

Observations of flower consumption by hornbills in the Kruger Park

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On a family visit to the Kruger Park in September/October 2022, one of us- (K.L.F) managed to photograph both a Southern Red-billed Hornbill (*Tockus rufirostris*) and a Southern Yellow-billed Hornbill (*Tockus leucomelas*) consuming a flower. The former ate one of the fairly large flowers of *Thilachium africanum* (Capparaceae) and the latter the slightly smaller flower of *Maerua juncea* subsp. *juncea* (Capparaceae).

When two specialist birding guides at Ecotrain-ing, Pridelands, were consulted about this observation, we were informed that they had

never seen this behaviour. It, therefore, became apparent that what had been observed and photographed was unique. Later, one of the photographs was submitted to Eve Gracie, editor of *BirdLife*, as a possible showcase contribution. Eve then shared this piece with Lucy Kemp, of the Hornbill Specialist Group, who informed us that our observations were indeed unique.

Flower consumption is rarely reported in hornbills. In Asia, flower consumption has only been reported for the Indian Grey *Ocyrceros birostris*



Thilachium africanum is an evergreen woody shrub or small tree with a heavy canopy growing to ~4 m. The flowers are large, without petals, and with many white stamens. Characteristically the leaves are mostly trifoliate, stiff with a sharply pointed apex. Photo: E. J. Moll.



Maerua juncea subsp. *juncea* is mostly a scandent shrub; occasionally a free-standing small tree with an open canopy growing to 3 to 4 m (and scrambling even higher). The flowers have fewer stamens than those of *Thilachium africanum*, that turn darker as they age and droop. The leaves are mostly trifoliate and more softly textured. Photo: E. J. Moll.



Southern Red-billed Hornbill consumption of a *Thilachium africanum* flower: the whole sequence took a few seconds. The first photograph is of the bird with the whole flower in the beak (a), next the swallowing begins (b) and the third shows just a few last stamens protruding (c). The final photograph is “satisfaction” (d). This individual was seen outside the gate of the Sereni. Photos: K. L. Fletcher.

(Santhoshkumar and Balasubramanian, 2014) and Oriental Pied Hornbills *Anthracoseros albirostris* (<https://besgroup.org/2015/11/30/oriental-pied-hornbill-takes-a-flower-bud/>). When the literature on flower-feeding observations for the Indian Grey Hornbill was consulted we discovered that these were in the non-breeding season and comprised 0.5% of the feeding observations (~16 out of 3,086) and comprised petals of an unidentified flower. We did not find any reference to flower feeding of the Oriental Pied Hornbill but did find a seemingly single observation of flower feeding by the Great Hornbill *Buceros bicornis*, with a photograph of it taking a bud from *Delonix regia* (better known in South Africa as the Flamboyant – a common street tree

in the old suburbs of Durban). These buds resemble a small fruit.

In Africa, Moreau & Moreau (1941) note for Silvery-Cheeked Hornbill *Bycanistes brevis*, that “Occasionally small white objects that were not fruits have been seen passed into a nest. From one that was dropped it appears that they were the fleshy sweet-scented flowers of *Conopharyngia holstii*, which may be acceptable as food.”. They note that the species is a synonym for *Tabernaemontana pachysiphon* (Apocynaceae). Southern Yellow-billed Hornbill were observed feeding on Mountain aloe *Aloew marlothii* flowers on the ground as well as on the plant (Engelbrecht, Grosel and Engelbrecht, 2014)



A Southern Yellow-billed Hornbill showing the consumption of a *Maerua juncea* subsp. *juncea* flower. The whole sequence took about 60 seconds. The first photograph is of the bird with the whole flower in the beak (a), with the next two photographs showing the bird holding the flower aloft as if toying with it (b and c), then eventually swallowing it (d). Through the whole process the bird on the right, that we assume is a male, after having presented the flower to his partner seems to lose interest in the display. These photographs were taken in Bateleur. Photos: K. L. Fletcher.

When it was suggested we write a note for the Hornbill Specialist Group's journal documenting these observations, it seemed advisable to re-search something about the flowers being eaten in the Kruger Park—to try and suggest a reason for them being taken. Both our records of flower consumption were from plants in the same plant family; that are widespread over much of the Kruger Park. This is the family Capparaceae that includes genera such as a few species of *Boscia* (small- to medium-sized evergreen trees with tiny flowers [~10 mm diameter]), *Capparis* (a common evergreen climber with sharply recurved paired spines and flowers ~50 mm diam-

eter), *Maerua* (small scandent trees to fairly large free-standing species with flowers from 30 to 50 mm diameter) and finally *Thilachium africanum* an evergreen small, shrubby tree more common in the north with larger, spectacular flowers up to 60 mm diameter (see photographs).

Since the species consumed were only of *T. africanum* and *M. juncea* subsp. *juncea* we focused on their morphology to understand why these flowers were selected. No reference to these species having great qualities of nectar in the flowers was found (although they do have extra-flora nectaries that attract ants and several

butterfly species), so it seems the flowers would provide moisture and some nutrition (from the pollen and the ovary) but little if any nectar. If a future opportunity presents itself, a thorough examination of the flower's nectar potential may reveal additional information of why these flowers are consumed.

References

Engelbrecht D, Grosel J and Engelbrecht D. 2014. Nectar-feeding by southern African birds, with special reference to the Mountain Aloe *Aloe mar-*

lothii. *Ornithological Observations* 5: 49–74.

Moreau RE and Moreau WM. 1941. Breeding biology of silvery-cheeked hornbill. *The Auk* 58: 13–27.

Santhoshkumar E and Balasubramanian P. 2014. Food Habits of Indian Grey Hornbill *Ocyrceros birostris* in Sathyamangalam forest Division Eastern Ghats India. *Journal of the Bombay Natural History Society* 111(2): 90–97.

Wee, YC. 2015. Oriental Pied Hornbill takes a flower bud. Bird Ecology Study Group, URL: <https://bes-group.org/2015/11/30/oriental-pied-hornbill-takes-a-flower-bud/>



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