

## NOTES

### **Talon-locking and cartwheeling as a prelude to copulation in Tawny Eagles *Aquila rapax***

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Intraspecific flight encounters between raptors have been recorded for a number of species and the majority of reported incidents are considered to be antagonistic or aggressive in nature (Simmons & Mendelsohn, 1993). However, Borello & Borello (2004) describe two separate occurrences of talon-grappling and cartwheeling in Tawny Eagles *Aquila rapax*, one of which was a prelude to mating, and highlight that interpreting the behavioural significance of aerial displays can be inconclusive unless the full sequence of events is observed. In this note we describe an incident of talon-locking and cartwheeling between two Tawny Eagles that took place in Kruger National Park (25° 10' 23''S 31° 54' 59''E), South Africa.

On 7 May 2009 from 12h15, CM was observing an adult female White-headed Vulture *Trigonoceps occipitalis* perched in a small (~3m) dead tree with two sub-adult African White-backed Vultures *Gyps africanus*. All the vultures had protruding crops, indicating they had fed recently. At 13h05, two Tawny Eagles were seen flying together, relatively low, in the middle distance. About ten minutes later, one of the Tawny Eagles flew directly over the group of three vultures and perched approximately 80m away. Two minutes later the second Tawny Eagle landed in the small tree with the group of vultures. There were no other raptors observed in the vicinity, either flying or feeding.

The second Tawny Eagle ignored the three vultures and its attention was focused on the first perched eagle. It sat with the vultures for 15 minutes,

whereupon it flew towards the other eagle, which took off at the same time. The eagles then flew for a minute or two, one ahead of the other, at low level (generally below tree level) in a broad circle and turned back towards the perched vultures. At this point the lead eagle slowed to a low glide, apparently allowing the following bird to draw nearer. As the second bird drew near, the first eagle rolled to one side and presented its talons, whilst the second bird accelerated slightly, rolled as well and locked talons with the first. Once their talons were interlocked the two birds flew upwards slightly (the momentum from the pursuing eagle apparently facilitating this), stalled, and then cartwheeled twice before unlocking talons and flying together to a small dead tree (Fig 1). The pair then copulated, indicating that it had been the male bird pursuing the female prior to the talon-locking and cartwheeling. Following copulation, the female roused and each bird preened for a few minutes before they took off again together and were lost to sight in the direction from which they had originally appeared.

The three vultures remained perched and generally disinterested during the sequence of events, which occurred no more than 50m away from them and from the observer. The eagles made a series of distinctive gruff calls during copulation, but apart from this, neither eagle made any noise before or during the aerial manoeuvre. The entire aerial sequence was remarkably fluid and coordinated but, from the time the male eagle reached the female, only lasted two or three seconds.

The copulating Tawny Eagles made a distinctive sound, which would make them conspicuous to bird watchers, and in particular raptor watchers. However, if the pre-copulation flight described in this note is a regular feature of Tawny Eagle socio-sexual behaviour, it may be that its occurrence is not often recorded due to its brief duration at low altitude and in a silent manner.

This offers a possible reason why talon-locking and cartwheeling in raptors is more often recorded as aggressive behaviour: the observations made most often are indeed aggressive interactions at higher altitude

(e.g. over food or territory), whilst cartwheeling flights in a courtship context are brief, silent, at low level and infrequently observed. Simmons and Mendelsohn (1993) concluded from their review of 107 cartwheeling events (where behaviour could be interpreted) that 82% were aggressive, 7% were play and 11% associated with courtship. The latter may therefore be considered to occur only rarely, but we would suggest it is possible that, at least with Tawny Eagles, such behaviour is not easily observed and may occur more often than is currently realised.

### Acknowledgements

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### References

- Borello, W.D & Borello, R.M. 2004. Two incidents of talon-grappling and cartwheeling in the Tawny Eagle *Aquila rapax*. *Ostrich* 75: 320-321
- Simmons, R.E. & Mendelsohn, J.M. 1993. A critical review of cartwheeling flights of raptors. *Ostrich* 64: 13-24

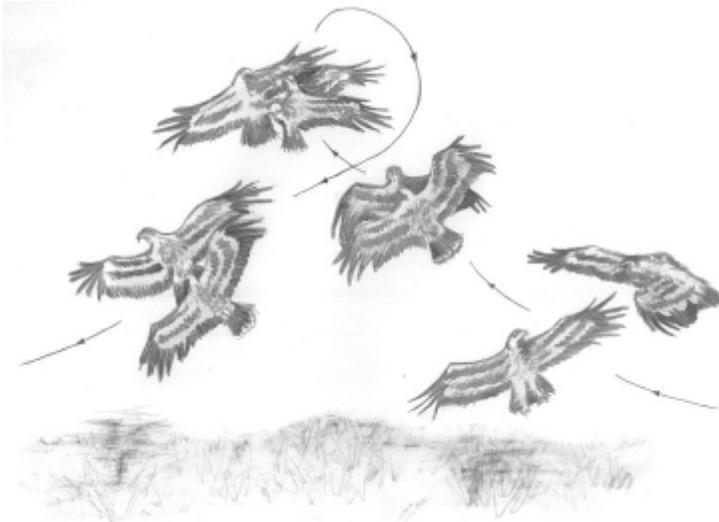


Fig 1. Cartwheeling behaviour of a pair of Tawny Eagles