

New Distributional Records and Notes on the Pale-bellied White-eye *Zosterops consobrinorum*

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Summary This paper summarizes and reviews our knowledge of the Pale-bellied White-eye *Zosterops consobrinorum* of south-east Sulawesi, Indonesia. Fieldwork during late 1995 resulted in the discovery of seven new localities for the species on the Sulawesi mainland. In addition we discovered an undescribed race of *Z. consobrinorum* on Buton Island. These records significantly increase the known distribution of the species. Information on the species' habitat, behaviour, plumage, vocalisations, taxonomy and status is presented and it is concluded that the species is not threatened.

Laporan dan Catatan Baru Penyebaran Kacamata Sulawesi *Zosterops consobrinorum*

Ringkasan Tulisan ini meringkas dan me-review pengetahuan kita mengenai spesies Kacamata Sulawesi *Zosterops consobrinorum* di Sulawesi Tenggara, Indonesia. Survey lapangan di daratan Sulawesi selama akhir tahun 1995 menghasilkan penemuan tujuh lokasi baru spesies ini. Sebagai tambahan, ditemukan juga ras *Z. consobrinorum* yang belum dipertelakan di Pulau Buton. Informasi mengenai habitat, perilaku, bulu, suara, taksonomi dan status spesies ini dibahas dan disimpulkan bahwa spesies ini tidak terancam kepunahan.

Introduction

The Pale-bellied White-eye *Zosterops consobrinorum* is endemic to the south-eastern peninsula of Sulawesi, Republic of Indonesia (White & Bruce 1986; Coates & Bishop 1997). Of the six species of white-eye occurring on Sulawesi, the Pale-bellied White-eye is the least known (Mees 1969; Coates & Bishop 1997). Hartert (1903) and van Bemmell & Voous (1951) did not report the Pale-bellied White-eye in their descriptions of extensive bird collections made on the island. The type specimen was collected at Laloumera (3°58'S, 122°22'E) by the Sarasin cousins in 1903 (Meyer 1904). Meyer & Wigglesworth (1898) also made reference to a white-eye collected by the Sarasins at Kendari (3°57'S, 122°35'E), but this specimen was undated and apparently subsequently lost. Although the Sarasins considered the specimen to represent the Black-ringed White-eye *Z. anomalus* it seems more likely that this lost specimen was in fact referable to the Pale-bellied White-eye because the Black-ringed White-eye is known only from the island's south-west peninsula (Coates & Bishop 1997).

In 1932, G. Heinrich collected additional specimens of Pale-bellied White-eye near Lalolei (3°49'S, 122°10'E) and Wawo (3°41'S, 121°3'E) (Stresemann 1932). Thereafter, the species was not recorded again until 1979, when it was found around Lake Matano (2°31'S, 121°20'E) at the head of the south-eastern peninsula (Holmes & Wood 1979). The Pale-bellied White-eye was therefore known from just four localities, all on the south-eastern peninsula. As a consequence it was listed as Near Threatened by Birdlife International (2001). From August to November 1995, during the course of a joint British-Indonesian ornithological expedition, I observed Pale-bellied White-eyes at seven localities on the south-eastern peninsula, and on the island of Buton (Butung) (Table 1). The latter are the first records of this species from Buton (Coates & Bishop 1997), though subsequent observations (Catterall 1997) suggest that it is common on that island. Notes

on habitat, plumage, behaviour and voice were taken, and are here presented along with a discussion of the taxonomy and status of the species.

Table 1. Details of localities where Pale-bellied White-eyes were recorded during October and/or November 1995. All sites were new for species at time of record.

Name of location	Coordinates	Elevation (m asl)
Kendari	3°57'S, 122°35'E	10
Lanowulu	4°27'S, 122°7'E	20
Sungai Pampea	4°33'S, 122°0'E	30
Mount Watumohai	4°28'S, 122°1'E	250
Aopa and Mokaleleo villages	4°6'S, 122°5'E	110
Mount Mokaleleo	4°4'S, 122°4'E	300
Toli-Toli	3°55'S, 122°34'E	10
Gonda Baru, Buton Island	5°30'S, 122°43'E	140

Habitat

The habitat of the Pale-bellied White-eye has been noted previously as secondary vegetation and forest remnants (Stresemann 1932). Heinrich reported that the White-eye could be found in gardens and small forest remnants in the deforested lowlands (Stresemann 1940). Birds around Lake Matano were found in forest edge and an area of regenerating forest (Holmes & Holmes 1985). During my surveys in 1995, Pale-bellied White-eyes were found in a wide range of habitats:

Villages

In the villages of Mokaleleo and Aopa, small groups were seen regularly feeding in gardens by the roadside, usually in the tops of trees higher than 30 m. However the species was not recorded in the village of Lanowulu, where there are few tall trees, although the Yellow-bellied White-eye *Z. chloris* was numerous. A similar situation is reported from Buton, where Pale-bellied White-eye is found in all habitats except in and around villages (B. Sykes in litt. 1996) and Kendari town where only Yellow-bellied White-eyes were noted. Thus it appears that the Pale-bellied White-eye requires the presence of tall, mature trees. The Yellow-bellied White-eye, which is often seen in low trees and bushes, usually replaces the Pale-bellied White-eye in villages.

Scrub and forest remnants

Birds at Toli-Toli were observed in open scrub around Coconut Palm *Cocos nucifera* plantations. They were feeding in the taller trees about 25 m above the ground but were not seen in the Coconut Palms. In the Lanowulu area groups of up to four birds were seen in small forest patches of less than 500 m² surrounded by grasslands. At this locality and at Sungai Pampea forest patches and grassland form a habitat mosaic. At Lanowulu Pale-bellied White-eyes were observed flying from one forest patch to another over the intervening grassland. At Kendari and Gonda Baru, the species was observed in degraded, disturbed lowland forest with some remnant large trees.

Swamp forest, and Primary forest on ultra-basic soils

Close to the village of Aopa, birds were seen at the edge of seasonally flooded swamp forest in trees over 20 m in height. On the low mountains of Mount Watumohai and Mount Mokaleleo, at elevations of up to 300 m asl, Pale-bellied White-eyes were regularly heard singing in the canopy of tall trees over 35 m high. On both these mountains the forest grows on ultra-basic substrates, which results in trees being shorter than those grown on alluvium at a similar altitude (Whitten *et al.* 1987).

Foraging behaviour and breeding

Pale-bellied White-eyes were usually seen in small groups of two to four birds, moving energetically through trees. In addition to such small groups, Catterall (1997) reported Pale-bellied White-eyes on Buton occasionally in single-species flocks, the largest being over 31 individuals. Birds were often seen gleaning small insects from leaves, usually in the upper levels of taller trees. On one occasion a bird was observed catching flying insects by making short sallies from a high perch.

On 23 October 1995 two adults and a juvenile were seen toward the top of a 10 m high tree in Mokaleleo village. An adult passed food to the young bird, which quivered its wings as it received the food, suggesting it had fledged recently. Catterall (1997) reports finding a nest of this species in early August 1996. The nest was described as an untidy cup of grasses, built in a low bush near a main road.

Plumage

The plumage of the Pale-bellied White-eye is typical for *Zosterops* species. The plumage of birds observed on mainland South-east Sulawesi in 1995 agrees closely with previous descriptions (Stresemann 1940; Holmes & Wood 1979; Coates & Bishop 1997): upperparts olive green with a yellowish tinge in some lights; rump dull yellow contrasting with the rest of the upperparts; wing feathers dark with olive fringes; slightly notched tail dark, almost black from some angles contrasting strongly with the rump; undertail dark grey; yellow chin, throat and upper breast bright yellow; breast and belly white, tinged grey on the flanks; undertail coverts a bright yellow; iris and bare parts dark grey; white eye-ring broken by dark spot in front of the eye; lores and forehead olive green. The Yellow-bellied White-eye, by contrast, has a yellow belly and appears slimmer and slightly larger than the Pale-bellied White-eye.

Birds observed at Gonda Baru on Buton were noticeably brighter green above than birds on Sulawesi, with the head more yellow-green, giving less contrast with the yellow throat. This coloration is most pronounced on the forehead, which is a dull yellow.

Voice

The song of Sulawesi birds was a short, high-pitched 8-note warble, somewhat reminiscent of a *Nectarinia* sunbird. Heinrich described the song as being a very attractive, and characteristically loud, almost "pearling" song-strophe, lacking the trill of the Yellow-bellied White-eye and the Black-fronted White-eye *Z. atrifrons* (Stresemann 1940). The song of birds on Buton was noticeably different, being more warbling with some notes being of a higher pitch.

Taxonomy

Many authors have speculated on the possible taxonomic affinities of the Pale-bellied White-eye. Stresemann (1940) thought that the species was most closely related to the Black-ringed White-eye and the Black-fronted White-eye. Mayr (1965) suggested the Pale-bellied White-eye and the Ashy-bellied White-eye *Z. citrinellus* could be conspecific but preferred to keep them separate. White & Bruce (1986) treated the Pale-bellied White-eye and Yellow-bellied White-eye as allospecies.

Yellow-bellied White-eyes showing characteristics of the subspecies *intermedia* have been discovered at many localities on the south-east peninsula of Sulawesi (Wardill *et al.* 1999) where it was previously thought absent (Mees 1961; White & Bruce 1986; Coates & Bishop 1997). As the Yellow-bellied White-eye is often sympatric with Pale-bellied White-eye, they are unlikely to be allospecies. Holmes & Wood (1979) found the Black-fronted White-eye in the same habitats as the Pale-bellied White-eye around Lake Matano, disproving Lack's (1971) suggestion that the two species replace each other geographically. In his review of the Indo-Australian Zosteropidae, Mees (1961) was unable to resolve the affinities of the Pale-bellied White-eye, and this situation is likely to persist unless molecular evidence becomes available.

Pale-bellied White-eyes were observed on Buton by the author in 1995, and by various observers on the island in 1995 and 1996 (B. Sykes in litt. 1996; Caterall 1997). These birds display noticeable and consistent differences in coloration and vocalisations from birds on the Sulawesi mainland. It is highly likely that Buton birds represent an undescribed subspecies. Consequently it is recommended that further research be carried out on the white-eyes of Buton and the neighbouring island of Muna in order to clarify the taxonomic status of this distinctive population.

Distribution and status

The Pale-bellied White-eye is the only bird species endemic to South-east Sulawesi and it was classified as a Restricted-range species by BirdLife International (ICBP 1992), having a breeding range of less than 50,000 km². My observations suggest that this species ranges throughout the lowlands of the southern third of the south-east peninsula of Sulawesi and Buton. Heinrich's specimen from Wawo shows that the species is also found in the narrow, low-lying coastal strip along the eastern side of the peninsula. There is one mainland record outside this southern portion of the peninsula and one from Lake Matano in South Sulawesi Province (Holmes & Wood 1979). These records suggest that the species' range may extend throughout the lowlands of South-east Sulawesi, and possibly includes the island of Muna.

Collar *et al.* (1994) and Birdlife International (2001) classified the Pale-bellied White-eye as Near Threatened. It seems likely that this classification has been made on the grounds that the species was thought to have a small distributional range. In light of the significant range extension detailed in this paper and the species' ability to utilize a range of secondary habitats it is unlikely that the Pale-bellied White-eye will be threatened in the foreseeable future. It is therefore recommended that this species be removed from lists of threatened species.

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