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A NEW SUBSPECIES OF *ACCIPITER VIRGATUS* (TEMMINCK) FROM FLORES, LESSER SUNDA ISLANDS, INDONESIA (AVES: ACCIPITRIDAE)

by

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Mees, G. F.: A new subspecies of *Accipiter virgatus* (Temminck) from Flores, Lesser Sunda Islands, Indonesia (Aves: Accipitridae).

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Key words: *Accipiter virgatus*; geographic variation; Flores.

A new subspecies of *Accipiter virgatus* (Temminck) is described from Flores (Lesser Sunda Islands). In addition some notes are given on the distribution of *A. virgatus* in south-eastern Burma and adjacent parts of Thailand, supplementary to an earlier paper (Mees, 1981).

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During his stay at Mangarai, West Flores, in 1896, one of A. H. Everett's native collectors obtained a single juvenile male of *Accipiter virgatus* (Temminck), as first reported by Hartert (1898: 47). Twelve years later, Hartert (1910: 210) again referred to this specimen, but never described it properly. Rensch (1931: 511) included Flores in the range of the nominate race, *A. v. virgatus*, but also without discussing the specimen, which he had probably not examined. When Voous (1950) published his revision of the subspecies of *A. virgatus* inhabiting the Sunda Islands, he did discuss the specimen from Flores. He was the first author to compare it with topotypical material of *A. v. virgatus* from Java and he drew attention to several differences. The single juvenile male did not enable him to draw definitive conclusions, so that he left it as *A. virgatus* subsp.

Evidently the subspecific identity of *A. virgatus* from Flores could not be solved without additional material, and therefore I asked Fathers J. A. J. Verheijen and E. Schmutz to pay special attention to the small sparrow-hawks of Flores. This led fairly soon to the addition of *A. gularis* (Temminck & Schlegel) to the faunal list, but *A. virgatus* remained elusive. Finally, in April

1978, Father Schmutz managed to collect an adult male which he forwarded to me.

As was to be expected in a species known to show such considerable geographical variation, the specimen differs conspicuously from *A. v. virgatus*, the geographically nearest subspecies, and evidently represents a new subspecies that may be known as follows:

Accipiter virgatus quinquefasciatus subspec. nov.

Material examined. — ♂ ad., 26.IV.1978, mountain forest above Ruteng, Flores, ca. 1500 m, leg. E. Schmutz (RMNH no. 81024, holotype); ♂ juv., XI.1896, Mt. Repok, Mangarai, Flores, above 3500 ft., leg. A. H. Everett's nat. coll. (AMNH no. 533861, paratype).

Diagnosis. — The adult male differs from adult males of *A. v. virgatus* from Java by having, apart from the white throat with the broad and somewhat ill-defined dark grey streak down its centre, the under parts almost uniform hazel (Ridgway, 1912: pl. XIV), except for the middle of the vent and the under tail-coverts, which are white. There are on the upper breast only faint indications of some black and white and there is scarcely a trace of barring on the lower under parts. In males of *A. v. virgatus*, on the other hand, the upper breast always has some blackish and white streaks, and the middle of the breast and belly, and the thighs, are broadly barred white, dusky and hazel (fig. 1). The difference in the pattern of the tail is even greater. In the nominate race, the central rectrices have, seen from above, four broad black bands, one of which is subterminal; in the specimen from Flores, on the other hand, the central rectrices have not four, but five black bands, which are distinctly narrower than those of *A. v. virgatus*, and are not so well defined (fig. 2). That the tail-pattern with five bands is not, as one might suspect, an individual aberration, is proven by the juvenile male from Flores, which has the same pattern. In the large series from Java, consisting of males, females, and juveniles of both sexes, four bands is universal.

In spite of their geographical proximity, it is apparent that *A. v. virgatus* and *A. v. quinquefasciatus* are remarkably dissimilar. Although, for zoogeographical reasons, there could be little doubt that *A. v. quinquefasciatus* is more closely related to the nominate race, which is known to occur as far east as Bali (a mere 500 km away from Flores), than to any of the other subspecies of the strongly polytypical species *A. virgatus*, I considered it useful to compare it with material of the other subspecies represented in our collection. This led to the surprising discovery that *A. v. quinquefasciatus* is quite close to *A. v. quagga* Parkes of Mindanao (ca. 1700 km away from Flores). In collec-

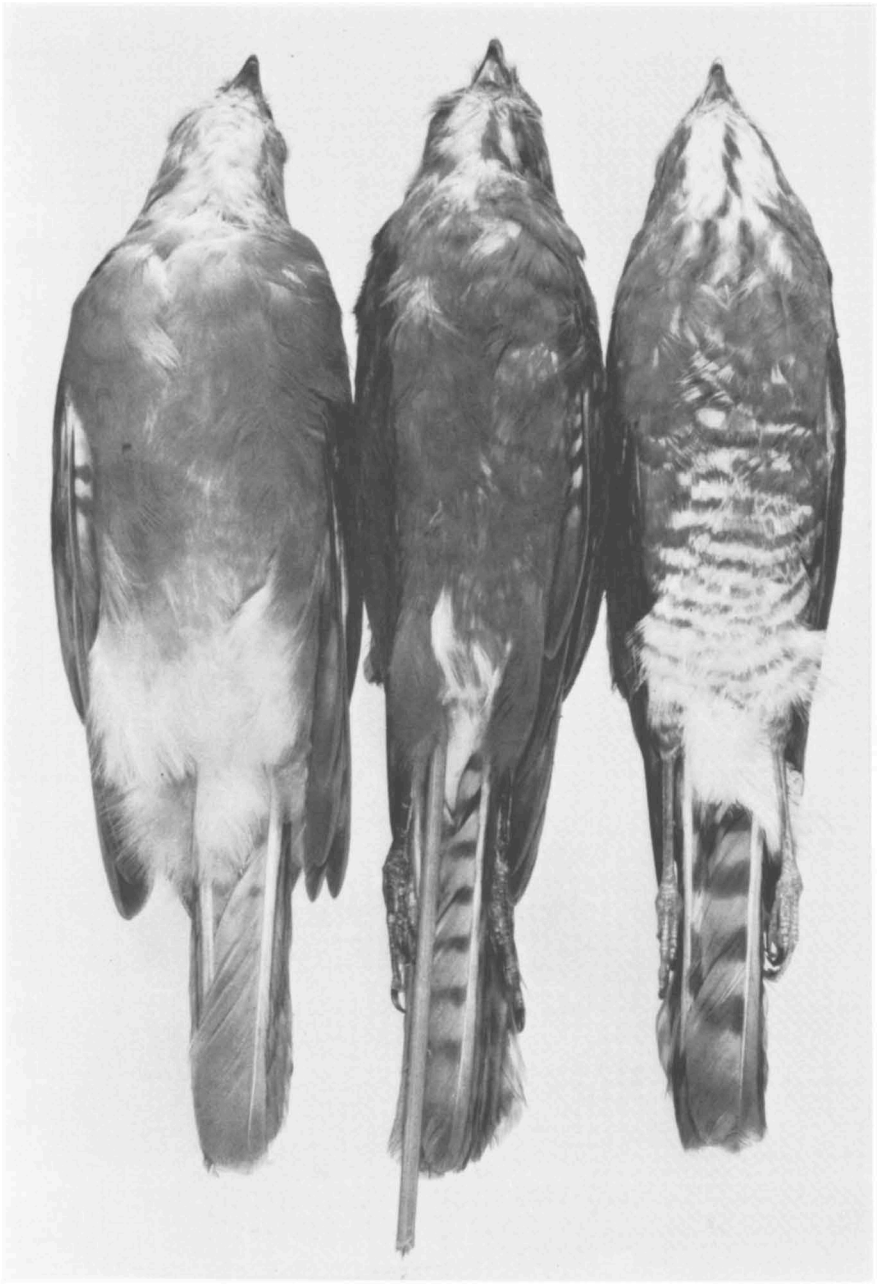

Fig. 1. From left to right: *A. v. quagga* ♂ ad. (RMNH cat. no. 2), *A. v. quinquefasciatus* ♂ ad. (RMNH no. 81024), *A. v. virgatus* ♂ ad. (RMNH no. 64604).

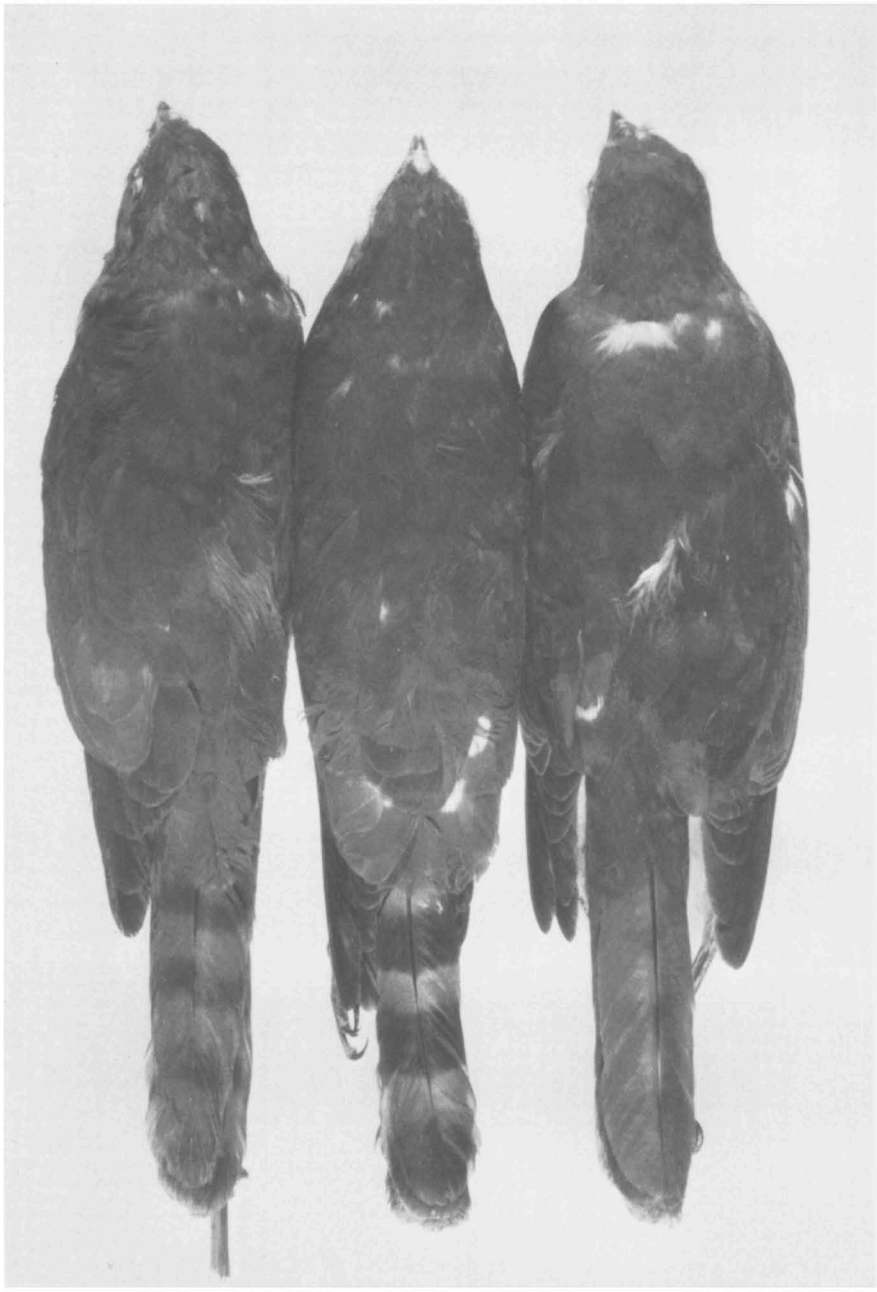

Fig. 2. From left to right: *A. v. quinquefasciatus* ♂ ad. (RMNH no. 81024), *A. v. virgatus* ♂ ad. (RMNH no. 64604), *A. v. quagga* ♂ ad. (RMNH cat. no. 2).

tions, *A. v. quagga* is a somewhat scarce subspecies (cf. Parkes, 1973: 17-19). Our material, consisting of 1 ♂ ad. and 1 ♀ im., could be augmented by 1 ♂ ad. (paratype of *A. v. quagga*, YPM no. 61569).

The main difference between the males of the two subspecies is found in the colours of the under parts. In *quagga*, the grey median streak on the throat is only poorly developed; breast, flanks and anterior belly are lighter and rather more pinkish, less brownish in tone, closer to pecan brown (Ridgway, 1912: pl. XXVIII) than to hazel, and this colour does not extend so far down, leaving more white on the lower abdomen and thighs. The tail-pattern of *quagga* is similar to that of *A. v. quinquefasciatus*, but the bands are very vague. The immature female, on the other hand, has the same pattern (with five bands), but has the bands quite distinct. With so few specimens at hand, there is a danger of describing characters due to individual and not to geographical variation. Therefore I consider the deeper brown under parts as the main character for distinguishing *A. v. quinquefasciatus* from *A. v. quagga*.

The juvenile male from Flores resembles juvenile males of the nominate race, but the streaks on the breast are browner, less blackish, and it has, as already mentioned, five rather narrow black bands on the tail, instead of four broader ones (figs. 3, 4).

In the outer pair of rectrices, there is some individual variation: viewed from below, they have in *A. v. virgatus* 5-8 moderately wide to rather narrow bars, in the adult male of *A. v. quinquefasciatus* ten, in the juvenile male nine. In the two males of *A. v. quagga*, the bars are so weakly developed (in one specimen they are missing altogether, in the other there are a few in the middle), that a comparative count cannot be given; the immature female has

Measurements (in mm)

Sex	Wing	Tail	Tarsus	Bill from cere	Middle toe	Wing tip	Wing tip %	Tail/Wing %
				Accipiter v. virgatus *)				
10 ♂ ad.	141-152	104-112	45-49	10½-12	27-30	32-36	23.4	73.9
10 ♀ ad.	170-179	120-134	50½-56	12½-14½	31-36	37-44	23.5	73.3
				Accipiter v. quinquefasciatus				
♂ ad.	153	118	47	10½	28	38	24.2	77.1
♂ juv.	151	113	48	10½	27½	39½	26.2	74.8
				Accipiter v. quagga				
♂ ad.	153	110	48	12½	29	40	26.1	71.9
♂ ad.	148	104	46½	11½	28½	35	23.7	70.3
♀ im.	168	124	51	13	32	47	28.0	73.8

*) From Mees (1981:407).

Table 1. Comparative measurements of several subspecies of *Accipiter virgatus* (Temminck)

Fig. 3. Left *A. v. virgatus* ♂ juv. (RMNH no. 64562), right *A. v. quinquefasciatus* ♂ juv. (AMNH no. 533861).

Fig. 4. Left *A. v. virgatus* ♂ juv. (RMNH no. 64562), right *A. v. quinquefasciatus* ♂ juv. (AMNH no. 533861).

nine. The individual variation makes the outer pair of rectrices less useful than the inner pair for comparison.

In evaluating the affinities of *A. v. quinquefasciatus*, it must be noted that, by having a few white feathers on the upper breast and one feather with a narrow black streak, it shows at least a rudiment of the breast-pattern of *A. v. virgatus* and that the hazel colour of the under parts of these two subspecies is similar, and differs from that of *A. v. quagga*. I am therefore inclined to think that, within the species *A. virgatus*, the resemblance in tail-pattern between *A. v. quinquefasciatus* and *A. v. quagga* does not necessarily indicate a close relationship and that – in spite of their differences – *A. v. quinquefasciatus* is closest to the nominate race, as one would expect. In this connexion there is perhaps no need to recall that the Lesser Sunda Islands are the home of a surprising number of endemic species and well-marked subspecies.

I take this opportunity to rectify a few errors that crept into a previous paper on *Accipiter* (Mees, 1981). In that paper, the captions of the figures 2 and 3 should have been placed at (and should be read from) the bottom of the page, not sideways. On p. 384, I expressed doubt about the occurrence of *A. v. affinis* Hodgson in Tenasserim and mentioned that eggs collected by Hopwood near Tavoy and recorded by Baker (1935: 115-116) under the name *A. gularis nisoides*, might be referable to *A. badius* (Gmelin) rather than to *A. v. affinis*. Information since received from Mr. Walters of the British Museum (in litt., 18.XII.1981) reads: "These eggs are now with us, and they are quite certainly not *badius*, which always lays a white egg or virtually so. These eggs are blotched and are typical of *virgatus*". It will also be seen that in my paper there is a discrepancy between p. 384, where I express doubt about the occurrence of *A. virgatus* in Tenasserim, a doubt repeated on p. 406, where it is stated that even Nikhe in the upper Kwai Valley is rather far south for this species, and p. 405/406 where I record specimens from the River Kwai and from Hat Sanuk (well south of Tavoy and almost on the Tenasserim border) in Thailand, and suggest that they are residents there. The reason for this discrepancy is that, when I wrote the paper, the specimen from Hat Sanuk was not available to me (and the existence of the Kwai specimen was unknown to me). As about the same time I had discovered that the specimen from Nikhe in our collection had been misidentified and actually is *A. badius*, I had no definite evidence of the occurrence of *A. v. affinis* in south-western Thailand. Baker is known to have made errors in the identification of eggs (who has not?), and therefore it seemed prudent to write a few words about the clutches from Tavoy. Some six months after I had handed in my manuscript for publication, Dr. Wells was able to visit Singapore, where at my request he exam-

ined the Hat Sanuk specimen and confirmed its identification as *A. v. affinis*. He also found a specimen from the River Kwai in a collection in Bangkok. As a result I did some re-writing, and added the last ten lines of p. 405 and the first four lines of p. 406, but I omitted to change the remark about the eggs on p. 384, and to add south-western Thailand to this distribution as given in the same place. Making changes in a paper once it has been handed in for publication is never easy, so that I try to restrict them to the essential ones, and to avoid extensive re-writing. Anyway, the occurrence of *A. v. affinis* in Tenasserim and the northern part of the Malay Peninsula has now been well established, which makes it even more surprising that it is absent from Malaya.

ACKNOWLEDGMENTS

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