

Scientific note

Black-rumped flameback (*Dinopium benghalense*) anointing plumage with tree sap

(Aves, Piciformes, Picidae)

Pathissery John Sarlin, Sancia Morris, Savio Morris,
Sandie Morris, Polycarp Joseph & Amal Krishnan S

“Anointing behaviour” is a peculiar behaviour of birds in which a bird rubs ants or other pungent substances to their plumage. Anointing with plants, arthropods, or anthropogenic materials has been recorded from more than 200 species of birds and mammals. Although many instances of anointing in wild and captive birds are known, the functions of anting are still poorly understood. It may provide defence against pathogens and parasites, improved grooming, or a decrease in skin irritation during moulting (Bush & Clayton 2018).

On 19.09.2021, a Black-rumped Flameback, *Dinopium benghalense* (Linnaeus, 1758), was seen pecking on the branch of a gooseberry tree (*Phyllanthus emblica*) at Kottarakara (9.0056° N, 76.7831° E), Kerala, India. The bird pecked on the branch and rubbed the beak on its feathers regularly so as to wipe the beak clean. We captured the behaviour with a camera and recognised that the bird was not trying to drill a hole on the branch, but wetting its beak with the exuding tree sap and spreading the fluid on its feathers (Fig. 1). We also observed Black-rumped Flamebacks anointing their feathers with sap from the Baheda tree (*Terminalia bellirica*) on 21.10.2021 and resinous Chandada trees (*Macaranga peltata*) on 23.07.2022.

Links to the videos are given below:

Flameback anointing with *Phyllanthus emblica* tree sap:
https://drive.google.com/file/d/1u6M3fXNbLmwyqp5k_6DFtByO4f3n3AL1/view

Flameback anointing with *Macaranga peltata* tree sap:
<https://drive.google.com/file/d/19iaa1B47z9pVn2DSL7c5pZduDnXdIx58/view>

The sap of these trees may act as an insect repellent or have antimicrobial properties due to ellagitannins, acting as endogenous pest inhibitors and antibiotics. Studies reported antimicrobial potential of *Phyllanthus emblica* bark extract (Chaphalkar et al. 2017) and stem barks of *Macaranga peltata* and *Terminalia* sp.



Fig. 1. Black-rumped Flameback (*Dinopium benghalense*) pecking on the branch of a gooseberry tree (*Phyllanthus emblica*).

References

- Bush, S. E. & Clayton, D. H. 2018. Anti-parasite behaviour of birds. Philosophical Transactions of the Royal Society, B 373: 20170196. <https://doi.org/10.1098/rstb.2017.0196>
- Chaphalkar, R. Apte, K. G., Talekar, Y., Ojha, S. K. & Nandave, M. 2017. Antioxidants of *Phyllanthus emblica* L. bark extract provide hepatoprotection against ethanol-induced hepatic damage: a comparison with silymarin. Oxidative Medicine and Cellular Longevity 2017: 3876040. <https://doi.org/10.1155/2017/3876040>
- Das, G., Kim, D.-Y., Fan, C., Gutie’Rrez-Grijalva, E. P., Heredia, J. B. et al. 2020. Plants of the genus Terminalia: an insight on its biological potentials, pre-clinical and clinical studies. Frontiers in Pharmacology 11: 561248. <https://doi.org/10.3389/fphar.2020.561248>
- Sarlin, P. J., Sancia, M., Savio, M., Sandie, M., Polycarp, J. & Amal, K. S. 2023. Greater Racket-tailed Drongo *Dicrurus paradiseus* anting with a Spirostreptidan millipede *Spi-notarsus colosseus*. Indian Birds 19(1): 32-34.

Pathissery John Sarlin, PG and Research Department of Zoology, Fatima Mata National College (Autonomous), University of Kerala, Kollam, India

Sancia Morris (corresponding author), Institute of Chemical Technology Mumbai, IOC Bhuvneshwar Odisha, India; e-mail: sanciamorris@yahoo.com

Savio Morris, Sandie Morris, Polycarp Joseph & Amal Krishnan S, Kollam Birding Battallion, Kerala, India