y *Aotus nancymaae* candidatos a reubicarse en medio natural. Marzo 7. Corpoamazonia, Leticia, Amazonas
- [17] <https://agenciapi.co/investigacion/empresas/millonarios-contratos-1200-monos-para-experimentar-y-una-supuesta-vacuna-las-nuevas-de-manuel-elkin-patarroyo>.
- [18] de Abreu, F.V. S., Macedo, M. V., da Silva, A. J. J., de Oliveira, C. H., de Ottone, V. O., de Almeida, M. A. B., dos Santos, E., da Cardoso, J. C., Campos, A. S., da Silva, C. M. D., da Silva, A. G., de Andrade, M. S., Bernis, V. M. O., Bernis Filho, W. O., de Trindade, G. S., Albuquerque, G. R., da Sevá, A. P., Ribeiro, B. M., Teixeira, D. S., Campos, F. S., Franco, A. C., Roehe, P. M., de Oliveira, D. B. 2021. No evidence of SARS-CoV-2 infection in neotropical primates sampled during COVID-19 pandemic in Minas Gerais and Rio Grande do Sul, Brazil. *Ecohealth* 18: 414-420.
- [19] Mullick, J. B., Simmons, C. S. and Gaire, J. 2020. Animal models to study emerging technologies against SARS-CoV-2. *Cell. Mol. Bioeng.* 13: 293–303.
- [20] Sacchetto, L, Chaves, B. A., Costa, E. R., de Menezes Medeiros, A. S., Gordo, M., Araújo, D. B., Oliveira, D. B. L., da Silva, A. P. B., Negri, A. F., Durigon, E.L., Hanley, K. A., Vasilakis, N., de Lacerda, M. V. G. and Nogueira, M. L. 2021. Lack of evidence of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) spillover in free-living neotropical non-human primates, Brazil. *Viruses*. 13:1933. <https://doi.org/10.3390/v13101933>
- [21] Estrada, A., Garber, P. A., Rylands, A. B., Roos, C., Fernandez-Duque, E., Di Fiore, A., Nekaris, K. A.-I., Nijman, V., Heymann, E. W., Lambert, J. E., Rovero, F., Barelli, C., Setchell, J. M., Gillespie, T. R., Mittermeier, R. A., Arregoitia, L. V., de Guinea, M., Gouveia, S., Dobrovolski, R. and Li, B. (n.d.). 2017. Impending extinction crisis of the world's primates: Why primates matter. *Sci. Adv.* 3: 1 e1600946. <https://doi.org/10.1126/sciadv.1600946>
- [22] Mittermeier, R. A. et al. 1982. Policy statement on use of primates for biomedical purposes. *Primate Conserv.* 2: 5-7.

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