Western Black-headed Batis Batis erlangeri: a separate species consisting of two subspecies

Michel Louette

Batis erlangeri: une espèce distincte composée de deux sous-espèces. La distribution, la taille et les vocalisations du taxon traditionnel Batis minor (Prit à joues noires) suggèrent que celui-ci mérite d’être divisé en deux espèces à part entière: B. minor et B. erlangeri. La plus petite, B. minor sensu stricto, est composée de deux sous-espèces: B. m. minor et B. m. suahelicus. B. erlangeri comprend également deux sous-espèces. L’examen de spécimens, principalement au Musée Royal de l’Afrique Centrale, Belgique, a en effet permis la distinction morphologique de ces deux populations. Celle de la région au sud de la forêt équatoriale en RD Congo méridional et les zones limitrophes, B. e. congoensis, a le bec légèrement plus court que celle de la population nominale septentrionale.

The genus Batis is endemic to Africa and comprises a group of small, contrastingly coloured flycatcher-like birds with relatively large heads, broad bills, short legs and short tails. It is a genus of great uniformity in general appearance and behaviour. Opinions concerning species limits have varied greatly: in recent works, the number of recognised species has varied from 16 (e.g. Urban et al. 1997, hereafter BoA; Harris & Franklin 2000) to 19 (e.g. Sibley & Monroe 1990). The systematic studies of Lawson (1986, 1987) are not generally accepted: some authorities have incorporated part of his conclusions and data (e.g. BoA, Harris & Franklin 2000), whilst others (e.g. Dowsett & Dowsett-Lemaire 1993) have not accepted his conclusions. Given the lack of molecular research, the external morphology, ecology and distribution (sympathy or allopatry) are important in defining species limits amongst these extremely similar birds, and such factors, supplemented by differences in voice and habitat, guided me whilst preparing the Platysteiridae chapter for Handbook of the Birds of the World (Louette in press). Future research in contact regions should produce additional clues concerning some relationships.

BoA and Harris & Franklin (2000) treat Batis minor as a species—Black-headed Batis—with three subspecies, minor, suahelicus and erlangeri. On balance, however, I find the differences between erlangeri and minor/suahelicus sufficient to warrant recognition of two species—Eastern Black-headed Batis B. minor (named East Coast Black-headed Batis by Jackson 1938), consisting of two subspecies, minor and suahelicus, and Western Black-headed Batis B. erlangeri, also comprising two subspecies, erlangeri and congoensis.

Material and methods
I studied all specimens held at the Royal Museum for Central Africa, Tervuren, Belgium (RMCA) (minor: 2; suahelicus: 4; perkeo: 9; erlangeri: 51 and congoensis: 119) and several dozen of others, especially of taxa less well represented in the RMCA, in The Natural History Museum, Tring, UK, Museum National d’Histoire Naturelle, Paris, France, Naturhistorisches Museum, Vienna, Austria, and Zoologisches Forschungsinstitut und Museum Alexander Koenig, Bonn, Germany. Standard mensural data (flattened wing-chord, tail, tarsus and total culmen) were taken with rule and callipers for the RMCA material. I also undertook a complete literature research and compared data on voice and habitat (all references in Louette in press).

Zoogeography
Where two or more Batis species occur together, they are usually ecologically segregated by habitat preferences. R. J. Dowsett (in litt. 2003) noted that a number of Batis species replace each other, in some cases even beyond the same superspecies. Nevertheless, B. minor sensu lato is narrowly sympatric with four of the five paraspecies of the Batis [senegalensis] superspecies (named B. [molitor] in BoA; the International Code of Zoological Nomenclature, fourth edn, 1999, indicates that the oldest species name must be used for superspecies), respectively Senegal Batis B. senegalensis,
Chinspot Batis *B. molitor*, East Coast Batis *B. soror* and Grey-headed Batis *B. orientalis* (the fifth being the extralimital Pirit Batis *B. pririt*). Thus, *B. erlangeri* seems to overlap with *B. senegalensis* in Cameroon (Languy submitted); although the specimens listed by Good (1953) from Yaoundé, Bafia and Meiganga are all *erlangeri*, not *senegalensis*. It is also known to overlap with *B. molitor* at one locality, Djambala, in Congo (Rand et al. 1959), at a few localities in DR Congo (Louette 1987, Demey et al. 2000) and somewhat more widely in western Kenya (Lewis & Pomeroy 1989). *B. minor* overlaps with *B. soror* on the Kenyan coast (Lewis & Pomeroy 1989). Overlap of *B. minor sensu lato* with *B. orientalis* is very marginal in Kenya (see Zimmerman et al. 1996, who admit only one locality, confirmed by D. A. Turner pers. comm., contra Lewis & Pomeroy 1989), but that of *erlangeri* with *B. orientalis* is claimed to be very extensive in Sudan (Nikolaus 1987). This, however, requires further study, because few specimens have been correctly identified beyond doubt. Although the existence of a cline between *orientalis* and 'minor' (= *erlangeri*) in Chad and the Central African Republic was suggested by Vielliard (1972), he, and subsequently also Lawson (1987), may have been confused. Indeed, the form *minor* was originally described as a subspecies of *B. orientalis* and the subspecies *chadensis*, now in *B. orientalis*, was placed in *B. minor sensu lato* by Rand (1953). The identification of specimens must be made with great care (see Zimmerman et al. 1996) and I suspect, from the material in Vienna and Paris, that Grey-headed Batis (of which the female has a more brownish, not greyish tone to the neck) generally occurs north of the range of Western Black-headed Batis, probably with restricted overlap. Thus, the northern limit of the range of Western Black-headed Batis (Fig. 1) must be considered tentative. Vocalisations seem to be of limited importance to study relationships in *Batis* (F. Dowsett-Lemaire pers. comm.). Their comparison (from Chappuis 2000) suggests nevertheless that *orientalis* belongs to the *Batis [senegalensis]* superspecies and that *Batis minor sensu lato* cannot be its close relative. The local variation in vocalisations in the latter is important (Harris & Franklin 2000, F. Dowsett-Lemaire pers. comm.); the brief voice comparison, as deduced from the literature, is given here for general information.

The ranges of the populations of *Batis minor sensu lato* are disjunct (Fig. 1). No other bird species shares a similar distribution pattern. Because the eastern forms, *minor* (in southern Somalia) and *suahelicus* (from Kenya and Tanzania), are not in geographical contact with the rest of the population, their relationship cannot be field-tested. Pygmy Batis *B. perkeo* occupies part of the range between *erlangeri* and *minor/suahelicus* in arid and semi-arid East Africa, where it generally prefers drier habitat (see habitat comparison). Nevertheless, given that it is vocally more like *B. minor*, not *B. molitor*, and that it too is locally sympatric with *B. orientalis* (Zimmerman et al. 1996), *B. perkeo* cannot be considered part of the *B. [senegalensis]* superspecies. Although *B. perkeo* may be related to either *minor/suahelicus* or *erlangeri*, or to both, it is not conspecific with them, as it overlaps geographically (albeit marginally) with both (Fig. 1). At present, the distribution of the three forms, from west to east, western *B. minor sensu lato*, *B. perkeo* and eastern *B. minor sensu lato* suggests they are three separate (para)species. There is no a priori reason for conspecificity of the western and eastern forms. It is indispensable to include all three in the analysis.

**Voice**

*Batis erlangeri*


*Batis minor*

Drawn-out, piping, high-pitched notes, usually in groups of 2–3, first note lower, clear and ringing. Slower, longer than *B. erlangeri* (Harris & Franklin 2000).

*Batis perkeo*

Penetrating piping notes, sharper, more ringing and less drawn-out than in *B. minor*, which it suggests, in series of up to 20 notes (Zimmerman et al. 1996).

**Habitat**

*Batis erlangeri*

Secondary forest, woodland, wooded grassland, large gardens.
**Batis minor**
Wooded steppe with *Acacia* and *Commiphora*; also riverine habitat (occasionally in woodland and along small watercourses in Tsavo East, Kenya). On Mt Endau present in semi-deciduous forest and patches of mist forest.

**Batis perkeo**
Trees and scrub in arid regions, woodland and wooded grassland. Thorn scrub, *Acacia* woodland and *Commiphora* country. All habitats with trees, except riverine (competition with *B. minor*) in Tsavo East. Tolerates arid conditions.

**Morphology**
The form *erlangeri* (including *congoensis*; see below) is significantly larger (wing-chord being used as a parameter for size) than *minor* and *suahelicus*; Pygmy Batis is the smallest of the genus (Figs. 2–3; Tables 1–2; for additional measurements, see Lawson 1987).

Compared to *minor* and *suahelicus*, *erlangeri* is also darker on the mantle, but less black on top of the head. Females have more olive wash. However, variation in plumage details between specimens of the same population is occasionally considerable, sometimes being as great as that between species. This is the case for the darkness of the crown in the group under discussion here.

The conventional grouping of all ‘black-headed’ *batises* into a single species, *B. minor sensu lato*, is perhaps because all exhibit the ‘standard’ *Batis* plumage pattern, consisting of a black breast-band in males and a brown breast-band in females. This, however, may be due to coincidence and does not necessarily prove their relationship. In congenerics that do form a clear taxonomic unit, such as the *Batis [senegalensis]* superspecies, such morphological uniformity does not exist (female *B. senegalensis* have much brown dorsally and female *B. molitor*, *B. soror* and *B. pririt* have a brown throat patch, whereas *B. orientalis* is ‘standard’). Some of the forest *batises*, such as Angola Batis *B. minulla* and Bioko Batis *B. poensis* also have ‘standard’ plumages.

**Size and plumage**

**Batis erlangeri**
11 cm; 8.3–14.0 g. Male: crown and mantle dark, normally darker than *B. minor*, jet black, but some individuals more greyish. There is a very dark specimen (RMCA 63028), from Lusambo, Kasai, DR Congo (Figs. 4–5). Female: breast-band maroon (Fig. 6).

**Batis minor**
10 cm; 9.3–13.8 g. Male *m. minor*, crown and nape blackish or dark grey (crown colour easily confused with *B. orientalis*); *m. suahelicus*: head greyer black. Female *m. minor*, breast-band dark chestnut, dorsally tinged brown/olivaceous; *m. suahelicus* breast-band narrower.

**Batis perkeo**
8–9 cm; 5–9 g. Male: forehead, crown and back bluish grey; top of head less black than *B. minor*, but mantle generally darker. Female: washed more olive than *B. minor*; dorsally paler and browner; supercilium, throat and, in some, neck tinged rusty or yellowish; breast-band rufous or buff, not deeply saturated.

**Geographical variation**

**Batis erlangeri**
The isolated population occurring south of the equatorial forest in southern DR Congo and neighbouring countries (Fig. 1, see details in Louette 2005) was described as subspecies *congoensis* by Neumann (1907), based mainly on the paler grey back of the female. Other subspecies (*nyansae* and *hatesi*) have been proposed, but I consider the limited material I have seen indistinguishable. Chapin (1953) accepted *congoensis* with misgivings, ‘the status of *B. m. congoensis* seems very doubtful’ (p.661) and ‘I very much doubt that *B. m. congoensis* can really be distinguished...'.

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**Table 1.** Mean of measurements (in mm) of the wing of adult *Batis* spp. specimens in RMCA: samples (n).

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Western Black-headed Batis: a separate species consisting of two subspecies: Louette
Figure 1. Distribution of Batis e. erlangeri (red), B. e. congoensis (green), B. minor (blue) and B. perkeo (yellow).

Figure 2. Ventral view of specimens of (from left to right and from top to bottom) Batis perkeo, B. m. minor, B. e. congoensis and B. e. erlangeri (Alain Reygel). © Royal Museum for Central Africa, Tervuren, Belgium

Captions continued on page 104
Table 2. Measurements (in mm) of the wing, tail, culmen and tarsus of adult Batis erlangeri specimens in RMCA from DR Congo: samples (n). Mean ± standard deviation. Mann-Whitney statistical comparisons between northern (= north of the equatorial forest) B. e. erlangeri and southern (= south of the equatorial forest) B. e. congoensis populations.

Tableau 2. Moyenne et déviation standard des mensurations (mm) de l’aile, de la queue, du culmen et du tarse de spécimens adultes provenant de la RD Congo de Batis erlangeri au MRAC. Comparaison statistique Mann-Whitney entre les populations du nord de la forêt équatoriale (B. e. erlangeri) et de celles du sud de la forêt équatoriale (B. e. congoensis).

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<td>42.4 ± 1.5</td>
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<td>58.1 ± 1.5</td>
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Captions to figures on page 103

Figure 3. Dorsal view of specimens of (from left to right and from top to bottom) Batis perkeo, B. m. minor, B. e. congoensis and B. e. erlangeri (Alain Reygel). © Royal Museum for Central Africa, Tervuren, Belgium

Figure 4. Ventral view of aberrant male specimen RMCA 63028 from Lusambo (left) and ‘normal’ Batis e. congoensis male (right) (Alain Reygel). © Royal Museum for Central Africa, Tervuren, Belgium

Figure 5. Dorsal view of aberrant male specimen RMCA 63028 from Lusambo (left) and ‘normal’ Batis e. congoensis male (right) (Alain Reygel). © Royal Museum for Central Africa, Tervuren, Belgium

Figure 6. Female of Western Black-headed Batis Batis erlangeri on its nest in Cameroon (Roger Fotso)

Acknowledgements

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