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Tinder for orang-utans: comparing sexually selective cognition among Bornean orang-utans (*Pongo pygmaeus*) and humans (*Homo sapiens*)

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Curriculum vitae

Tom Roth was born in 1993 in Amsterdam and graduated from the Ignatius Gymnasium in Amsterdam in 2011. He completed his Bachelor of Science in Biology at Utrecht University *cum laude* (2012-2015). His bachelor thesis investigated how enclosure design influences natural locomotion behaviour in zoo-housed Bornean orang-utans (*Pongo pygmaeus*). Hereafter, he continued with a master in Environmental Biology, specializing in Behavioural Ecology (2016-2018; *cum laude*).

For his first master's research project, supervised by Prof.dr. Liesbeth Sterck (Utrecht University) and Thomas Bionda (Apenheul), Tom used an observational approach to investigate the relation between dyadic aggression, affiliation, and social vigilance in zoo-housed western lowland gorillas (*Gorilla gorilla gorilla*). For his second master's research project, he performed a field study on aggregation behaviour as a function of fruit availability in Sumatran orang-utans (*Pongo abelii*) in Sikundur Forest (North Sumatra, Indonesia) under supervision of Prof.dr. Serge Wich (Liverpool John Moores University) and Matthew Nowak (Sumatran Orangutan Conservation Programme). For his master's thesis, Tom wrote a research proposal on identifying long-distance methods to test partner preferences in zoo-housed orangutans under supervision of Prof.dr. Mariska Kret (Leiden University).

In 2019, Tom started his PhD at the CoPAN lab, part of the Cognitive Psychology Unit of the Institute of Psychology (Leiden University), in collaboration with Apenheul Primate Park (Apeldoorn). During the project, he was supervised by Prof.dr. Mariska Kret and later also dr. Yena Kim and dr. Juan Olvido Perea-García. During his PhD project he continued the work of dr. Evy van Berlo and Prof.dr. Mariska Kret, who were responsible for installing a touchscreen setup in the enclosure of the Apenheul orang-utans. Tom extended this previous work by also incorporating eye-tracking in the test setup. Furthermore, in collaboration with fellow PhD candidate Tonko Zijlstra and Prof.dr. Mariska Kret, Tom set up two testing facilities (touchscreen & eye-tracking) in the orang-utan enclosure of Ouwehands Zoo.

To collect data with humans and engage the general public in research, Tom ran multiple studies for the general public in Apenheul Primate Park. In addition, he organized a large-scale speed-dating experiment in collaboration with fellow PhD candidate Iliana Samara and Prof.dr. Mariska Kret. Moreover, Tom was involved in teaching in the bachelor Psychology at Leiden University:

he supervised bachelor students during their thesis project and was workgroup teacher for the Consciousness-course.

During the PhD project, Prof.dr. Mariska Kret and Tom initiated a new article type at the Brill-journal *Behaviour*, namely the anecdotal report. He was Guest Editor for anecdotal reports from 2020-2022, and has been Associate Editor at *Behaviour* since the end of 2022.

Since September 2022, Tom works as a lecturer and researcher at the Animal Behaviour & Cognition group (Department of Biology) of Utrecht University.



List of publications

Published

Folz, J., **Roth, T.S.**, Nikolic, M., & Kret, M.E. (2023). Who gets caught by the emotion? Attentional biases toward emotional facial expressions and their link to social anxiety and autistic traits. *Current Psychology*. <https://doi.org/10.1007/s12144-023-04484-6>

Roth, T.S., Samara, I., Perea-García, J.O., & Kret, M.E. (2023). Individual attractiveness preferences differentially modulate immediate and voluntary attention. *Scientific Reports*, *13*, 2147. <https://doi.org/10.1038/s41598-023-29240-5>

Laméris, D.W., van Berlo, E., **Roth, T.S.**, & Kret, M.E. (2022). No evidence for biased attention towards emotional scenes in Bornean orangutans (*Pongo pygmaeus*). *Affective Science*, *3*, 772-782. <https://doi.org/10.1007/s42761-022-00158-x>

Samara, I., **Roth, T.S.** Nikolic, M., Prochazkova, E., & Kret, M.E. (2022). Can third-party observers detect attraction in others based on subtle nonverbal cues? *Current Psychology*. <https://doi.org/10.1007/s12144-022-02927-0>

Sterck, E.H.M., & **Roth, T.S.** (2022). Socioecology of Asian colobines. In: *The Colobines: Natural History, Behaviour, and Ecological Diversity* (Matsuda I, Grueter C & Teichroeb JA, eds.). Cambridge University Press, UK (pp 250-270). <https://doi.org/10.1017/9781108347150.017>

Roth, T.S., Du, X., Samara, I., & Kret, M.E. (2022). Attractiveness modulates attention, but does not enhance gaze cueing. *Evolutionary Behavioral Sciences*, *16*(4), 343-361. <https://doi.apa.org/doi/10.1037/ebs0000265>

Samara, I., **Roth, T.S.**, & Kret, M.E. (2021). The Role of Emotion Projection, Sexual Desire, and Self-Rated Attractiveness in the Sexual Overperception Bias. *Archives of Sexual Behavior*, *50*, 2507–2516. <https://doi.org/10.1007/s10508-021-02017-5>

Nikolic, M., & **Roth, T.S.** (2021). A comparative glance on self-conscious emotions: A commentary on Kret et al. (2020). *Neuroscience & Biobehavioral Reviews*, *129*, 154-156. <https://doi.org/10.1016/j.neubiorev.2021.07.031>

Roth, T.S., Samara, I., & Kret, M.E. (2021). Multimodal mate choice: Exploring the effects of sight, sound, and scent on partner choice in a speed-date paradigm. *Evolution and Human Behavior*, 42(5), 461-468. <https://doi.org/10.1016/j.evolhumbehav.2021.04.004>

Roth, T.S., Samara, I., Tan, J., Prochazkova, E., & Kret, M.E. (2021). A comparative framework of inter-individual coordination and pair-bonding. *Current Opinion in Behavioral Sciences*, 39, 98-105. <https://doi.org/10.1016/j.cobeha.2021.03.005>

Roth, T.S., Samara, I., & Kret, M.E. (2021). Ultimate and proximate factors underlying sexual overperception bias: A reply to Lee et al. (2020). *Evolution and Human Behavior*, 40(1), 73-75. <https://doi.org/10.1016/j.evolhumbehav.2020.06.002>

Roth, T.S., & Sterck, E.H.M. (2020). Social vigilance of friends and foes in western lowland gorillas (*Gorilla gorilla gorilla*). *Animal Behavior and Cognition*, 7(4), 537-555. <https://doi.org/10.26451/abc.07.04.06.2020>

Kret, M.E., & Roth, T.S. (2020). Anecdotes in animal behaviour. *Behaviour*, 157(5), 385-386.

Roth, T.S., Rianti, P., Fredriksson, G., Wich, S.A., & Nowak, M.G. (2020). Grouping behavior of Sumatran orangutans (*Pongo abelii*) and Tapanuli orangutans (*Pongo tapanuliensis*) living in forest with low fruit abundance. *American Journal of Primatology*, 82(5), e23123. <https://doi.org/10.1002/ajp.23123>

Roth, T.S., Bionda, T.R., & Sterck, E.H.M. (2019). Duckling-catching by a zoo-housed western lowland gorilla (*Gorilla gorilla gorilla*). *Journal of Zoo and Aquarium Research*, 7(3), 144-148. <https://doi.org/10.19227/jzar.v7i3.398>

Roth, T.S., Bionda, T.R., & Sterck, E.H.M. (2017). Recapturing the canopy: stimulating Bornean orangutan (*Pongo pygmaeus*) locomotion behaviour in a zoo environment. *Journal of Zoo and Aquarium Research*, 5(1), 16-24. <https://doi.org/10.19227/jzar.v5i1.186>

Submitted for publication

Roth, T.S., & Kret, M.E. No implicit attentional bias towards or preference for male secondary sexual characteristics in Bornean orangutans (*Pongo pygmaeus*).

Roth, T.S., von Wulffen, C., Fox, M., Askew, J., Spierings, M., & Perea-García, J.O. Evidence of female proceptive behaviour and vocalisation during ovulation in two zoo-housed Bornean orang-utan (*Pongo pygmaeus*) females.

In preparation

Roth, T.S., van Berlo, E., Perea-García, J.O., & Kret, M.E. Orang-utans like it cheeky: attentional bias towards flanged males in Bornean orang-utans (*Pongo pygmaeus*).

Roth, T.S., Samara, I., Perea-García, J.O., & Kret, M.E. “I go bananas for you”: Extending sexually selective cognition to nonhuman primates.

Van Berlo, E., Kim, Y., **Roth, T.S.**, & Kret, M.E. Attentional selectivity for emotions: humans and bonobos compared.

Zijlstra, T., Van Berlo, E., **Roth, T.S.**, & Kret, M.E. Exploring attentional biases towards human facial expressions in bonobos (*Pan paniscus*) and humans.