

# Rediscovery of the Grey-crowned Crocias *Crocias langbianis*

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## Summary

The Grey-crowned Crocias *Crocias langbianis*, previously known from three specimens collected near Da Lat, Lam Dong province, Vietnam, was rediscovered in Chu Yang Sin Nature Reserve, Dak Lak province, in January 1994. Subsequent fieldwork at this site in March and April 1995 revealed the presence of a population inhabiting lower-montane evergreen forest. The species was recorded during an eight-day period. The species appears to have highly specific ecological requirements and several management recommendations are made which would reduce the level of threat to the habitat of the species at this site.

## Introduction

BirdLife International and the Forest Inventory and Planning Institute (FIPI) of the Ministry of Agriculture and Rural Development, Vietnam, are currently implementing a two-year project, sponsored by the European Union, which aims to assist the establishment of protected areas in the Da Lat Plateau and Annamese Lowlands Endemic Bird Areas (EBAs; see ICBP 1992, Eames *et al.* 1994). As part of the site selection process, areas nominally proposed by the former Ministry of Forestry were surveyed first. Chu Yang Sin Nature Reserve in Dak Lak province was selected for survey because it was believed that it would support an avifauna representative of the Da Lat Plateau EBA and might support a population of the Grey-crowned Crocias *Crocias langbianis*, which was then only known from the type-material. The condition of forest habitat, presence of an isolated 2,442 m peak, and the fact that the area was ornithologically unexplored were further criteria for its selection. The results of subsequent fieldwork showed that these beliefs were well founded (Eames 1994, 1995, Eames and Nguyen Cu 1994).

The Grey-crowned Crocias was first collected by the Swedish ornithologist Bertil Björkegren, who obtained a pair on 5 April and a second female on 12 April 1938 (Figure 1). The collecting locality was given as “S[outh] Annam, Da Lat”, in Vietnam. No other data were provided by the collector as to the habitat or biology of the species. The specimens were sent to the Swedish Museum of Natural History where they were subsequently described by Count Nils Gyldenstolpe as *Crocias langbianis* (Gyldenstolpe 1939).

## Rediscovery, and observations in 1995

There was no further observation of the species for 56 years until it was rediscovered on 29 January 1994 in Chu Yang Sin Nature Reserve, Dak Lak



Figure 1. The type (lower) and two holotypes of the only three specimens of *Crocias langbianis*. (Photo: J. C. Eames.)

province (Eames 1994). On that occasion two birds were briefly observed in the canopy and subcanopy of lower montane evergreen forest at 1,010 m. They were in a mixed-species flock containing Green Magpie *Cissa chinensis* and Maroon Oriole *Oriolus traillii*. The birds were lost in the gloom of dusk and not relocated the following morning (Eames 1994). Further survey work was not possible at this point because the team had no further food.

During March and April 1995 we undertook ornithological surveys at three sites surrounding and within Chu Yang Sin Nature Reserve (12°25'N 108°25'E) as part of the ongoing BirdLife/FIPI Project. An objective of this fieldwork was to obtain further data about *C. langbianis* in this area.

From 7 to 25 March fieldwork was undertaken on the southern side of Chu Yang Sin in Lac district. Surveys were undertaken at two sites along the Dak Lienboc and Dak Hon streams (12°21'N 108°18'E) on the lower slopes of the Chu Pan Phan ridge (12°22'N 108°22'E) in broadleaved montane evergreen forest between 900 and 2,000 m. However, no *C. langbianis* were recorded at these sites during the 18-day survey period. Between 29 March and 8 April we worked in Krong Bong district, returning to the precise locality where J.C.E. and N.C. had first observed the species, and on 30 March we established camp at the same site as in 1994. After only a few minutes of searching, a single *C. langbianis* was observed in a mixed-species flock. The species was recorded subsequently in the vicinity on all dates between 30 March and 7 April, except 5 April. Table 1 summarizes all contacts with the species during the survey period. The Appendix details all bird species noted in mixed feeding flocks with which *C. langbianis* were associating.

Table 1. Summary of records of *Crocias langbianis* in 1995.

Date	Time	Altitude	Activity
30 March	16h15	980 m	Single bird feeding in mixed-species flock, in subcanopy amongst lianas and dead leaf debris, close to trunk
31 March	10h30–10h45	990 m	Two birds feeding in canopy/subcanopy amongst mixed-species flock
1 April	10h30	920 m	Single bird feeding in canopy with mixed-species flock
1 April	11h00	c.950 m	Single bird feeding in canopy with mixed-species flock
2 April	06h50	c.950 m	Single bird seen in mixed-species flock
2 April	09h51	1,130 m	Two birds seen briefly in canopy with mixed-species flock; singing noted
3 April	07h20–07h45	c.950 m	Two birds actively feeding in canopy with mixed-species flock
4 April	10h20–11h00	c.910 m	Five birds (2 + 3) feeding in mixed-species flock
4 April	15h40–15h45	c.990 m	Single bird observed in mixed-species flock
4 April	16h20–16h22	c.920 m	Single bird observed feeding in canopy
6 April	08h20	c.910 m	Single bird observed in mixed-species flock
6 April	08h40–18h00	1,040 m	At least two birds observed; singing and calling noted
7 April	06h53–09h00	1,040 m	At least four birds observed feeding, mutually preening, singing and calling

### Field description

In the field the species is readily identified by a combination of its size and shape, distinctive plumage features and habits. *C. langbianis* is a medium-sized babbler with a long, graduated tail. Whilst these generalities are shared by numerous other babbler species, only the genus *Heterophasia*, represented on the Da Lat Plateau by two species, Rufous-backed *Sibia H. annectans* and Black-headed *Sibia H. melanoleuca*, shares these physiological features and is also arboreal.

From beneath, *C. langbianis* is identified by its white underparts contrasting with spotted and streaked flanks combined with white-tipped but otherwise blackish tail feathers. This is in contrast to both *Heterophasia*, which have white but unstreaked underparts. Additionally, *H. annectans* shows a rufous-buff suffusion on the flanks and undertail coverts. Although both *Heterophasia* have graduated, white-tipped tail feathers, the graduation is more pronounced and the white tips (at least on the underside of the tail) are more distinctive in *C. langbianis*. From above *C. langbianis* has a grey crown and nape with a distinctive black mask, extending from the lores to the ear-coverts. Both *Heterophasia* have black crowns and napes, but *H. melanoleuca* shows a distinctive, broken white eye-ring and grey-streaked ear-coverts. The mantle and rump of *H. annectans* is unstreaked chestnut, the nape streaked with white; the mantle and rump of *H. melanoleuca* is unstreaked grey; the mantle and rump of *C. langbianis* is rufous-orange streaked with black.

Although all three babblers share arboreal habits, they differ in stance and method of locomotion. The two *Heterophasia* are conspicuous species, perching

in an upright position often around the trunks of trees, especially boles, and sometimes perching in the open. *Crocias langbianis* is more furtive and inconspicuous as it moves stealthily through the canopy and rarely comes into the open.

### Specimen descriptions

Prior to the rediscovery of the species, J.C.E. visited the Swedish Museum of Natural History to inspect the type and paratypes. The description which follows is based on photographs taken at the time.

The forehead, crown and nape of the type-specimen (male) are grey, lightly streaked with pale shaft-streaks. The lores, cheeks and ear-coverts are dark grey, with some pale shaft-streaks, forming a dark mask contrasting with the rest of the head. The mantle and rump are rufous-orange with medial brown streaks. The chin, throat, breast, belly and vent are white. There are bold elongated dark brown spots on the sides of the breast and flanks. The primaries are blackish, edged subterminally with white on the outer webs. The secondaries are blackish, edged with grey on the outer webs. The tertials and scapulars are rufous-orange with broad blackish central shaft-streaks.

Gyldenstolpe (1939) noted in his description: "Primary coverts blackish tipped with white, and more or less edged with grey on the outer webs. Wing coverts blackish, distinctly margined with grey, the lesser one in addition tipped with white. Innermost greater wing coverts dark brown, margined and tipped with rufous cinnamon. Thighs pale greyish white with a brownish wash on some of the feathers. Colour of soft parts (as recorded by the collector): iris brown; upper mandible horn colour; lower mandible greyish horn colour; legs and feet greyish yellow."

In the type description Gyldenstolpe also stated that "the adult female resembles the male but the rufous-cinnamon colour of the back is somewhat paler and the brown central portions of the feathers are more pronounced, forming a rather more streaked appearance. Crown of head etc. (*sic*) not so pure grey, but more tinged with brownish and with the shaft-streaks more distinct and pale cinnamon in colour. Lores and ear-coverts less pure black, the latter similarly marked with narrow whitish shaft-stripes as in the male. In the other female, apparently younger, the spots on the side of the breast, sides of the body and flanks, become more numerous, but less drop-like, more linear, although still very distinct in appearance."

The male and one of the female specimens differ from the second female in showing a more pronounced head pattern. The forehead, crown and nape of the male and first female collected is slate grey, merging with (rather than abruptly demarcated from) the rufous-orange mantle. A blackish or very dark charcoal grey mask extends through the lores, cheeks and ear-coverts. The feathers of the ear-coverts show pale central shaft-streaks. This dark mask is boldly separated from the white throat but merges somewhat with the grey of the head. In the second female collected, there is less contrast between the grey of the head and the mask, and more of the feathers show pale central shaft-streaks. It was noted by Gyldenstolpe that the second female specimen was immature and therefore on the basis of the three specimens there is no clear sexual dimorphism. This was supported later by field observations.

## Behaviour and voice

*Crocias langbianis* were usually observed singly or in pairs associating with mixed-species flocks (Appendix). On 4 April five birds, a party of two and then three, were seen together in a mixed-species flock. On 7 April four birds were observed together chasing each other through the canopy and giving the trilling or buzzing call (see below). At 17h15 on 6 April two *C. langbianis* (a pair?) were observed preening one another, side by side on a horizontal branch. On this occasion, the birds also engaged in posturing and posing side by side along horizontal branches. An interspecific interaction was observed only once, at c.08h20 on 6 April when a crocias was chased off by a Black-winged Cuckoo-shrike *Coracina melaschistos*.

*Crocias langbianis* foraged almost exclusively in the canopy of broad-leaved evergreen tree species, where they remained largely unseen amongst the outer branches and foliage. Only twice were they recorded amongst lianas and vines around the main trunk. When feeding they invariably moved rapidly through the canopy, pausing only momentarily. Birds often fed in the outermost parts of the canopy and were noted feeding amongst both fresh new leaves and dead leaves. They were observed feeding on caterpillars (Lepidoptera) on several occasions. On 31 March a *C. langbianis* was observed feeding on a large bright green caterpillar. It held the insect against the branch with its foot, vigorously pecking at it, and also smashed it against the branch with its bill, presumably either to immobilize it or to soften the tissue. The same bird was seen feeding on another caterpillar a few minutes later but a subsequent prey item was not identified. Between 07h45 and 08h48 on 7 April a group of four *C. langbianis* were observed to take three prey items. The identity of the first was not determined but the second was a large brown caterpillar with long black hairs. The third item was a smaller, non-hairy caterpillar.

At 06h45 on 7 April a male was noted singing from a concealed position in the top of the canopy of an evergreen tree on a slope with an easterly aspect. He sang continuously until 07h40 when he was disturbed by a *Tamiops* squirrel. He then sang intermittently for the following 15 minutes from nearby trees.

The song of *C. langbianis* was first noted at 09h51 on 2 April at 1,130 m. The contact alarm note was first recorded on 4 April and singing and calling recorded on a number of occasions during the morning and afternoon of 6 and 7 April. The song comprised an energetically delivered, *whit whit, whe-oo whe-oo whe-oo whe-oo whe-oo whe-oo*, usually introduced by two *whit* notes of about one second duration in total (Figure 2a). Sometimes the *whit* segment was absent. The *whe-oo* note was monotone with a slight downward inflection to each note. The *whe-oo* phrase usually consisted of 3–12 notes but usually 6–7. This phrase was usually 4–5 seconds in duration and often concluded with an upward inflected *whit*. The pitch was constant during the delivery but there was variation within the repertoire of a single individual as well as between birds. The *whe-oo* phrase was sometimes followed by a monotonous bubbling trill or piping with a staccato delivery, rather like the rapid fire of a machine-gun. Sometimes this phrase introduced the entire sequence. This is illustrated in Figure 2b.

The alarm and contact call contained elements of the bubbling trill but also harsher rasping and buzzing notes which were delivered as a jumble and which could be rendered as *bizarre-bizarre-bizarre-bizarre* (Figure 2c).

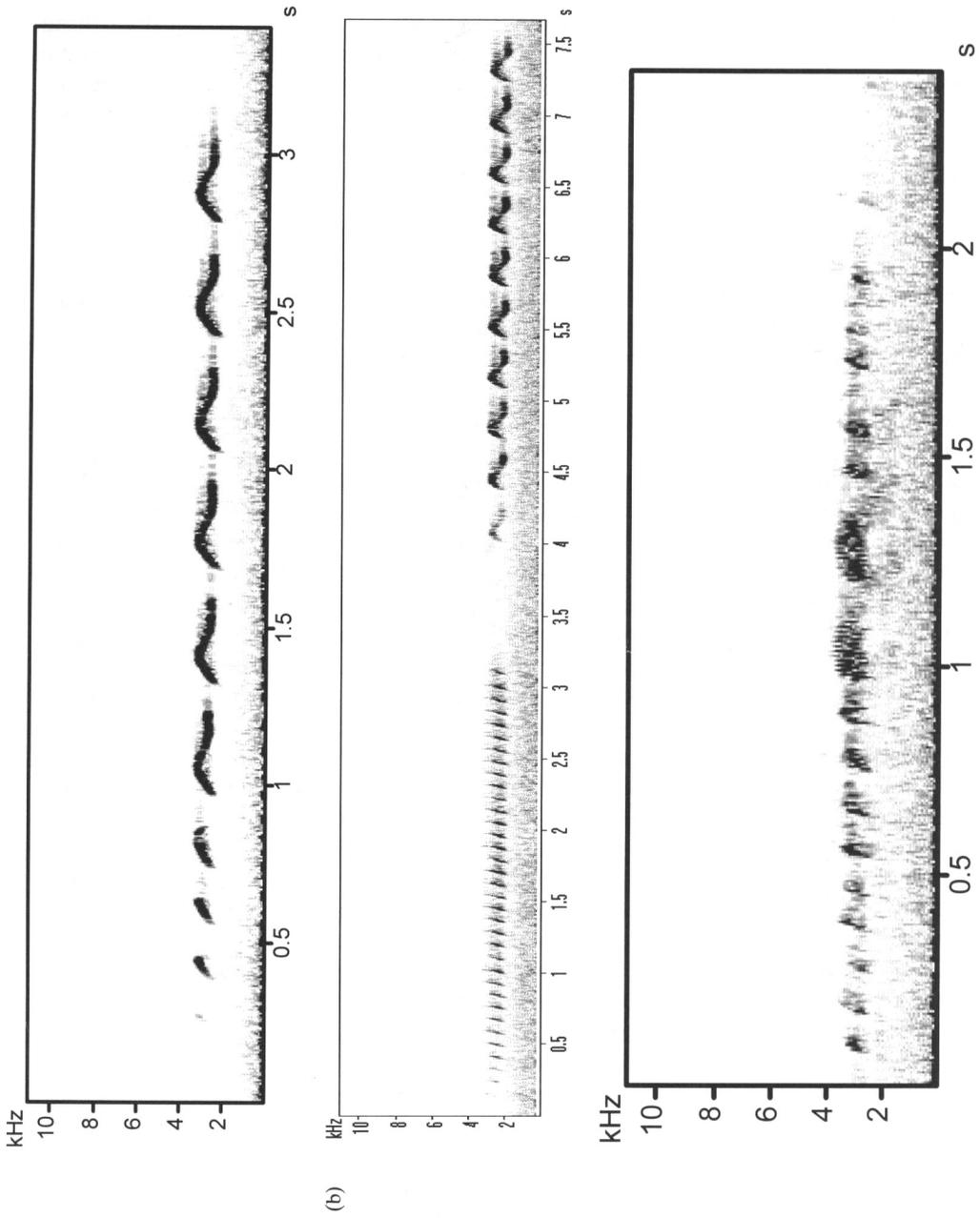


Figure 2. Sonograms of *Crocias langbianis*: a, song; b, song preceded by trill; c, call.

## Habitat

All *C. langbianis* observations were in closed-canopy, broad-leaved evergreen forest between 910 and 1,130 m altitude (Figure 3). The species was observed in forest along the Ea K'Tour River and its tributaries as well as on ridge-tops and slopes, which in the study area had an easterly or southerly aspect.

Tree height (including those in the subcanopy and middle storey) varied from 8 to 25 m between these elevations, but canopy height was always in the range of 15–20 m. There were in addition few emergents and buttressing was uncommon. Fifty-two genera of tree were identified and *Castanopsis*, *Lindera*, *Lithocarpus*, *Schefflera*, *Shimia* and *Syzygium* were predominant.

## Discussion

On the basis of the data obtained, it appears that *C. langbianis* is restricted to a narrow altitudinal range between 900 and 1,200 m. According to the simplified description of forests appearing in Whitmore (1990), *C. langbianis* was recorded in the "Lower montane forest" formation and within the "Oak-laurel floristic zone".

The failure to observe the species in apparently suitable habitat on the southerly aspect of Chu Yang Sin, which superficially appeared to differ little, suggests that the species may have a patchy distribution and/or that there are as yet undetermined habitat variables limiting its distribution. The species appears to occur at low density since it was recorded in only one of 70 sample plots established in the study area.

Chu Yang Sin Nature Reserve was included in the list of protected areas by decision 134-CT of the Council of Ministers of 8 August 1985. Agreement on the final boundaries of the reserve has not yet been agreed and no protection measures currently exist. Although no imminent threats to the protected area were noted during the 1994 survey, two alarming developments were noted in Krong Bong district during the 1995 survey. A 2 km section of dirt road has now been bulldozed from the village of Chu Pui (12°30'N 108°30'E) to the banks of the Ea K'Tour River, beyond which extends a motorable track which ends within 1 km of the 900 m contour. This road improves access to anyone considering logging the area, and indeed a domestic elephant and its handlers were observed dragging lumber along this road. During the 1994 dry season and following our fieldwork that year, villagers from Chu Pui have cleared c.1 km<sup>2</sup> of secondary forest along in the Ea K'Tour valley, again to within 1 km of the 900 m contour. This forest was last cleared by the village in 1970 (Ama Gam verbally).

It is interesting to speculate why the villagers had decided to clear this area of secondary forest. Since 1975 the natural resource-rich provinces of the western highlands including Dak Lak have received large numbers of settlers from resource-poor and impoverished provinces in northern Vietnam. This colonization has formed part of official government policy and has been actively promoted. Outside formal schemes, there appears also to have been widespread spontaneous migration by families in search of a better livelihood. Masters of wet rice cultivation, the immigrant Kinh (ethnic Vietnamese) settlers have

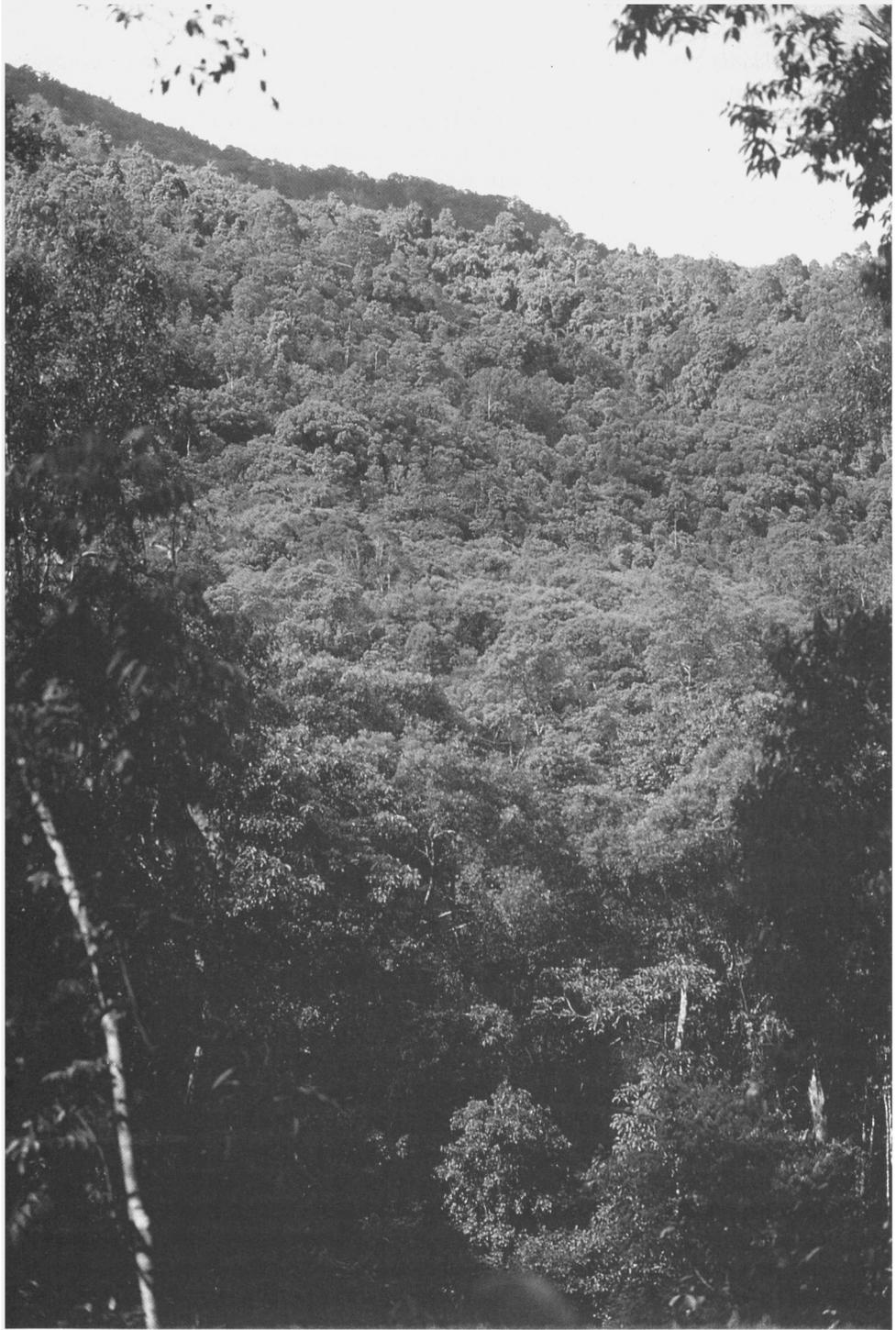


Figure 3. Habitat of *Crocias langbianis* in Chu Yang Sin Nature Reserve. (Photo: J. C Eames.)

cleared extensive areas of forest and settled river valleys and alluvial plains. The Ede, M'ngong and other tribal minorities of the western highlands are traditionally shifting cultivators and during the 1960s most communities were relocated and settled in permanent villages in flatter areas more suitable for settled agriculture. Whilst some tribal families have prospered, particularly as a result of the coffee boom in recent years, many others appear not to have adapted well to the change from shifting to settled agriculture. Faced with large-scale immigration by people of a more efficient farming culture, and lacking an established tradition in it, some tribal communities may find themselves ill-equipped to cope and for survival's sake may be reverting to shifting cultivation. Further social and spatial marginalization of these tribal communities can only increase pressure on remaining forest areas such as Chu Yang Sin Nature Reserve.

Given these factors we suggest that utmost urgency be given to completing the management plan and gazetting Chu Yang Sin Nature Reserve, and that the allocation of financial resources for the development of the protected area be made a priority. We specifically recommend that all further immigration into the two districts of Lac and Krong Bong, in which Chu Yang Sin Nature Reserve is situated, be halted and that development assistance to the tribal communities in these districts, especially the villages of Chu Pui and Buon Dung, be increased and form part of a coherent conservation and development programme.

Recent attempts to locate *C. langbianis* near the type-locality around Da Lat proved unsuccessful until two birds were observed at Tuyen Lam Lake (11°52'N 108°25'E) on 22 December 1994 (N. Dymond *in litt.* 1994). This locality, a reservoir located 6 km south-west of Da Lat, was first identified and surveyed by BirdLife in 1991. The reservoir is surrounded by pine forest to the south of which lie relatively extensive areas of "Tropical Montane Evergreen" forest (MacKinnon and MacKinnon 1986). Elevation varies from 1,400 to 1,500 m. In 1991 small-scale unofficial logging was noted in a number of places, and the evergreen forest and other areas were being cleared for agriculture (Robson *et al.* 1993).

The Grey-crowned Crocias was first listed as threatened at a time when it remained known only from material collected 50 years before (Collar and Andrew 1988). Following the rediscovery of the species it was listed as Critical (Collar *et al.* 1994).

Since the species is only known from two localities, both of which are under threat from habitat clearance, and since we are as yet unable to determine a population size, we suggest retaining its current conservation category of threat.

The rediscovery of *C. langbianis* is significant for several reasons: the species had not been recorded for more than 56 years; the observation in Lam Dong province confirms its presence in a second province and extends both its geographical and altitudinal ranges; and the initial rediscovery occurred in a protected area, further drawing attention to the international importance of Chu Yang Sin Nature Reserve.

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#### **Appendix. List of bird species recorded in mixed feeding parties with which *Crocias langbianis* was associating.**

*Picus flavinucha*  
*Psarisomus dalhousiae*  
*Oriolus traillii*  
*Coracina melaschistos*  
*Pericrocotus ethologus*  
*Rhipidura albicollis*  
*Dicrurus remifer*  
*Culicicapa ceylonensis*  
*Aegithalos concinnus*  
*Alophoixus ochraceus*  
*Garrulax vassali*  
*Pomatorhinus ochraceiceps*  
*Stachyris ruficeps*  
*S. nigriceps*  
*Leothrix argentauris*  
*Pteruthius flaviscapis*  
*P. aenobarbus*  
*Minla cyanourptera*  
*Alcippe peracensis*

*Yuhina zantholeuca*  
*Paradoxornis gularis*  
*Aethopyga gouldiae*

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