The Cape York Tree-kangaroo: Myth or Reality

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ABSTRACT

During the 1999 community survey of Australian tree-kangaroos by the Tree Kangaroo and Mammal Group of the Atherton Tablelands, the well-known naturalist, John Young, submitted a detailed account of watching a tree-kangaroo for half an hour in the Iron Range rainforest of Cape York Peninsula in 1979. At the time this was treated by hard-nosed scientists as "needing confirmation", particularly as numerous earlier collecting expeditions had worked the area without the hint of a tree-kangaroo. John's report triggered a flurry of interest and has resulted in the collation of numerous "sightings" from the Peninsula and some targeted searches for the animal, but as yet no concrete evidence. So does the animal exist? Tantalising leads, but no hard evidence, have been found for the occurrence of tree-kangaroos in the region. We discuss the possibility that such a creature exists and what might be necessary to find it, and if it does occur what level of evidence is required.

Key words: Cape York Peninsula; *Dendrolagus* sp.; evidentiary standards; phyloeography.

DOI: https://doi.org/10.7882/AZ.2018.005

Introduction

Ten species of tree-kangaroo occur in New Guinea to the north of Cape York Peninsula and two in the rainforest and its margins of the Wet Tropics bioregion to the south of the Peninsula (Figure 1). With climate change and altered sea levels associated with the Pleistocene Ice Ages, the most recent within the past 8 000 years, a land bridge between New Guinea and Australia would have allowed tree-kangaroos to move between the two current land masses (Nix and Kalma 1992). It is possible, therefore, that tree-kangaroos exist in substantial areas of apparently suitable habitat (rainforest and gallery forest, Martin 2005) on Cape York Peninsula. Tree-kangaroos are large mammals that are readily identified, if not to the species level, by experienced observers. Until the late 1990s tree-kangaroos had not been recorded from Cape York Peninsula. However, plausible reports of a sighting and of a footprint in a soil plot, stimulated recent interest in the possibility of tree-kangaroo presence on Cape York Peninsula. This has included searches specifically for tree-kangaroos, or as part of general fauna surveys, by the authors.

In this paper, we examine the evidence of reported occurrence of tree-kangaroos on Cape York Peninsula and summarise the results of expeditions by the authors to find '*Dendrolagus* sp.' in the Iron Range to McIlwraith regions of the Peninsula. We assess both the quality and quantity of observations to determine the weight-of-evidence required to accept records of tree-kangaroos on Cape York Peninsula.

Reports of tree-kangaroos on Cape York Peninsula

The sighting of a tree-kangaroo in the Iron Range forest by the well known naturalist John Young, reported in 1999 to the Tree Kangaroo and Mammal Group community survey on tree-kangaroos (Kanowski *et al.* 2001) stimulated this paper. Young's report is given in full –

> *"Whilst this has been reported and discounted - during an extensive visit to Iron Range Oct 79 to Jan 80 a tree kangaroo, very large (or it appeared to be) was encountered by my wife Jonell and I being harassed by a breeding pair of manucodes, siting maybe 100 feet up in a large black bean. It was very dark in colour, with a black mask surrounded by a dirty yellow colour, the belly was also the same colour. We watched it for maybe half an hour before it moved off. I have visited Iron Range maybe 20 times since 1976, and have yet to encounter a second specimen. For curiosity I asked two indigenous elders, at the time, and they confirmed that such an animal existed in the region in the surrounding mt ranges. After filming Lumholtz, I can only say that except for size, they are similarly marked."*

The second report of a possible tree-kangaroo on Cape York Peninsula was of a footprint of a large macropod obtained from a soil plot by Peter Catling and Mick Burt, CSIRO Wildlife Ecology. It was in the vicinity of the disused Silver Plains airstrip between Massy Creek and Rocky River, in semi-open savannah

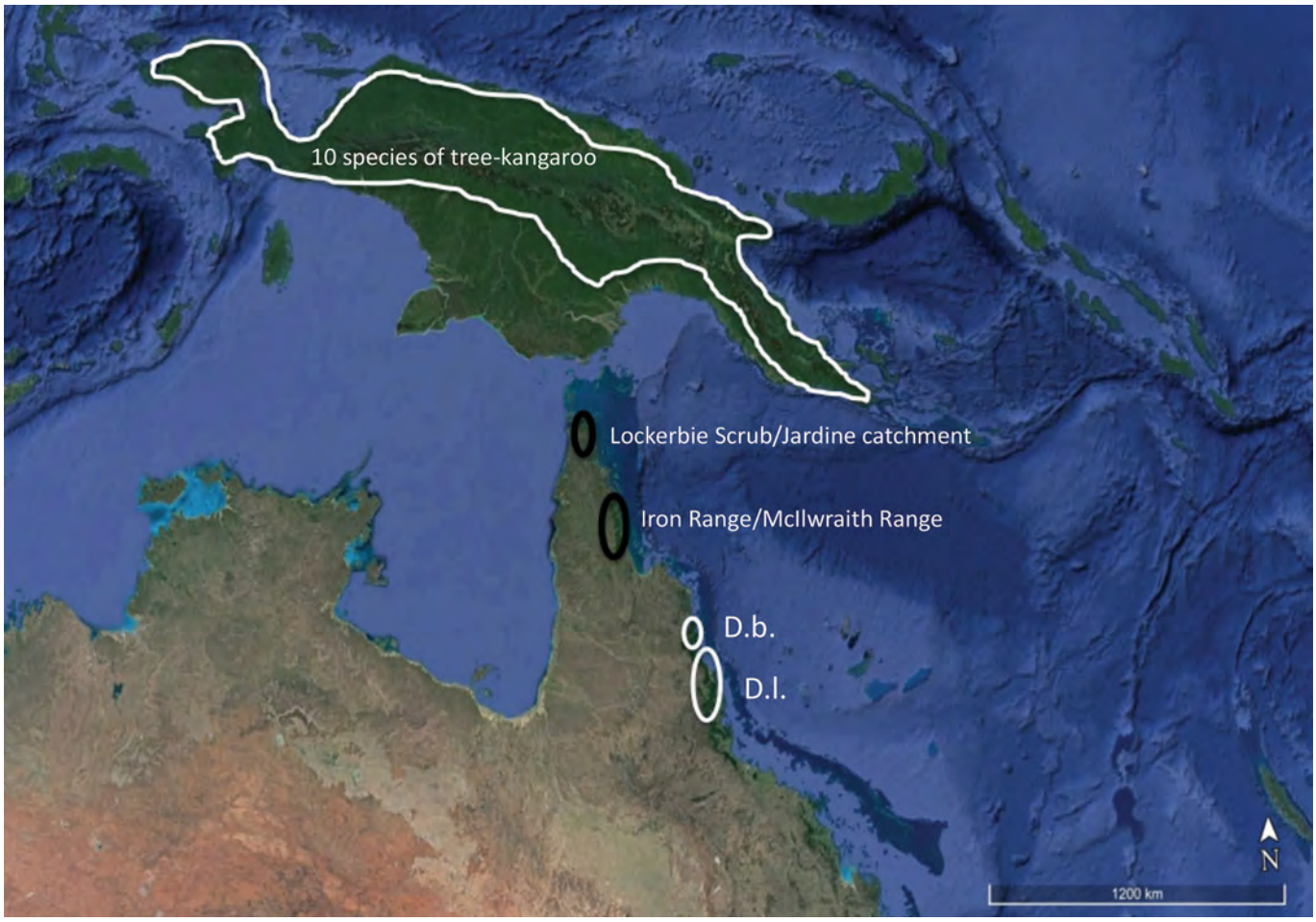

Figure 1. Known distribution of tree-kangaroos in New Guinea and Australia (white outline) and potential habitat on Cape York Peninsula (black outline). **D.b.** *Dendrolagus bennettianus*, **D.l.** *Dendrolagus lumholtzi*. Species number in New Guinea after Groves (2005). Map base from Google Earth.

woodland in 1990. At the time they were unable to identify the footprint, but on seeing the foot of a frozen tree-kangaroo being skinned by Ian Mason at CSIRO Atherton, on the way back from Cape York Peninsula, it struck them as being identical to their sand imprint. The features they considered similar were that the foot was broad and relatively short, broader and shorter than the kangaroo and wallaby footprints they were familiar with in southern Australia (Peter Catling, pers. comm. 21 Nov. 2005).

In addition to the above two specific reports, 'tree-kangaroos' are regularly reported from the Peninsula by local residents. A few specific examples include:

1. Seen by Mary Shepherd of Yarraden Station south of Coen, in a mango tree for two days at the homestead - reported to John Winter.

2. Seen in a tree for two days at Silver Plains homestead by a local resident – reported to Peter Catling.

3. Seen by John Armbrust of Orchid Creek Station in the upper reaches of the Wenlock River – reported to John Winter.

4. Seen by Dennis Smith, an helicopter pilot, on the eastern side of the McIlwraith Range – reported to Roger Martin

5. Traditional Owner, Patrick Butcher Sr, of Lockhart River Community, gave the Sefton/Wenlock/Mt Carter area as where tree-kangaroos lived – reported to Luke Leung.

6. Wayne Butcher of Lockhart River Community came upon one individual when he was pig hunting in the Iron Range rainforest – reported to Luke Leung.

7. Walter Bowen, an old Aboriginal man living in Hopevale, worked for many years as a stockman, driving cattle to the sale yards in Mareeba, claimed to have seen tree-kangaroos in the Blue Mountains, north east of Coen, in the years both proceeding and following World War Two – reported to Roger Martin.

8. Michael Stephenson, Lakeland Downs "There were 3 tree kangaroos on the tree trunk, by the time we took the photo 2 had bolted. Myself, Laurie Wells and Russell Laing, were moving down the creek and stopped about mid morning to eat oranges and rest.

> We were there for 15 minutes chatting etc looked up and saw 3 tree kangaroos. Snapped one. Their faces looked like dog faces. The biologist at Cooktown botanical gardens said it looked like a Bennett's [*Dendrolagus bennettianus*]. As we moved off down Black Gin Creek it stayed where it was. Date 27 August 2011. Time mid morning. Decimal Degrees -15.793965 / 144. 830597. Elev 287m. " – reported to Roger Martin and photograph supplied (Figure 2).

These reporters of sightings of tree-kangaroos all maintained they could distinguish tree-kangaroos from rock-wallabies or had had it identified as a tree-kangaroo. Unfortunately, the only record accompanied by any substantial evidence, a photograph (record 8), proved to be of a Godman's Rock-wallaby *Petrogale godmani* in the opinion of Roger Martin and John Winter -ears too pointy, face too long and light coloured with no black - to be a tree-kangaroo.

Previous mammal surveys

The rainforests of Cape York Peninsula, particularly of the McIlwraith Range and Iron Range areas have attracted the notice of mammalogists for over 80 years, because of their close faunal connections to New Guinea. None reported any evidence of tree-kangaroos on Cape York Peninsula:

- Donald Thompson made three animal collecting expeditions to Cape York Peninsula 1928, 1929 and 1932. From his base at Port Stewart he made an extended visit to the Lockhart River area in 1932 (Dixon and Huxley 1985).

- The next expedition to the area with an interest in mammals was the Archbold Expedition in 1948. It collected mammals and other fauna for the American Museum of Natural History and spent nearly two months in the Iron Range area (Tate 1952, Brass 1953).

- The Queensland National Parks and Wildlife Service - overseen by John Winter - conducted an intensive survey of the vertebrate fauna of the McIlwraith Range Between 1977 and 1979 (QNPWS 1980, WildNet database – open data portal).

- Luke Leung lived in Lockhart, the town in the Iron Range area, for five years and spent many hours in the rainforest in the course of his study on small mammals of the Iron Range rainforest (Leung 1999a, b, c) and also conducted a general fauna survey for the Queensland National Parks service (Leung, Venables and Pritchard 1994).

- Daryn Storch, Queensland National Parks service conducted a systematic fauna survey of the Iron Range area over the period of 1993 to 1995 (Storch pers. comm.)

- In addition collection expeditions or surveys which included mammals in their searching techniques, numerous visits have been made to the area by biologists and naturalists who reported on mammals, but no tree-kangaroos. These included:

- The entomologists Dodd 1913 and Darlington 1932 (Brass 1953) to the northern end of McIlwraith Range.

Figure 2. The only substantive evidence supplied purporting to be a tree-kangaroo, Lakeland Downs area, Cape York Peninsula (Photo Michael Stephenson)

- Personnel of the Australian National University commenced studies in the Iron Range area in 1997 (Heinsohn and Cermak 2008). Statements by these authors such as 'Some species, such as tree-kangaroos (*Dendrolagus*), are even more mysterious because they managed to establish populations elsewhere, but failed to persist on the peninsula.' (page 34) indicate that no tree-kangaroos were recorded in the course of these studies.

- Countless visits to the Iron Range area by other biologists and naturalist, drawn by the areas' mix of Australian and New Guinean rainforest fauna.

Surveys Targeting Tree-kangaroos

The two firm reports of a tree-kangaroo from the Iron Range/ McIlwraith Range area sighted above stimulated several of the authors of this paper to search specifically for tree-kangaroos in the rainforest of the region (Figure 3). These are summarised.

John Kanowski and Terry Reis, zoologists Griffith University, Brisbane, and Chris Clifford, ecologist Land and Sea ranger coordinator, Lockhart River Community

Upper Peach Creek, McIlwraith Range: 3 days in October 2001. Searched from the end of the road (approximately UTM 54L 752706 easting 8480404 northing WGS84) south to highest point - 824m (UTM 54L 751003 easting 8476118 northing WGS84), and back. The highest point deliberately targeted as altitude is the key predictor of the distribution of most tree-kangaroos. Simple daytime searches made for scats and scratches of tree-kangaroos, targeting *Schefflera*, *Alstonia* and other species thought to be favoured – a technique used by Kanowski on the Atherton Tablelands to survey remnant vegetation for Lumholtz's Tree-kangaroos *Dendrolagus lumholtzi* - two nights spotlighting, one along the old road towards the Leo Creek mine, the second along creek at about 700m. No evidence of tree-kangaroos found. Very few trees showed evidence of scratches from any arboreal mammal.

Chris had also done walking traverses through parts of the McIlwraith Range.

Luke Leung, Nick Baker and Dario Rivera, ecologists, School of Agricultural and Food Sciences, University Queensland

Sefton Creek: ***26-28 September, 2002***

Drove ENE as far as possible towards William Thompson Range and Mt Carter (the ultimate goal). Reached country at 3-400m (Approximately UTM 54L 727707 easting 8552310 northing WGS84) and worked up and down the creek for about 2 km spotlighting for two nights and a day search up the creek and into the range for 3-4 km. No evidence to suggest that tree kangaroos were present. The location described by the Traditional Owner - Patrick Butcher Sr - indicated that it was closer to Mt Carter, at 665m, and NE of the location searched.

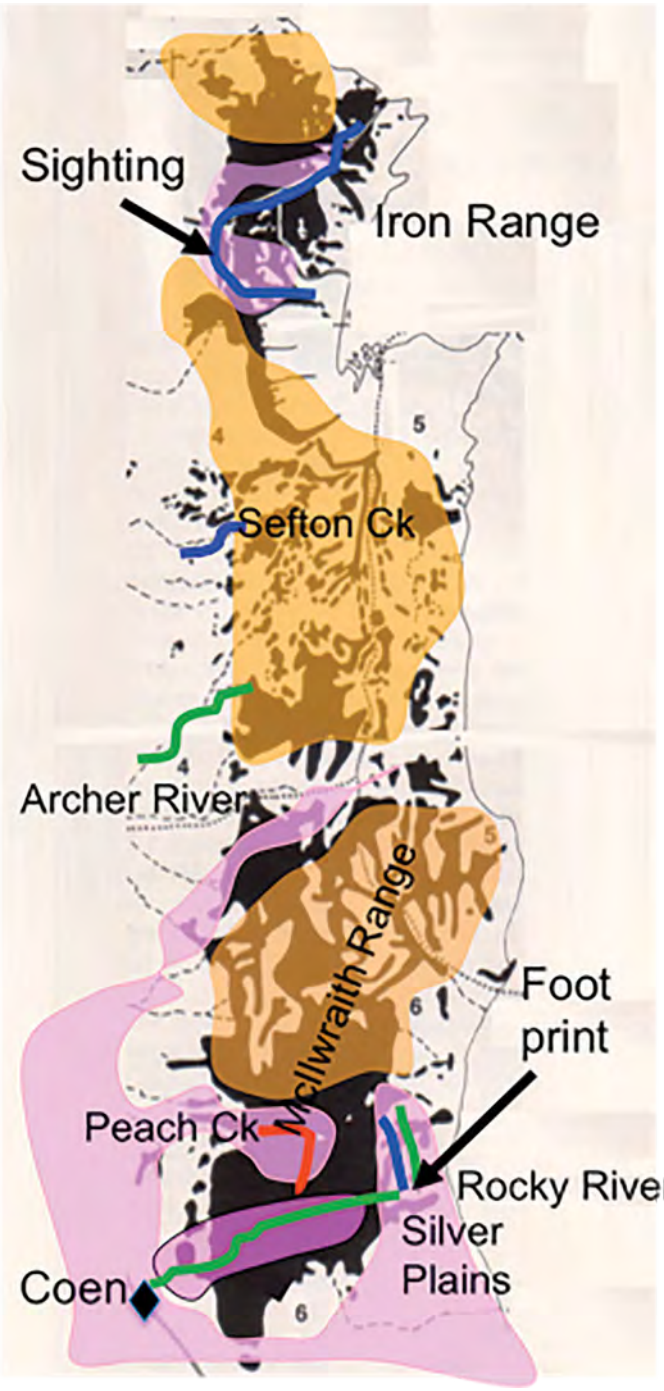

Figure 3. Areas covered by general mammal surveys (pink shading), surveys targeting tree-kangaroos, (Heavy coloured lines; Martin et al. green, Leung & Baker blue, Kanowski *et al.* red), poorly surveyed areas (orange shading); rainforest (black shading). Rainforest map modified from Winter *et al.* 1991.

Also spotlighted along the Portland Roads Rd from the Pascoe River to Iron Range NP on the return trip from Wenlock.

Iron Range region: ***28 September – 2 October, 2002.***

Thirteen soil plots, at various locations along Portland

Roads Rd, were assessed for three days. Some walking transects undertaken around the Iron Range Queensland Parks and Wildlife Service (QPWS) base during the day for evidence of scratch marks on trees. Spotlighting for approximately 10 km along the Portland Roads Road from Iron Range QPWS base and into Lockhart River township. Indigenous Traditional Owners suggested that tree-kangaroos had been sighted along the Portland Roads Road. No evidence – sightings, scratches, footprints – of tree-kangaroos obtained.

Silver Plains: ***3-8 October, 2002***

Twenty five soil plots set from the disused Silver Plains airstrip (UTM 54L 765843 easting 8468510 northing WGS84) to north of the Chester River (UTM 54L 768354 easting 8499704 northing WGS84). In addition to this, spotlighting and day trekking along tracks and the river from our three base locations was undertaken. Typical spotlighting treks were for 2 hrs with two spotlights. Soil plots were set for 2-3 days at each location and were placed across tracks/trails or in dry sections of creek beds. Sites were stratified by habitat. Results: Very little evidence of arboreals was noted during day searches and none sighted at night. A single set of tracks on a soil plot, close to where CSIRO had obtained their footprint, was examined closely as possibly belonging to a tree-kangaroo because of its dimensions. The foot was very broad (6-7cm) and long (11-12cm) without evidence of a rear pad. The foot was broad enough to be a tree-kangaroo, but the toes were distinctly asymmetrical; the fifth toe was distinctly shorter than the fourth and set at an angle, whereas the fifth toe of a tree kangaroo is parallel to the fourth and relatively long (Triggs 1996) (Figure 4). It was surmised the track was left by a large macropod the size of an Antilopine Wallaroo *Macropus antilopinus* or Common Wallaroo *Macropus robustus*, most likely a *Macropus antilopinus* as they were more prevalent in the area. However, the prints were in dry, coarse sand so were not distinct enough to be certain of the macropod species that left them. The habitat was open savannah close to a palm grove but there were very few substantial trees present and none near the actual plot.

Roger Martin, biologist, James Cook University, with field assistant Charlie Roberts, experienced with tree-kangaroos in the rainforests of northern Queensland (Martin 2005)

Rocky River area: ***5-11 July 1991.***

Camped at Rocky River and spent five days, searching both upstream and down stream of the road crossing (UTM 54L 767048 easting 8472343 northing WGS84). Concentrated on diurnal searches, looking for sign of tree-kangaroo activity (scratches on the boles of trees and faecal pellets under feed trees) in forests in the vicinity of Rocky River. Focused on the food-tree species used by Bennett's Tree-kangaroo, ascertained during a two-year field study conducted at Shipton's Flat during 1989/1901 (Martin 2005) and present in the Rocky River area – *Schefflera actinophylla, Aidia racemosa, Polyscias murrayi, Chionanthus ramiflora, Ganophyllum falcatum.* Scratches at the base of a small tree that provided access to a large *Ganophyllum* were the only 'vaguely positive' evidence of

Figure 4. Inked impression of a footprint of a Lumholtz's Tree-kangaroo. Note relatively large size of the smaller toe compared with the main toe and the parallel alignment of the two toes.

a tree-kangaroo obtained. No other scratches or faecal pellets seen that could be attributed to tree-kangaroos. This was particularly so for the many *Aidia racemosa* (a small tree which was highly favoured by tree-kangaroos at Shipton's flat) in the area. Cuscus faecal pellets were numerous on the ground in a number of areas and several Common Spotted Cuscuses *Spilocuscus maculatus* seen when spotlighting, but no tree-kangaroos.

Walked upstream along Scrubby Creek two-thirds of the way up Bald Hill until the country dried out to the point unsuitable for tree-kangaroos. Many *Schefflera* along the gullies. Also walked upstream along Chester River into the range, again many *Schefflera* along the gullies. No tree-kangaroo signs.

Southern McIlwraith Range: ***21-30 July 1993***

Martin, accompanied by Barry Trail and Kath Handasyde, walked east from Lankelly Creek (near Coen) over the range to the headwaters of Massy Creek and returned. *Spilocuscus maculatus* seen and their faecal pellets were particularly abundant in the rocky creeks heading down the escarpment on the eastern side of the McIlwraith, but no tree-kangaroo signs found.

Iron range: ***17-24 September 2002***

Martin, Roberts and Italian filmmaker Giampiero Gandolfo checked site of the Young's sighting close to the 'Robber's Tree'. Roberts found some very old scratches on the bark of a small tree that could have been made by a tree-kangaroo. Also visited other sites nearby but saw no evidence of tree-kangaroos.

Assessment of Reports of the presence of tree-kangaroos on Cape York Peninsula

Possible Recent Extinction of the Species

The potential habitat of a tree-kangaroo, rainforest and riparian strips, on Cape York Peninsula would have undergone periods of expansion and contraction during the past series of Pleistocene and Holocene Ice Ages. It would also have been continuous with similar habitat in New Guinea across a Torres Strait land bridge during this period. Tree-kangaroos could have been distributed throughout suitable habitat between New Guinea and the Wet Tropics bioregion of Australia where tree-kangaroos are currently know to exist.

Tree-kangaroos may have existed in the recent geological past on Cape York Peninsula. These records may be of the remnants of a population that is in terminal decline leading to the final extinction process of the animal in habitat now fragmented by long-term climate changes. If this was the case, one would expect the local Indigenous people to have a rich tradition of stories and names, but the authors are not aware of such a body of evidence. In addition, it would be expected that earlier expeditions by Europeans would have reported tree-kangaroos when presumably they were more numerous.

Given the current available evidence the probability that the records of tree-kangaroos reported here represent the remnants of a once more abundant population is considered to be very low.

Mistaken identity

It is standard practice that the acceptance of a sighting of an animal outside its known range be accompanied by a detailed description of the animal and preferably accompanied by a voucher specimen, photograph or a part of the animal – fur, feather, scat, footprint. For example, Birdlife Australia has a rigorous vetting process for the acceptance of sightings of vagrant birds.

Rock-wallabies, known to be present on Cape York Peninsula, are capable of climbing sloping trees or ones with a complex low branching system (Figures 5 and 6). Also the author JW has seen a Godman's Rock-wallaby leap to the ground from a height of about three metres from a sloping tree. Seonaid Philips (*pers. com.* 2010, photo supplied) regularly sees Mareeba Rock-wallabies *Petrogale mareeba* in trees on the banks of the Barron River, Walkamin. Consequently, despite people's assurances that they know the difference between a rock-wallaby and a tree-kangaroo, most reports of tree-kangaroos from the Peninsula have to be treated as rock-wallabies, unless accompanied by substantive evidence.

The footprint recorded in a sand plot by Catling and Burt could have been that of a *Macropus antilopinus*. It has a footprint broader than the more southerly macropods with which Catling and Burt were familiar. This raises sufficient doubt for it to be discounted as hard evidence of a tree-kangaroo.

The exception, despite the lack of substantive evidence, is the sighting by the Youngs' who are experienced naturalists and who are familiar with tree-kangaroos within the Wet Tropics region of northern Queensland. It is unlikely that they mistook the animal they watched as anything but a tree-kangaroo. However, until corroborated by additional substantive recordings of tree-kangaroos, this sighting must remain unacceptable as proof of tree-kangaroos in Cape York Peninsula.

Extremely Rare

The existence of a tree-kangaroo on Cape York Peninsula could be extremely rare, resulting in very few encounters with visiting observers. The forest of Cape York Peninsula are well known for their low densities of mammals such as the two cuscuses and the red-legged pademelon *Thlogale stigmata*. Even so, these mammals are regularly reported by visitors to the region. It is extraordinary, therefore, that there are no other observations of tree-kangaroos at the

Figure 5. A Unadorned Rock-wallaby *Petrogale inornata* several metres up a tree, Mt Pleasant, W of Bowen (Photo Garlone Moulin)

Figure 6. Close-up of Unadorned Rock-wallaby in tree, Mt Pleasant (Photo Garlone Moulin).

Youngs' observation locality, which is on the main road into the Iron Range, an area visited by numerous people with an interest in wildlife and likely to report on such an unusual sighting.

A Vagrant Individual

Bennett's Tree-kangaroo occurs at the northern end of the Wet Tropics bioregion, 250 km south of the McIlwraith Range and 390 km south of where the Youngs made their sighting. Bennett's Tree-kangaroo occurs in continuous rainforest and along riparian strips, a habitat that can contain a large element of non-rainforest tree species (Martin 2005). Individuals could conceivably cross the relatively dry habitats of the Laura basin to the rainforest of the McIlwraith and Iron Ranges (Figure 7). It is possible, therefore, that the reported sightings of tree-kangaroos on Cape York Peninsula are of vagrant Bennett's Tree-kangaroos, but the probability is considered to be very low because of the distance required to travel.

Deliberate release

A tree-kangaroo from either New Guinea or the Wet Tropics of Queensland could have been released in the Iron Range area. Although the probability of the Youngs seeing a released animal is low, even if released at their sighting locality, it can not be discounted.

Confined to remote areas

Surveys of Lumholtz's Tree-kangaroo on the Atherton Tablelands show that it has a patchy distribution at broad and fine scales. At the broad scale, the species is absent from substantial areas of apparently suitable habitat within the Wet Tropics region south of the Herbert River (Winter *et al.* 1991, Williams 2006). Within the Atherton Tablelands, the abundance of the species varies strongly with geology (a proxy for foliar nutrients) and elevation (Kanowski *et al.* 2001b, 2003). Abundant populations of Lumholtz's Tree-kangaroo are restricted to relatively small areas of favourable habitat: for example, on the Atherton Tablelands, the species is common in 'mabi' forests on recent basalts to the west of Yungaburra, but largely absent from forest on less fertile soils a few kilometres to the east. It is conceivable, therefore, that a tree-kangaroo on Cape York Peninsula might be restricted to a relatively small, favourable location in an area rarely visited by people. The reported sighting could be of the occasional animal that strays or dispersed outside its normal habitat – for example, Lumholtz's Tree-kangaroos have been recorded dispersing many kilometres from rainforest habitat on the Atherton Tablelands (Kanowski *et al.* 2001a). The only areas of potential habitat large enough to support a remote population of tree-kangaroos on Cape York Peninsula are within the Iron Range/McIlwraith Range region.

Within the Iron Range/McIlwraith Range region, areas which have received relatively good coverage by observers include the Portland Roads to Lockhart section of Iron Range; the McIlwraith Range south of a line from Peach Creek to the Chester River; and a narrow section along

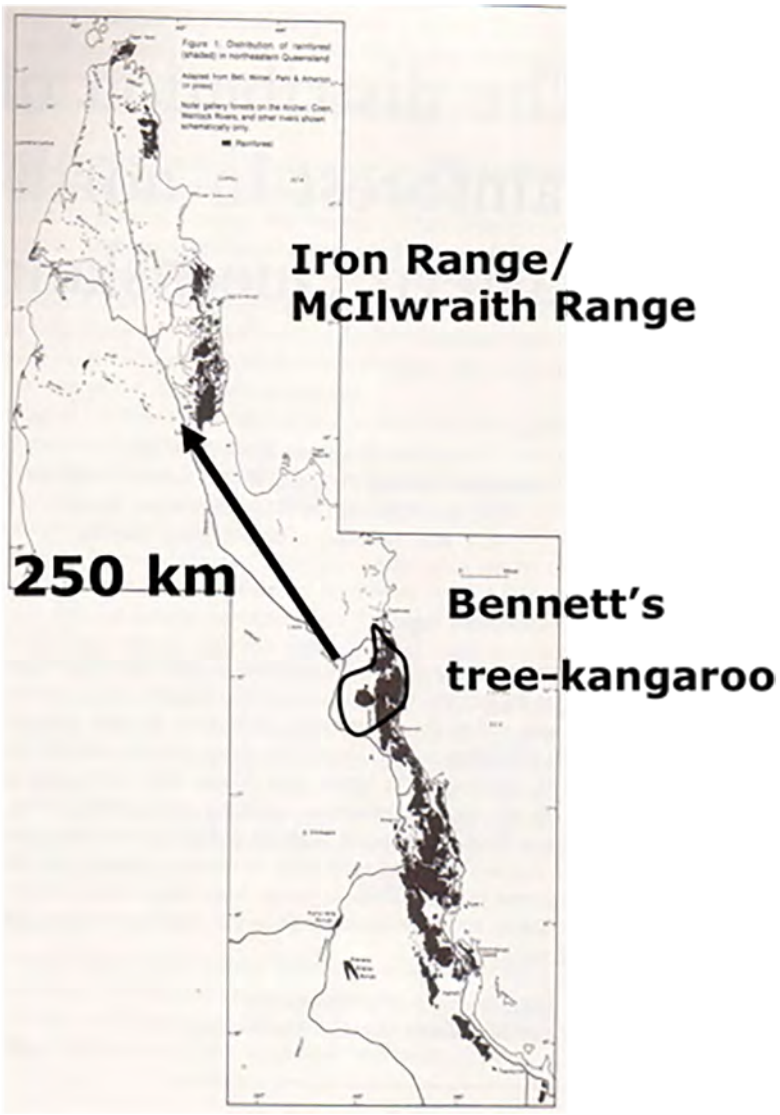

Figure 7. Distance for a vagrant Bennett's Tree-kangaroo to travel from its known distribution range to the McIlwraith Range.

the road to Buthen Buthen (Figure 3). This leaves relatively large areas not visited south of the Pascoe River to South Pap; the southern slopes of Mt Tozer to north of the Buthen Buthen road; and the northern end of the McIlwraith Range (Figure 3).

The arguments are summarised in Tables 1 and 2.

Acceptance of records

To accept the presence of tree-kangaroos in Cape York Peninsula would have profound implications from a number of perspectives. Biogeographically it would provide a link between known tree-kangaroo population in New Guinea and Australia. The question would then be its phylogenetic relationships to these populations. From a conservation perspective it would lead to demands for it to be listed as a threatened species with resources diverted to its conservation.

Consequently, acceptance needs to be based on sound evidence of its existence. McKelvey *et al.* (2008) point out that large numbers of anecdotal occurrence records can accumulate over time, and they frequently contain convincing details and occur in plausible locations or habitats. Observers are typically well-meaning and conscientious individuals, and sometimes are experienced, well-trained biologists. McKelvey *et al.* (2008) propose a gradient of evidentiary standards for occurrence records that increase in rigor with species' rarity (Figure 8).

Acceptance of the presence of tree-kangaroos on Cape York Peninsula would come within their category of 'Species is believed to be absent or extinct' or even the higher category of 'Species is currently unknown to science'. Thus acceptance requires at the very least photographic evidence. The increasing use of camera-traps will possibly provide such evidence should tree-kangaroos be present. The highest standard of evidence is the collection of a whole specimen lodged in a museum. However, we are not advocating this level for what would be an iconic species and the collection of which would lead to public dismay. Diagnostic DNA evidence can be obtained from an animal without the necessity

Table 1: Type of reported evidence of tree-kangaroo presence on Cape York Peninsula.

Type	Reasons	Reliability of identity
Sighting	Youngs' sighting – well known observers with considerable experience with tree-kangaroos in Wet Tropics	High, but lacks substantive evidence
Footprint	CSIRO footprint – possibly mistaken for *M. antilopinus*	Moderate but lacks substantive evidence
Sightings	Local reports - possibly confused with rock-wallabies	Low and lack substantive evidence

Table 2: Categories of tree-kangaroos records on Cape York Peninsula.

Category of record	Reasons	Presence likelihood
Mistaken identity	Reported sightings only – require substantive evidence	Low
Recent extinction	Would expect earlier records	Very low
Extremely Rare	Iron Range area heavily visited by scientists, naturalists and general public	Very low
Vagrant	Possible for *D. bennettianus* to travel between Wet Tropics and Iron Range	Low
Deliberate release	Release feasible but subsequent sighting unlikely	Low
Remote locality yet to be surveyed	Tree-kangaroos can be patchily distributed - cf Wet Tropics	Medium

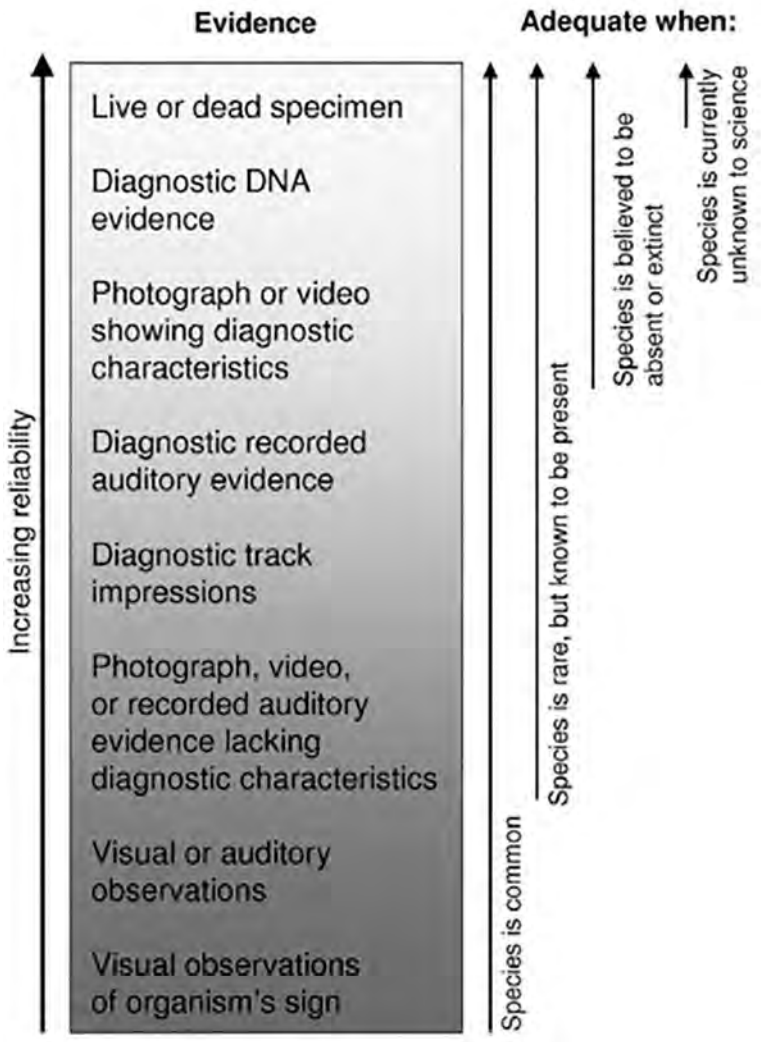

Figure 8. McKelvey *et al.*'s (2008) Evidentiary standards based on a gradient of increasing species rarity.

of preserving the whole animal – ear biopsy, blood. Furthermore, DNA, accompanied by part of the animal, can be used as type material for the description of a species under Article 72.5.1 of the International Code of Zoological Nomenclature.

Conclusions

In conclusion, we accept that survey of potential tree-kangaroo habitat on Cape York Peninsula is incomplete, and not discounting the possibility that tree-kangaroos may be present on Cape York Peninsula, the authors consider that current evidentiary evidence is insufficient for their presence to be formally accepted.

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