

Identifying glossy starlings in the field

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L'article traite de l'identification des choucadors (ou merles métalliques) africains au plumage uniformément bleu-vert, placés traditionnellement dans le genre *Lamprotornis*. Si les espèces forestières de l'Afrique centrale et occidentale ne posent que peu de problèmes d'identification, ceci n'est pas le cas pour les espèces de l'Afrique orientale et méridionale, qui comprennent un certain nombre de formes assez semblables dont les aires de distribution se chevauchent. Bien que les vocalisations et le plumage juvénile soient souvent caractéristiques, l'observation détaillée des patterns de plumage dans des conditions d'éclairage convenables permettent également, dans la plupart des cas, d'identifier correctement l'espèce. Si, à quelques exceptions près, les points d'identification sont relativement bien connus, beaucoup reste à découvrir sur l'écologie et la biologie de ce groupe.



Figure 1. Rüppell's Long-tailed Glossy Starling *Lamprotornis purpuropterus*, Uganda (Johan Verbauck)

A first encounter with an African glossy starling is a memorable event, even for those without a special interest in birds. As the angle of light on the plumage changes, we see shifting iridescent greens, blues and purples, with occasional flashes of metallic copper and bronze. These are all structural colours, resulting from the reflection and diffraction of light by the feather keratin, in which melanin granules are embedded. In typical blue-green African glossy starlings, the melanin granules are oblong in cross-

section, with an air space inside. There is a single row of granules parallel to the surface of the feather barbules, with other granules scattered in the central region with no regular orientation^{6,8}. However, in two West African species, similar colours are produced by flattened, solid melanin platelets. This resembles the condition found in sunbirds^{7,9}. In starlings, the arrangement of the melanin granules appears consistent at a generic level, and this, along with other evidence, has led me to suggest some rearrangements



Plate 1. **68**: Cape Glossy Starling *Lamprotornis nitens*. **69**: Greater Blue-eared Glossy Starling *Lamprotornis chalybaeus*. **70**: Lesser Blue-eared Glossy Starling *Lamprotornis chloropterus* (**a** = adult, **b** = juvenile). **71**: Bronze-tailed Glossy Starling *Lamprotornis chalcurus*.



Plate 2. **72:** Splendid Glossy Starling *Lamprotornis splendidus* (**a** = adult male, **b** = adult female). **73:** Principe Glossy Starling *Lamprotornis ornatus*. **74:** Emerald Starling *Lamprotornis iris*. **75:** Purple Glossy Starling *Lamprotornis purpureus* (**a** = adult, **b** = juvenile).



Plate 3. **76:** Rüppell's Long-tailed Glossy Starling *Lamprotornis purpuropterus*. **77:** Long-tailed Glossy Starling *Lamprotornis caudatus*. **78:** Golden-breasted Starling *Lamprotornis regius* (**a** = adult, **b** = juvenile).

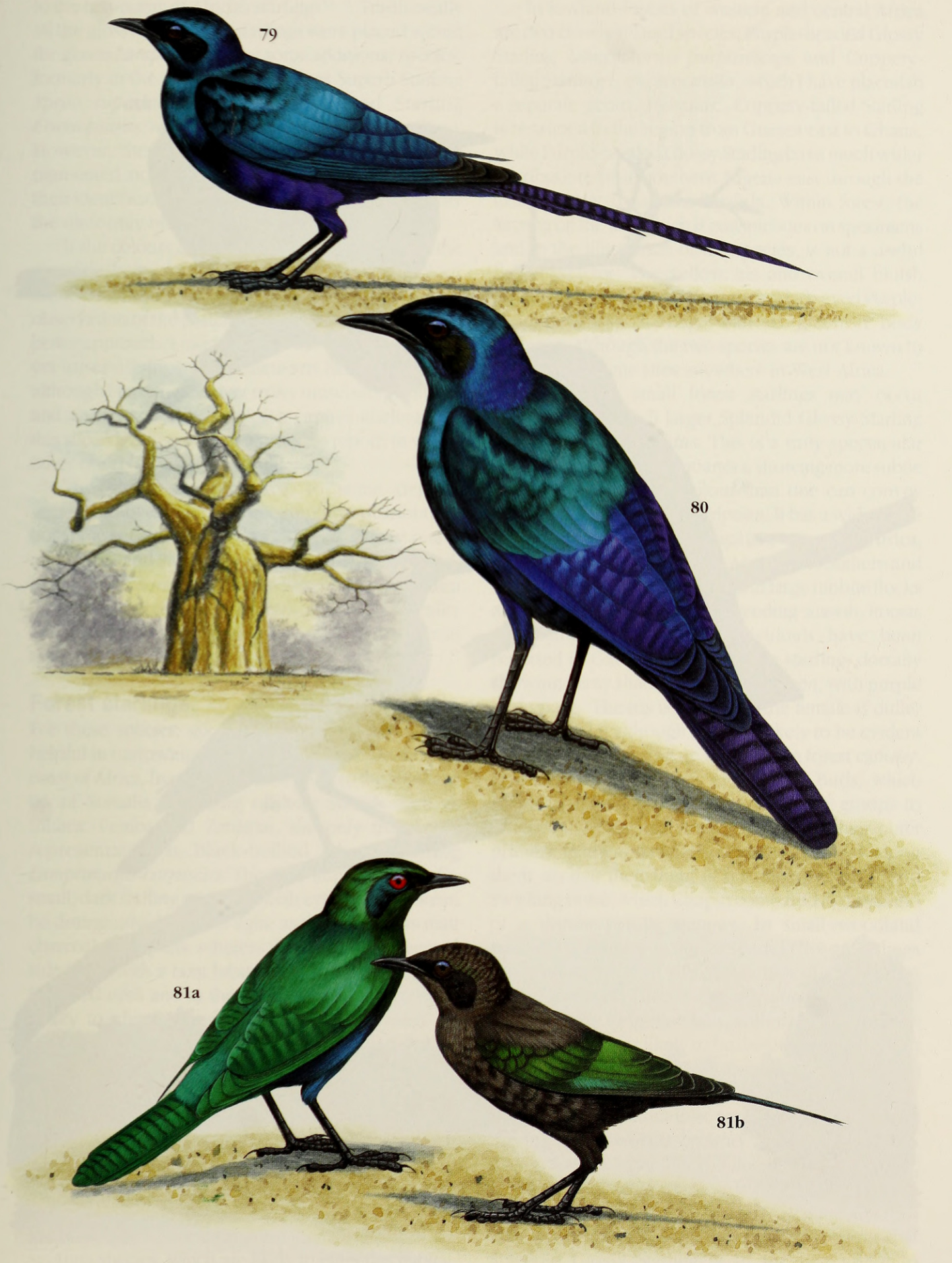


Plate 4. **79:** Meves' Long-tailed Starling *Lamprotornis mevesii*. **80:** Burchell's Glossy Starling *Lamprotornis australis*. **81:** Sharp-tailed Glossy Starling *Lamprotornis acuticaudus* (**a** = adult, **b** = juvenile).



Plate 5. **82:** Black-bellied Glossy Starling *Lamprotornis corruscus* (**a** = adult male, **b** = adult female). **83:** Purple-headed Glossy Starling *Hylopsar purpureiceps*. **84:** Coppery-tailed Glossy Starling *Hylopsar cupreocauda*.

to the taxonomy of African starlings^{5,6,10}. Traditionally all the glossy blue-green starlings were placed within the genus *Lamprotornis*, but some additional species, formerly in the genus *Spreo*, such as Superb Starling *Spreo superbus* and Golden-breasted Starling *Cosmopsarus regius*, also appear to belong there. However, these species all have ventral areas with pigmented, non-iridescent plumage, which simplifies their identification. So in this article I will discuss only the uniformly blue-green glossy starlings.

If the colours of these birds are very much in the eye of the beholder, it will be difficult to rely on colour for field identification. This is certainly true and careful observation of the patterns of colour arrangement is a better approach. I must admit at the outset that I have yet to see all the species discussed here in the field, although I have pored over many museum specimens and visited collections holding captive starlings. So this should be regarded as a progress report, to which other observers can contribute.

The glossy starlings are, to some degree, segregated by habitat and geographical distribution, but some species are very widespread, at least one is migratory, and large-scale movements in the non-breeding season are likely in several others. Often three species may occur regularly at the same locality and 5–6 species are likely to be found together at times.

Forest starlings

For these species, geographical distribution is very helpful in narrowing down one's options. On the east coast of Africa, from South Africa north to the southern tip of Somalia, including offshore islands such as Inhaca, Pemba and Zanzibar, the only true forest representative is Black-bellied Glossy Starling *Lamprotornis corruscus*. The field impression is of a small, dark starling with yellowish eyes. The sexes can be distinguished in good light, as the female has matt charcoal underparts, whereas the male has the ventral side black with a faint bronzy sheen. Breeding males have red eyes and in the hand exhibit a remarkable ability to change their eye colour, presumably by flushing the iris with blood. One, which I handled for ringing, had a red eye facing me, whereas the eye on the other side of the head was yellow! After a few minutes, both eyes became yellow. Black-bellied Glossy Starlings principally occur within 50 km of coasts, but in Mozambique, Tanzania and Kenya they penetrate much further inland in gallery forest along river valleys. However, their small size and dark greenish appearance distinguish them from any of the savanna species, which are likely to enter this habitat.

In lowland forests of western and central Africa are two closely related species, Purple-headed Glossy Starling *Lamprotornis purpureiceps* and Coppery-tailed Starling *L. cupreocauda*, which I have placed in a separate genus, *Hylopsar*⁵. Coppery-tailed Starling is restricted to the region from Guinea east to Ghana, while Purple-headed Glossy Starling has a much wider distribution, from southern Nigeria east through the Congo basin to western Uganda. Within forest, the barring on the tail, which is conspicuous on specimens and in the illustration of the species, is not a useful field character. The yellow iris and overall bluish plumage should separate it from the dark-eyed Purple-headed Glossy Starling, with its greenish body plumage, although the two species are not known to occur at the same sites anywhere in West Africa.

Both these small forest starlings may occur alongside the much larger Splendid Glossy Starling *Lamprotornis splendidus*. This is a truly spectacular bird when seen at close quarters, showing more subtle variations in plumage colour than one can convey effectively in a written description. It has a wide range in lowland forests from Sénégal to western East Africa, Zambia, Congo and northern Angola. In southern and western regions it is a migrant and large mobile flocks are characteristic of the non-breeding season. Roosts containing thousands of individuals have been reported in Gabon². This is a large starling, dorsally showing many shades of blue and green, with purple underparts. The iris is white and the female is duller than the male, although this is unlikely to be evident to an observer peering up into the dim forest canopy. Splendid Glossy Starlings are raucous birds, which James Chapin described as gathering in groups to practice the most marvellous discords!³ Their outer primary feathers have large notches halfway along them, so that their flight is accompanied by a loud swishing noise, which Chapin compared to the sound of a distant paddle steamer. In small woodland patches or at forest edges, Splendid Glossy Starlings can potentially occur alongside many of the savanna glossy starlings. Their white iris, purple underparts and relatively long blue tails, with dark blue centres to the feathers, are likely to be the best distinguishing characters in this situation.

On Príncipe Island, Splendid Glossy Starling may occur alongside its closest relative, Príncipe Glossy Starling *Lamprotornis ornatus*. These two species both possess a white iris and notched wing feathers, but Príncipe Glossy Starling is bronzy, rather than greenish on the back and the underparts are greenish instead of purple. Current information suggests that Splendid Glossy Starling is an irregular visitor to

Príncipe, and may not breed on the island, although it is resident on Bioko^{1,4}.

Woodland and savanna glossy starlings

Away from forests, West African woodlands have another six species of glossy starlings to offer, and here my field experience is negligible. Nevertheless, I believe that the Emerald Starling *Lamprotornis iris*, formerly often placed in a monotypic genus, *Coccycolius*, is unlikely to be confused with any other species in the inland savannas of Guinea, Mali and Côte d'Ivoire. Its brilliant emerald-green plumage is produced through a slight modification of the typical *Lamprotornis* arrangement of hollow, oblong melanin granules^{6,8}. It has a purple ear patch around a dark iris, and a purple belly. Another distinctive species, Long-tailed Glossy Starling *Lamprotornis caudatus*, is much larger and longer tailed than any other starling in West Africa. However, it ranges east to Sudan, where it reportedly occurs alongside Rüppell's Long-tailed Glossy Starling *Lamprotornis purpuropterus*. Current visitors to this area of overlap will tend to focus on military activity rather than bird observations. It appears likely that Rüppell's can be distinguished by its glossy blue, rather than blue-green body, but more information on these populations is required. Some taxonomists have included the long-tailed starlings from Sudan and Ethiopia as a race of *L. caudatus* rather than *L. purpuropterus*¹¹, and this debate cannot be settled by re-examination of specimens collected 50 years ago.

Gradually we are homing in on the real problem area—the short-tailed savanna woodland glossy starlings. There is one more relatively distinctive species, Purple Glossy Starling *Lamprotornis purpureus*. This is a bulky, strikingly short-tailed bird, with blue-green upperparts, purple underparts and a yellow iris. It ranges from Sénégal to west Kenya, and throughout this area can occur alongside three other species: Greater Blue-eared Glossy Starling *Lamprotornis chalybaeus*, Lesser Blue-eared Glossy Starling *L. chloropterus*, and Bronze-tailed Glossy Starling *L. chalcurus*. All three have a distinct ear patch, which contrasts with the coloration of the surrounding feathers—when the light is favourable for the observer. This ear patch has a purple wash in Bronze-tailed, whereas it is deep blue in Greater and Lesser Blue-eared. The central tail feathers of Bronze-tailed Glossy Starlings are bronzy, and some barring may be visible (I have not seen live specimens of this species). The tail is proportionately shorter than in the other two species, and the uppertail-coverts possess a purple tinge, rather than being blue-green. The four outer primary feathers of Greater Blue-eared Glossy

Starling have distinct indentations, while smaller indentations are present on the primaries of Bronze-tailed Glossy Starlings, so that the flight of these two species is much noisier than that of Lesser Blue-eared Glossy Starling.

In many glossy starlings there are dark blue spots at the tips of some, or all, of the wing-coverts. In Greater Blue-eared Glossy Starling there are typically two complete rows of spots visible on the folded wing, compared to a single row in Lesser Blue-eared Glossy Starling. Comparable information is lacking for Bronze-tailed Glossy Starling. A more reliable field character is underparts coloration. The belly plumage of Bronze-tailed Glossy Starling has a purple wash, whereas in both blue-eared species there is a magenta patch on the flanks. This coloration ends just in front of the legs in Lesser Blue-eared, whereas in Greater Blue-eared Glossy Starling the magenta area extends forward well beyond the hind limbs. Clearly, careful comparison and favourable viewing conditions are crucial. Fortunately, in many reserves, glossy starlings are so habituated to people that they will strut about, allowing one to obtain a good look from different angles.

When juveniles are present with the adults, they may provide additional clues. In first plumage, Lesser Blue-eared Glossy Starling has a fawn, or chestnut-brown in southern Africa, vent. This is diagnostic of this species, as in Greater Blue-eared Glossy Starling the juvenile has dark ventral plumage with some brown undertones, and at the same stage young Bronze-tailed Glossy Starling appears to have blackish underparts.

From Kenya southwards, the two blue-eared species overlap in Tanzania, Malawi, Zambia, Mozambique and Zimbabwe. A third species, Cape Glossy Starling *L. nitens* joins them in Zimbabwe. Cape Glossy Starling is also sympatric with Greater Blue-eared Glossy Starling in South Africa, Botswana, northern Namibia and southern Angola. Here I am on familiar territory, and voice is a significant character in this region: Greater Blue-eared Glossy Starling has a whining *sheaarr* call, unlike any call of Cape Glossy Starling.

Southern Africa has a further three species of glossy starling, which overlap locally with the trio above, but are much easier to separate from them and from each other. Meves' Long-tailed Glossy Starling *Lamprotornis mevesii* is a slender, dark-plumaged species with a dark iris and a long tapered tail. It is quite localised in its distribution, favouring areas of baobab or mopane trees. Burchell's Glossy Starling *Lamprotornis australis* also appears dark in the field, with a dark iris, but it is much bulkier, with a broad,

blunt-ended tail. Both have prominent cross-barring on the tail. Finally, Sharp-tailed Glossy Starling *Lamprotorornis acuticaudus* is a glossy green bird with a pointed, faintly barred tail, and an orange or red iris.

Observers will continue to delight in the iridescent plumages of glossy starlings. My hope is that they will go beyond the identification puzzles, to document more of the basic biology of these species. I am sure that field experience of the calls of the different glossy starlings can ensure rapid identification of all species described here, but sufficient information is not yet available for many of them. Juvenile plumages have in some cases been described from single specimens of uncertain age, and for all species with a coloured iris, juveniles apparently start out with a dark iris. Intraspecific variations in adult iris coloration exist¹² and it is probable that species other than Black-bellied Glossy Starling exhibit seasonal or spontaneous short-term changes in eye colour. Although Chris Feare and I recently co-authored a comprehensive review of the starling family¹⁰, we attempted to emphasise how little is known about many species. Cooperative breeding occurs in at least 11 of the 48 African species, and probably in others whose breeding biology is unstudied. For 11 African starlings, the eggs are undescribed, while for eight species the only detailed observations on incubation and feeding of the young have been made on captive birds in Europe. There is always something new to discover in Africa.

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