

Nesting by Square-tailed Kite and Little Eagle at Mount Molloy in north Queensland

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Abstract

The Square-tailed Kite and Little Eagle are uncommon in far north Queensland and when present they are usually non-breeding visitors in the dry season. However, at Mount Molloy a pair of Square-tailed Kites nested in 1997 and in every year from 1999 to 2010, demonstrating remarkable faithfulness to the site and nests. Little Eagles nested 45 to 75 m away in at least five years between 2000 and 2009 inclusive. Collared Sparrowhawks also nested close by. Both the kite and eagle nested from June to November. These kite and eagle records are, we believe, the northernmost breeding records for these species, and their close association (along with the Collared Sparrowhawk) is intriguing.

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Introduction

The migration patterns and breeding range of the Square-tailed Kite (*Lophoictinia isura*) and Little Eagle (*Hieraaetus morphnoides*) are not well understood. Both are widespread in Australia, and the former is endemic to it whilst the latter also occurs in New Guinea apparently as a non-breeding visitor (Marchant & Higgins 1993). In both species the considerable majority of breeding records are from the southern two-thirds of Australia. Some individuals of both species are thought to migrate north after breeding to spend the dry season in tropical woodlands and open forests (Marchant & Higgins 1993; Debus 2012) though the months of occurrence in the north remain to be defined. Here we report breeding by both species – and in remarkably close association with one another – over a number of years near Mount Molloy (16°41'S, 145°20'E) in far north Queensland. Mount Molloy is a town of about 300 people; the nests were in a peri-urban reserve known locally as Tall Gums, comprising remnant woodland adjacent to playing fields.

Square-tailed Kite

The first report of Square-tailed Kites nesting at Mount Molloy was an observation by John Young which we have dated to 1997 based on the association of the observation with a controversy over proposed clearing of trees in the area (which didn't eventuate) (Lloyd Nielsen and Carol Iles, personal communication). RR moved to Mount Molloy in 1997 and observed the species nesting at Tall Gums every year from 1999 to 2010 (Figs. 1,2). It isn't known whether they nested there in 1998. In 2011 and for several years thereafter, a single Square-tailed Kite was observed adding twigs to the nest used in previous years and even building a new nest, but no second bird was observed and nesting did not proceed. The 2011 bird was believed to be a female and the same individual as in previous years, based on larger size and more extensive white on the face consistent with previous observations of the breeding pair. It is perhaps not merely coincidental that in about



Figure 1. Adult Square-tailed Kite on nest, Tall Gums, Mount Molloy, 21 Oct. 2007. Photo: Rupert Russell.



Figure 2. Young Square-tailed Kite on nest, Tall Gums, Mount Molloy, 24 Oct. 2007. Photo: Rupert Russell.

2011, a single Square-tailed Kite built a nest in Euluma Creek Road, Julatten, about 8.3 km away, but breeding did not proceed (Carol Iles, personal communication).

Square-tailed Kites were recorded as present in June to November (Table 1) but may have been

present in other months as well. Mating was recorded in June, July and August, nest building in June, July, August and September, apparent incubation in August, nestlings in September and October and fledglings in November.

Table 1. Records of Square-tailed Kite and Little Eagle activity at Tall Gums, Mount Molloy, from diary notes of Rupert Russell. STK = Square-tailed Kite; LE = Little Eagle.

Year	Date – activity
1999	September 12 th : STK present November 13 th : STK have two fledglings near nest
2000	September 23 rd : STK appeared to be feeding a nestling October 9 th : both STK and LE have at least one nestling ~ 26 th : STK young on nest
2003	September 22 nd : STK “have added to their nest”
2004	August 25 th : STK adding to nest October 10 th : STK nest appears empty; eggshell found on ground
2005	July 5 th : STK building ~ 26 th : LE present beside STK nest August 7 th : LE at STK nest ~ 9 th : STK mating at dusk at their nest tree ~ 14 th & 31 st : STK and LE both sitting, assumed incubating October 19 th : STK on nest; LE appears to have nestling November 28 th : “Both raptor(s) appear to have fledged successfully”
2007	October 3 rd : LE fledgling perched near its nest; STK have nestling ~ 19 th : STK have nestlings ~ 24 th : STK have two nestlings; LE have one young in nest and later that day it was observed flying November 13 th : “Both raptor nests now vacated” ~ 17 th : corpse of young LE found near its nest tree; STK have one fledgling
2008	June 3 rd : LE “back at Tall Gums” ~ 13 th : STK mated; female carrying twigs to new nest in new tree ~ 21 st : STK mated ~ 27 th : STK and LE both present July 3 rd & 9 th : STK mating ~ 12 th : STK evidently not yet incubating August 3 rd : both LE and STK appear to be incubating September 3 rd : STK appears to be incubating ~ 11 th : STK have two nestlings; LE may have a nestling ~ 13 th : STK have two nestlings ~ 15 th : LE “nest may be deserted” October 15 th : STK have one nestling, the other being found dead below the nest
2009	August 6 th : LE calling from last year’s nest tree
2010	August 7 th : STK “back!”
2011	September 5 th : single STK adding to nest

Over the 12 years that RR recorded breeding of Square-tailed Kites at Tall Gums, the (assumed constant) pair made and used nests in two large trees – both Forest Red Gum (*Eucalyptus tereticornis*, also known as Blue Gum) – 30 m apart, the new nest being first used in 2008. The eagle nest was 45 m away from the original kite nest and c. 75 m away from the new kite nest; the move may have been triggered by interactions between the species as noted in 2005.

The following incidental observations may be of interest:

- an adult kite was observed collecting a stick for nest material by flying at and breaking a dead stick (estimated diameter 1 cm, length 60 cm) off a living tree; and
- in Sept. 2000, foliage of the nest tree (est. 25 m tall) was completely scorched by a fire but the nest with nestling, and second nestling or egg, survived.

Little Eagle and other raptors

Notes and recollections of the Little Eagles are less substantial than those for the kites. The Eagles were not present in 1999 when RR first observed the kites nesting; their presence in 2000 was a noteworthy first sighting. The eagles nested at Tall Gums in 2000, 2005, 2007, 2008 and 2009 and perhaps other years in-between, always in the same nest which was also in a large Forest Red Gum. The seasonality of eagle nest activity was similar to that of the kites, with the birds noted arriving back at the nest trees in June, incubating in August, with nestlings in September and October, and with fledglings in October and November (Table 1). The Little Eagles had much less success in fledging young than did the kites.

Collared Sparrowhawks (*Accipiter cirrocephalus*) nested at Tall Gums in most years when the kites were present. They were not observed to interact with the kites even though they nested about 60 m away (a little further from the eagle's nest), and the degree of seasonal overlap in nesting is uncertain. Whistling Kites (*Haliastur sphenurus*) also nested at Tall Gums prior to 2000 but not subsequently.

Discussion

The breeding season of the Square-tailed Kite at Mount Molloy was broadly similar to that reported elsewhere (Marchant & Higgins 1993) though

about a month earlier than in Bendigo, Victoria, site of the most detailed study (Robinson *et al.* 2016). The breeding season of the Little Eagle at Mount Molloy is similar to that recorded in south-eastern Australia but three or four months later than that recorded in the Kimberley (Marchant & Higgins 1993). The persistence and breeding of both species at Mount Molloy through the Austral spring and early summer shows they did not migrate south. A detailed analysis of sight records of these species in far north Queensland would shed further light on this proposition and might suggest other areas where they stay on to breed. Our observations also demonstrates remarkable site-faithfulness for breeding in the species.

Both the Square-tailed Kite and Little Eagle have been reported breeding in tropical Queensland before, though infrequently (Blakers *et al.* 1984; Marchant & Higgins 1993; Barrett *et al.* 2003; Nielsen 2015) and never as far north as Mount Molloy, with the exception of Nielsen's brief mention of the same Little Eagles. In the Ingham area, Square-tailed Kites nest in tall Rose Gums (*Eucalyptus grandis*) over upland rainforest (Nielsen 2015), habitat which is unusual for this species as it generally occurs in woodlands and open forests. Though Square-tailed Kites are sighted in the Kimberley, Top End and Cape York Peninsula (e.g. Barrett *et al.* 2003), we can find no reports of breeding in the Northern Territory or the northern half of Western Australia. The Little Eagle is similarly widely reported in the north and also in New Guinea; breeding has been reported in the Kimberley and Northern Territory though at latitudes a little further south than Mount Molloy (Blakers *et al.* 1984). Geographically, breeding by the Collared Sparrowhawk (and Whistling Kite) is surprising only in its close proximity to the kite and eagle.

It is remarkable and probably not coincidental that two raptor species that rarely breed in far north Queensland nested 45 to 75 m apart at Mount Molloy in many of the same years, and also that the Collared Sparrowhawk bred close by. Square-tailed Kites frequently "nest in company of other raptors ... sometimes in neighbouring trees" (Marchant & Higgins 1993) notably including the Little Eagle and the Collared Sparrowhawk. Robinson *et al.* (2016) reported Little Eagle nests 120 and 300 m from nests of the Square-tailed Kite, and Collared Sparrowhawk nests 150, 150,

500 and 750 m away. In the case of the Little Eagles at Tall Gums, the eagles appear to have been the initiator of any positive association as they were first observed nesting at Tall Gums three years after the kites first nested there. Furthermore, the 45 m proximity seems to have had negative repercussions for the kites in prompting them to build a new nest a little further away.

The association of raptors nesting at Tall Gums could have arisen simply because the trees there are the tallest available in the area. Alternatively, the raptor species could benefit from each other's presence through an effective increase in vigilance against predators of eggs or nestlings, but we know of no evidence to actively support this proposition. The aggregation might also be the result of mutual avoidance of aggressive competitors – the Brown Goshawk (*A. fasciatus*) or Grey Goshawk (*A. novae-hollandiae*) as proposed by Robinson *et al.* (2016); these goshawk species are rarely seen around Mount Molloy (RR personal observation). A combination of these benefits is plausible. The nature of the relationship between the species is curious and warrants further investigation.

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