

A response to Johnstone and colleagues' paper on the Night Parrot *Pezoporus occidentalis* in Western Australia

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ABSTRACT – In a recent paper published in *Records of the Western Australian Museum*, Johnstone et al. (2026) reported the discovery of a Night Parrot (*Pezoporus occidentalis*) specimen in the eastern Pilbara. They also provided a summary of historical and recent Night Parrot records from Western Australia, including a clutch of eggs collected in 1976 near Lake Way which they conclude are likely to be Night Parrot. Here we outline concerns around the identification of the 1976 clutch, correct two errors in the summary of historical and recent records, and outline why this summary of records should be treated cautiously.

KEYWORDS: Night Parrot, DNA, accepted records, confirmed records, conservation.

INTRODUCTION

The peer-reviewed and published scientific record should represent the most reliable source of information for any given species. For species requiring management, such as threatened or invasive species, the scientific record is of particular importance, as it informs decisions involving actions and investment, which may be critical to species' recovery or control (Sutherland et al. 2004; Rondinini et al. 2006). For these reasons, the accuracy of the scientific record is imperative; an inaccurate scientific record may propagate false narratives and lead to poor decisions (McKelvey et al. 2008; Olsen and Menkhorst 2020).

One species for which this is particularly the case is the Night Parrot (*Pezoporus occidentalis*). After several specimens were collected in the late-19th century (Black 2012), the species went 'missing' for much of the 20th century; it was the subject of many reported encounters, none of which could be confirmed (see e.g. Wilson 1937; Parker 1980). A dead bird found in western Queensland in 1990 provided the first accepted proof of the species' existence for more than a century (Boles et al. 1994), and an extant population was finally found in western Queensland in 2013 (Koch 2013). The species was re-discovered in central Western Australia in 2017 and has subsequently been found at multiple locations in the state (Jackett et al. 2017; Lindsay et al. 2024).

The Night Parrot's rarity coupled with a century-long trickle of unverified sightings saw it gain a profile as one

of Australia's, and even the world's, most mysterious birds (Dooley 2012; Stromberg 2012). This profile has been maintained following a series of controversies surrounding its rediscovery, including claimed records subsequently found to be fraudulent (Menkhorst et al. 2020). While drawing attention to the species, these controversies have also clouded perceptions of the species' actual status. These perceptions have been clarified through several publications examining the details of historical and contemporary reports of the species, establishing a peer-reviewed and widely accepted catalogue of Night Parrot records (Horton et al. 2021; Leseberg et al. 2021).

We read with interest a recent article published in *Records of the Western Australian Museum* by Johnstone et al. (2026), primarily concerning a recent specimen of Night Parrot discovered in the eastern Pilbara. This article described in detail novel aspects of the specimen's plumage and anatomy. The article also analysed DNA extractions from an unidentified clutch of eggs reportedly collected near Lake Way in central Western Australia. The analysis concluded that the sequence extracted from the eggs was identical to a sequence from a Ground Parrot (*Pezoporus wallicus*). However, given the collection location, and the limited availability of reference sequences, the possibility the eggs represent a record of Night Parrot could not be ruled out, and further analysis was recommended. Finally, the article provided a list of Night Parrot records from Western Australia.

The analysis of the specimen made a significant contribution to our knowledge of Night Parrot physiology and plumage development. We provide here some comments for consideration when assessing the veracity of the Lake Way clutch record. We also correct two errors in the summary of records and provide some additional comments to consider when assessing the veracity of the reports included in the summary.

COMMENTS

LAKE WAY CLUTCH RECORD

Johnstone et al. (2026) reports that in April 1976 licenced oologists T.C. Allen and N. Kolichis flushed a bird one evening from a patch of spinifex. Presumably the bird was not identified. When searching the site the next morning, a nest was found ‘under the spinifex... [t]he nest consisted of short stems of spinifex...placed well under the outer part of the ringed clump’. The nest contained a clutch of three white eggs which were collected. The species which laid the eggs was not determined.

Molecular analysis of these eggs determined that their ‘12S sequence was identical to a sequence of *P. wallicus*’, and ‘differed from sequences of *P. occidentalis* at 5–6 nucleotide positions.’ The authors conclude that ‘the eggs belong to the genus *Pezoporus*’ but suggest it is highly unlikely they belong to *P. wallicus* given the collection location. Noting ‘the relatively short fragment of 12S generated provides limited characters for comparison with reference sequences and the sequenced region may not have diagnostic ability’, the authors determine that a conclusive identification is not possible and recommend further analysis. However, in the Discussion, the authors apparently accept the identification as Night Parrot, labelling the collection location a ‘former breeding site’ and the eggs ‘the only known clutch of this species [Night Parrot] in museum collections.’

We urge caution around this identification for several reasons. Most obviously, the DNA analysis concluded that the extracted 12S sequence was identical to that of *P. wallicus* and differed from sequences of *P. occidentalis*. For that reason alone, the possibility these eggs are of *P. wallicus* and erroneous collection data has been ascribed should be considered.

To date, there have been five reported discoveries of active Night Parrot nests (Jackett et al. 2017; Murphy et al. 2017; N. Leseberg unpub. data). While we acknowledge this amounts to limited knowledge of Night Parrot nest characteristics, there are some aspects of this collection which may be incongruous with a genuine report of a Night Parrot nest. At all active nests we have discovered, the incubating bird sits very tight, not flushing from the nest until an observer is in very close proximity. In one circumstance, an incubating bird continued to sit on the nest after an observer had found the entrance tunnel and looked down into the chamber.

The observers at Lake Way reported first flushing a bird in the evening, and it is possible this bird may have been observed only very briefly or in poor light. However, based on our experience, when returning to that approximate location in the morning it is unlikely any incubating bird on the nest would have left the nest without two experienced observers seeing and identifying it.

We presume the two experienced observers were aware Night Parrot was at least a possible contender for the nest they discovered. Active Night Parrot nests and roost tunnels are notable for the number of loose feathers and down found in the chamber and entrance tunnel. While some feathers may be down or have relatively nondescript patterns, typically many are readily identifiable as Night Parrot feathers, such as yellow belly feathers with black barring, or green coverts with black centres and yellow spotting. Two experienced observers examining a Night Parrot nest would almost certainly find such feathers, and understanding that Night Parrot was a possible contender, have drawn the conclusion they had likely found a Night Parrot nest.

None of these points are irrefutable evidence the unidentified clutch of eggs did not come from a Night Parrot nest. However, coupled with the molecular evidence, there must be significant doubt around the circumstances of their collection, the ascribed location, and therefore the tentative identification of Night Parrot. Such discrepancies would be consistent with an emerging pattern of unreliable identification and locality data in egg collections, uncovered through molecular analyses and often associated with rare species including the Night Parrot (Chilton and Sorenson 2007; Olsen et al. 2016; Grealy et al. 2024). Indeed, such instances are known from the Kolichis’ collection (Webster et al. 2022). We suggest Johnstone and colleagues acknowledge that a possible origin of this unknown clutch is *P. wallicus*, and if unprepared to go that far, adhere to their initial conclusion that until additional evidence is presented the identification of this clutch as anything beyond the genus *Pezoporus* is not possible.

REVIEW OF NIGHT PARROT RECORDS IN WESTERN AUSTRALIA

In Johnstone et al. (2026) it is stated that the list of Night Parrot reports includes ‘the most plausible reports for Western Australia’. However, no criteria are given for how plausibility was assessed. Certainly, some of these records seem unlikely to be Night Parrots. Record 10 reports a Night Parrot perching low in a tree, behaviour that to our knowledge has never been observed, raising questions about whether the report was more likely to be some other species. Other reports offer nothing more than a location, with no context to suggest the record is more plausible than any other report that gives only a location. There are several such ‘location only’ reports from within the species’ plausible Western Australian range not included in this review (Leseberg et al. 2021).

Figure 11 in Johnstone et al. (2026) presents a distribution map for the species based on ‘accepted’ records of Night Parrot in Western Australia. It is not stated, although presumably the ‘accepted’ records are those listed in the review of records. ‘Accepted’ is a widely used term when referring to species records, implying some sort of vetting process to confirm veracity. As no assessment criteria are provided, the term ‘accepted’ overstates the rigour applied when deciding which reports were appropriate for inclusion in this review. Given the lack of detail surrounding many historical Night Parrot records it is quite difficult to assess veracity, and certainly using the term ‘accepted’ for even high veracity records is fraught. We prefer the treatment given to the Night Parrot sightings record in Leseberg and colleagues (2021) which outlined a clear process for assessing reports, involving four independent assessors and set criteria. Those results provide a more robust assessment of the historical and contemporary distribution of the Night Parrot in Western Australia than was presented by Johnstone et al. (2026).

Finally, record 19 implies that the site where Night Parrots were discovered in the East Murchison in March 2017 (Jackett et al. 2017) and where a bird was captured and tagged in August 2017 was on Millrose station, a pastoral property in central Western Australia, 75 km East North East of Wiluna. This record was not from Millrose station, but from another pastoral station that remains undisclosed to reduce disturbances from human visitation (Jackett et al. 2017; Tulloch et al. 2018).

Further, the text states the tagged bird ‘was found to have travelled 35 km from the original site of capture.’ This is not true. The bird had been fitted with a tag that incorporated a GPS logger and small VHF radio with antenna on the night of 13 August. Twelve days of ground-based searches in the local area could not relocate the bird, and on 25 August a light plane was used to search further afield. The aircraft was fitted with antennas which could be connected to a receiver, tuned to the radio tag’s VHF frequency and monitored during flight. During an airborne search on 26 August, at a point approximately 35 km south of the point of capture, a brief signal was detected on the radio tag’s frequency. Extensive searches at the site of the ‘detection’ in the following hours by multiple personnel both from the air and on the ground, and further ground searches in the subsequent days, failed to detect any further signals. As interference and spurious returns when using VHF frequencies to track animals are frequent and given follow up searches received no other ‘detections’, the research party concluded it was more likely the initial detection was a spurious return than a detection of the tagged Night Parrot. There is emerging anecdotal evidence that Night Parrots are capable of nightly movements in the order of 30–40 km (N. Leseberg unpub. data). However, it is important this evidence is thoroughly tested and peer-reviewed before being used to inform our understanding of Night Parrot movements. The evidence presented here for such movements does not reach that standard.

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