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# The Golden Oriole

PAUL MASON & JAKE ALLSOP

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LONDON

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# Contents

# Acknowledgements

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On a personal note, Paul would like to thank his patient wife, Cicely, for allowing him to spend hours at the computer when he should have paid her more attention. It is a great pity she did not live to see the end product, because although she was no birdwatcher, she did love to see and hear Golden Orioles.

This book, like all of its kind, cannot be regarded as the last word on the subject. It is merely a snapshot of our knowledge at the time of writing, with undoubtedly more discoveries to be made. Will the splitting of the Indian Golden Oriole, *Oriolus kundoo*, for example, be confirmed or refuted by DNA analysis, or by evidence that it interbreeds with *Oriolus oriolus*?

Paul Mason and Jake Allsop
March 2009

# Introduction

The Golden Oriole, as most oriole watchers who study the bird will surely agree, is the most frustrating, intelligent, beautiful, characterful, acrobatic, brave, diverse, successful and exciting arboreal passerine there is.

It is perhaps the most widespread arboreal migrant in the Palaearctic region, breeding from Portugal (9° W) in the west to near Lake Baikal (110° E) and Mongolia in the east. It breeds from the Saudi Arabian Desert (25° S) in the south to Karelia in Finland and Russia (63° N) in the north.

It nests in the most diverse habitats, from dry sandy areas to intensive agriculture and damp swampy forests, from commercial plantations of regimented trees to the depths of primeval forests. The Golden Oriole can be found breeding from below sea level to over 1,500m above sea level and climbs to over 2,500m when on migration. Its nests are placed in bushes and trees at heights from 1.5m to 30m.

It eats a most diverse range of invertebrates, from minuscule beetles to large bush crickets, locusts, large hairy caterpillars and worms, and all manner of fruits up to the size of figs and mangoes, which it collects anywhere from the ground to the highest treetop. What's more, the Golden Oriole also drinks nectar. It is also arguably the longest-distance arboreal migrant, with some travelling a maximum of 13,000km if flying in a straight line (which they probably don't). The only longer-distance passerine migrant is the Northern Wheatear, which abhors trees.

To some the Golden Oriole is regarded as a great aid in eliminating pest infestations, yet to others it is in itself a pest.

Its voice ranges from two strident calls to a ventriloquial, flute-like song with a mixture of up to 50 different song phrases or types.

It is popularly regarded as among the most difficult of birds to see, spending most of its time hidden frustratingly in the dappling effect of the trembling leaves of poplar canopies. It acts like a magnet for twitchers and general public alike, provoking the typical commentary, 'Golden Oriole where, where. I can't see it. Where is it? Gosh, isn't it beautiful. What a lovely call. Oh it's gone. Drat.'

It's a bird that needs time but, when given it, the Golden Oriole gives all a thrill and a satisfied mind.

The following traditional children's poem from Holland has been freely translated by Rob Bijlsma, who also says the first line literally translates as 'Let's get out' but 'Going up the country' is very much better as it covers the feeling of the moment and is rhythmically helpful for singing this children's song.

Kom mee naar buiten allemaal,
Dan zoeken wij de wielewaal—
En horen wij die muzikant,
Dan is zomer weer in 't land!
Dudeldjo klinkt zijn lied,
Dudeldjo klinkt zijn lied,
Dudeldjo en anders niet.
Hij woont in 't dichte eikenbos—
Gekleed in gouden vederdos.
Daar jodelt hij op zijn schalmei—
Tovert onze harten blij.
Dudeldjo klinkt zijn lied,
Dudeldjo klinkt zijn lied,
Dudeldjo en anders niet.

Going up the country,
Looking for the oriole—
Summer has arrived again,
When calling starts this songster.
Dudeljo resounds his song
Dudeljo resounds his song
Dudeljo and nothing more.
He lives in oakwood dense—
Clad in golden dress.
Sparks our hearts with happiness,
When yodelling his shawm.
Dudeljo resounds his song
Dudeljo resounds his song
Dudeljo and nothing more.

He found only one other poem about Golden Orioles in Dutch, even though many poets there are involved in light verse on nature. This poem is untranslatable, but speaks for itself, being mainly based on the word sounds, i.e. it is largely onomatopoeic. It is by Hans Warren from his book *Betreffende vogels*, 'Regarding Birds', published in 1974 by Erven Thomas Rap, Amsterdam.

De Wielewaal

Oriolus, Gele gouw, Gele wiewouw,
Loriot, Figo l'Aouriaou, Migliora,
Ajulu, Gabrieli, Agruppa filu,
Rigogolo, Crusuelo, Pirol,
Schulz von Milo, Schulz von Bülow,
Oropendola. 'Hio bulo!
Gidleo gitatidlio gigilio
gipliagiblio gidleaah!

## THE BACKGROUND TO THE GOLDEN ORIOLE GROUP

The Golden Oriole Group was formed in 1986 by several birders who had individually been watching Golden Orioles at a 350-ha hybrid poplar plantation, planted from about 1954 onwards by the famous matchmakers Bryant & May Ltd on Shepherds Farm, Lakenheath, Suffolk. At that stage the company wished to ensure a constant British supply of poplar wood to make their matches, in order to reduce their dependency on imports. By 1980, however, they had changed course, after a more liberal free-trade policy became the political norm. It was found that it was cheaper to import poplar wood rather than continue a 'home-grown' programme, and it was suggested that foreign-grown trees were of better quality. This also coincided with a decline in the use of matches generally. No doubt with a desire to realise capital assets the estate was sold back to a farming company, whereupon the trees were gradually felled and the fields returned to agricultural crops. Whilst all this was going on Golden Orioles, hitherto only rare, spasmodic breeding birds in Britain, had found that the environment that had been constructed was much to their liking, and the population had increased from one pair in 1965 to a possible 14 pairs by 1980.

On learning of the proposals for the reduction in the area of poplars, the concerned birders agreed to form the Golden Oriole Group (GOG), to monitor cooperatively what happened to the fortunes of the birds. Would they disappear altogether or would the birds disperse to other known plantations in the surrounding fenland? It was found that the latter was the case, so a programme of study was instituted. The GOG has since established the type and size of habitat best-suited to orioles, and has establihsed the hybrid cultivars of poplar that the birds prefer to use for nesting. It has also studied their behaviour through intensive observation, and their diet by photography and filming at nests. Grant aid has enabled researchers to produce a scientific report listing invertebrates available in poplar as possible food for nesting birds. As many birds as possible have been ringed and their breeding biology has been fully documented, as have numbers breeding in any one year in the study area. The information on population size is sent to the Rare Breeding Birds Panel, the RSPB and Natural England. In May, June and July of 1987 the RSPB installed a researcher, Jez Dagley, on the estate; Dagley wrote a confidential report for the RSPB and the GOG, which has been the basis for further investigations. In 1995 a national survey was undertaken to ascertain as best it could how far orioles travelled throughout mainland Britain. The GOG has been able to advise farmers, landowners, forestry bodies and county councils amongst others. We have also provided advice to the RSPB on the design of new plantations on its Lakenheath reserve.

The Golden Oriole Group has taken a number of initiatives to promote a wider appreciation of this special bird:

- a regular slide presentation to clubs and societies, which includes a video of birds at a nest
- articles to the Cambridgeshire, Norfolk and Suffolk Bird Reports
- participation in radio and television broadcasts by the BBC, Anglia TV and Channel 4
- creation of a website, www.goldenoriolegroup.org.

Paul Mason, the Chairman of the Golden Oriole Group, was presented with the RSPB President's Award in 1995, in recognition of his work on orioles in Britain.

## LIST OF GOLDEN ORIOLE GROUP MEMBERS

GOG members past and present are listed below. They are referred to in the text by their initials as follows: AB Alastair Burn; AJP Tony Prater; AL Alan Livingstone; DH David Hopkins; DM Digby Milwright; JA Jake Allsop; JB Jeff Baker; JK Jeff Kew; JL John Lovett; KW Kevin Warrington; MJ Mike Jeanes; MR Malcolm Rains; PD Peter Dolton; PH Paul Holness; PM Paul Mason; NS Norman Sills; TM Terry Murfitt.

CHAPTER ONE

# The Golden Oriole and the genus *Oriolus*

The male Eurasian Golden Oriole *Oriolus oriolus* is arguably one of the most strikingly colourful of all British breeding birds, vying for top position with the Kingfisher, Common Redstart, Jay and Eurasian Goldfinch, which makes it all the more frustrating that it is not an easy bird to see. It is well acknowledged that, for a brightly coloured bird, the yellow and black of the male Golden Oriole is most difficult to see when set against the high arboreal habitat it frequents, especially when the sun shines through the canopy foliage, creating a dappled effect. Usually song or call is the best aid to locating the bird. In fact, the species is not as retiring as imagined. However, its various stages of plumage change can be confusing at times. The Golden Oriole is slightly larger than a Eurasian Starling but smaller than a Mistle Thrush.

**Full-adult males** are a brilliant golden shade of yellow on the body, head, underparts and undertail-coverts. The lores are black, with the proviso that both eye-stripe and lores can vary in males. While most are dense black in front of the eye and extend only a small amount behind it, some variations have been noted. For instance, a photo by Sabine Baumann (*in litt.*) shows black only in front of the eye, which does not reach the rim of the eye, and there is no black at all behind it. As this was a ringed bird used in her telemetry work, it was known to be at least six years old. Baumann has also seen another male with a black pattern around the eye almost equal to that of the closely related African Golden Oriole (pers. comm.). This would be both in front, above and below, and extending much further behind the eye, as well as being a very strong black.

The wings and tail are a shiny black. On the tail the outer feathers have prominent yellow tips, which show well, and thinner tips on the central feathers, which usually only show when the tail is spread. The primary coverts, when spread, reveal broad dull-yellow tips, especially in older birds, and these form a distinct patch when the wing is closed. The bill can vary from a dark pinkish-red to near bright red. At nearly 28mm, the bill is longer relative to the overall average length of the bird (24cm), than that of a Eurasian Starling (20–21cm).

**First-year males** are predominantly green where older birds are yellow, and are dull black where the adults are shiny black. They mostly have few or no breast streaks, but there can be an intermediate stage in the second year when they are predominantly yellow but retain a greenish tinge, especially on the back. They need to be seen well to determine this. First-year males have been recorded as females at ringing stations on at least two occasions, once at Dungeness in Kent and again at Gibraltar Point in Lincolnshire. The Dungeness bird was subsequently trapped again at Dungeness the following year, by which time it carried the yellow plumage of a male. The Gibraltar Point bird was ringed and described as first-year female in May 1986 and found breeding in Cambridgeshire in 1996–97. At this stage it was positively identified as a male.

**Second-year males** are usually as yellow as a full-adult male but may still carry a green tinge on the back, scapulars and mantle. However, this is difficult to ascertain unless the bird is seen well. The wing-patch formed by the primary tips, which is yellow in adults, is still pale at this stage. It has taken quite a lot of nest photography, together with some pictures taken of birds caught at migration points, to appreciate this, and we suggest that this may be one of the ways to age some males. Underparts of these second-year males often have a paler yellow appearance than in older birds.

**Females and juveniles** are easily mistaken for each other. However, this initial confusion is understandable as the female is basically a bright green with a yellowish-tinged breast, especially towards each side under the wings, and greyish-white underparts. The wings and tail are a dull black and the rectrices have green-

yellow tips where males are yellow. The lores are more of a diffused dark grey and the bill is a pale dull red. There are varying amounts of grey streaking on the breast, which gradually disappears with age, as much older birds, perhaps around eight to nine years, gradually take on a more male-like yellow plumage. These older birds still retain the other features of younger females. The legs and feet range from dark slate grey to a lighter grey. Juveniles are basically like females, but plumages change in stages and can be confusing until adulthood is achieved over a two-year period. After the fledgling stage, when it still retains some downy feathers, a juvenile bird has a cleaner green look until its first moult. The primaries and secondaries may be dull brown/black (and do not have a scaly appearance), but the secondaries are edged greenish and the wing-coverts, mantle, nape and crown are olive-green with pale feather edging, giving a scaly appearance. A ringed bird of known age (49 days) was recovered after flying into a window in Burstall, Suffolk. This preserved bird has a dull white throat, the breast and underbelly streaked grey-black, with yellowish flanks and vent. The back of the head, neck and wing-coverts are dull green, and the primary and secondary feathers are blackish, the primaries edged light grey. As at all ages, the rump is yellow. The undertail-coverts are yellow. The legs are a very pale grey and the bill appears black (but both have faded since death).

**Adult and young females** are indistinguishable and mostly have a bright green body, head and breast, the latter being brown-streaked quite prominently on young birds but gradually fading as the bird ages, leading into a creamy white under the belly. The undertail-coverts are a brighter yellowish-green. The wings are a dull black, as are the rectrices, which have similar markings as in the male but with duller yellow tips. The primary coverts are tipped pale yellow, forming a wing-patch, which is never yellow, unlike in young males. The lores are an indistinct dull grey. The bill is at all stages a dull (sometimes light) red, and the legs pale grey. As a female ages she slowly loses the breast stripes as the green body plumage gets more yellow, and finally becomes nearly as yellow as in the male. An old female can easily be mistaken for a male in flight. However, the black plumage remains dull and the lores are still a faint grey.

**The nestling** has rather short but plentiful down of a buff white to very light grey colour. It is also sometimes described as of a sandy hue. This gradually develops until at the fledgling stage, when feathers become fluffy and down is still hanging on, especially round the head and back. The eyes are dark but the colour of the lores is indistinct. There is a tinge of yellow over the eyes, under the wings and on the back.

In general, Golden Oriole plumages of both sexes can be confusing at all stages, since there are both green and yellow males and green and yellow females, according to age. However, close observation by the Golden Oriole Group and handling of birds of known age by ringers confirm that young males have white primary tips that turn deep yellow in older males, although the age of transition

remains unclear. Old males and old yellow females may usually be separated by the colour of the lores – greyish in females and clear black in males. Nevertheless, some old females may show quite black lores; a good example is given by England (1964). It must be said, however, that many of the features described above have to be seen well to ascertain ages and sexes with any degree of accuracy.

## CONFUSION SPECIES

The bird's flight style is noticeably undulating over open ground, sweeping upwards as it enters tree foliage, and in silhouette it can easily be confused with a Green Woodpecker or even a Great Spotted Woodpecker; the main difference is that a woodpecker will usually cling to the trunk of its target tree, something that orioles never do. Confusion with a Green Woodpecker is more likely when the bird is flying away from an observer, because this species has a yellow rump showing against dark wings and a green body.

Confusion with some thrushes and the Eurasian Starling is also understandable, as their wings too seem to be set forward, but the oriole's comparatively longer tail should remove any confusion. The same confusion is likely to occur with other green-type woodpeckers, such as Grey-headed Woodpecker in Continental Europe and Levaillant's Green Woodpecker in North Africa.

## MOULT

The adults have a partial postnuptial moult before migration, beginning in late June and July in females at least. In addition to moulting body feathers, some birds then moult a few inner secondaries and some central rectrices. The adult birds then complete their moult from November to early February in their winter quarters. A few spring birds have two generations of feathers among their secondaries, although it is possible that the more worn secondaries are those that were renewed in the previous summer and are thus four to six months older than the feathers renewed in the winter. Worn secondaries are more usually present in second-year birds and occasionally in third-year birds. The time taken to complete the moult is known from captive birds to be about 70 days (Ginn & Melville 1983).

Young birds typically undergo a partial body moult shortly after fledging, but are unusual in that they have a complete, or almost complete, moult during the winter, although the plumage appears unchanged, making post-moult first-winter and second-winter birds practically indistinguishable. The moult strategy of orioles is unique among passerines with sexual dimorphism (Svensson 1992).

## Adaptations to arboreal existence

The oriole is well-adapted to its arboreal habitat and is surprisingly acrobatic in its movements through the canopy. It has been recorded moving and feeding head-down (Wassmann 2004), a posture regularly adopted by other passerines such as tits, warblers and thrushes.

The need for a strong grip is met by the structure of the bird's foot, on which the outer and middle toes are lengthened to enable the bird to grip vertical stems without difficulty, a feature which Wassmann (2004) aptly describes as 'wie Steigeisen' – like 'climbing irons', i.e. crampons.

## Longevity

The oldest known wild Golden Oriole is an 11-year-old male recovered in England. A record of a 15-year-old bird given by Rydzewski (1978) has since been found to have been an error (Akos Moniki, pers. comm.). This compares with males kept in captivity, which can live for up to 20 years (Zarth 1968).

## Speed of flight

Wassmann (2004) gives records of flight speeds between 44.2 and 46.8km/hr (mean 45km/hr) in normal undulating flight, increasing when chasing a rival to 66.5–69.0km/hr, depending on wind conditions. He comments that higher speeds up to 80km/hr seem probable. There is also a report that an Indian observer estimated a flight speed of 40km/hr achieved by the closely related *kundoo* oriole flying alongside his car.

## Biometrics

Little work on biometrics has been done by the Golden Oriole Group since we did not wish to disturb our breeding orioles unnecessarily. At the time we did not know how they would react to human interference. As time went on we found them to be quite tolerant of people, especially where sites were close by human habitation or where they must have seen agricultural operations going on in fields. However, because the nests were mostly very high up in tall poplar trees it was impractical for climbers to go up to nests more than once, that being to ring pulli.

**Wing measurements (mm) in *O. oriolus* and *O. kundoo***

| | *Species* | *Age* | *Mean* | *SD* | *n* | *Range* |
|---|---|---|---|---|---|---|
| Male | *oriolus* | Adult | 153.9 | 2.9 | 52 | 148–160 |
| | *kundoo* | Adult | 145.1 | 3.1 | 17 | 139–150 |
| | *oriolus* | Juv | 148.3 | 4.8 | 11 | 141–158 |
| | *kundoo* | Juv | 144.5 | 5.8 | 43 | 139–167 |
| Female | *oriolus* | Adult | 151.2 | 2.6 | 27 | 146–156 |
| | *kundoo* | Adult | 142.8 | 6.9 | 6 | 139–155 |
| | *oriolus* | Juv | 150.1 | 3.2 | 8 | 144–155 |
| | *kundoo* | Juv | 141.9 | 4.2 | 37 | 136–152 |

**Weights (g) of *O. oriolus* and *O. kundoo***

| *Period* | *Sex/species* | *Mean* | *SD* | *n* | *Range* |
|---|---|---|---|---|---|
| Apr-May | M *oriolus* | 67.8 | 9.62 | 8 | 51–85 |
| | M *kundoo* | 61 | 4.75 | 56 | 52–64 |
| | F *oriolus* | 69.2 | 2.17 | 5 | 67–72 |
| | F *kundoo* | 60.7 | 3.27 | 40 | 52–69 |
| Aug-Sep | M *oriolus* | 68 | 9.49 | 4 | 56–79 |
| | M *kundoo* | 74.1 | 6.35 | 4 | 66–80 |
| | F *oriolus* | 75 | 4 | 2 | 71–79 |
| | F *kundoo* | 70.3 | 8.54 | 12 | 55–80 |

**Table 1.** Comparison of wing lengths and weights in *Oriolus oriolus* and *O. kundoo*, showing size differences between the two species. Data for *O. oriolus* from Cramp & Simmons 1993; for *O. kundoo* from data collected at the Chokpak Ringing Station, Kazakhstan, in Gavrilov 2007.

## THE GENUS *ORIOLUS*

The genus *Oriolus* comprises some 27 species, and there are three species of Figbird in the related genus *Sphecotheres*. *Oriolus* is an impressively widespread genus, with species found across the Palearctic region, from Western Europe to Siberia, in much of Africa, and in Asia from India through Southwest Asia to China and Japan. More species are scattered throughout the Philippines, Indonesia and into northern Australia and down the east coast. They are collectively known as the Old World Orioles. Close to 70 subspecies, many of them island endemics, are recognised, so it is not surprising that the taxonomy of the Oriolidae is somewhat fluid. In the last two decades, a number of subspecies have been given full species status, notably the Indian Golden Oriole, *O. kundoo*, formerly a race of Eurasian Golden Oriole. The wider relationships of the genus *Oriolus* are still not resolved. Traditionally

considered to be related to crows and drongos, recent work on DNA puts them close to the cuckoo-shrikes.

The reason such taxonomic issues are as yet unresolved is that a great deal of the science remains to be done. Until molecular genetic analysis is carried out, much of what we perceive about the relationships within and outside the family will continue to rely on conventional characters such as osteology, plumage and voice. In fact, there is what one might call 'a conflict of interest' between the layperson and the scientist in this respect. The layperson is happy with these simple groupings: the yellow-headed group (*O. oriolus*, *O. kundoo*, *O. auratus*, *O. chinensis* and *O. tenuirostris*); the African black-headed group, (*O. chlorocephalus*, *O. crassirostris*¸ *O. brachyrhynchus*, *O. monacha*, *O. percivali*, *O. larvatus* and *O. nigripennis*); the Asian black-headed group, (e.g. *O. hosii*, *O. cruentus*, *O. traillii*, *O. mellianus* and *O. xanthornus*); and the 'Mimeta' or Brown Oriole group (*O. szalayi*, *O. phaeochromus*, *O. forsteni*, *O. bouroensis*, *O. melanotis*, *O. sagittatus*, *O. flavocinctus*, *O. xanthonotus*, *O. steerii* and *O. isabellae*). For the scientist, on the other hand, these groupings depend on superficial characteristics such as plumage and voice, *i.e.* characteristics that enable identification of the birds in the field, but which may not reflect at all the true evolutionary relationships within the oriole family tree. Only molecular genetic analysis can resolve these questions.

The Eurasian Golden Oriole *O. oriolus* is the most widespread of the entire *Oriolus* genus, probably the most numerous, and certainly the longest-distance migrant. The Indian Golden Oriole *O. kundoo* which we are considering as a species separate from *O. oriolus*, within which it was formerly placed, breeds as far north as southern Kazakhstan into Kyrgyzstan, and winters in southern India and Sri Lanka. The migration distance is not as far as that of *O. oriolus* but it probably flies to the highest altitude on migration when travelling north–south over the Himalayas. Figure 1 indicates the distribution of *oriolus* and *kundoo*.

The second most widespread is the Black-naped Oriole *O. chinensis*, which is found throughout eastern Russia and to Southeast Asia as far as China and Korea, and to Japan on migration. There appear to be three variants of this species: one is sedentary in the south of the range; one migrates north to breed; and a third is a short-distance migrant from south China, Laos, Vietnam and north Thailand, wintering in Malaysia, Singapore and Sumatra. The Slender-billed Oriole *O. tenuirostris* was until recently regarded as a race of Black-naped Oriole.

Of the remaining species, the Asian Black-headed or Black-hooded Oriole *O. xanthornus* and the African Black-headed Oriole *O. larvatus* vie for third place. In fact, in Africa there are six more species: African Golden Oriole *O. auratus*, Black-winged Oriole *O. nigripennis*, Montane or Brown-tailed Oriole *O. percivali*, Dark-headed or Forest Oriole *O. monacha*, Green-headed Oriole *O. chlorocephalus* and the endemic São Tomé or Great-billed Oriole *O. crassirostris*.

Many of the species in Southeast Asia, Indonesia and the Philippines are little studied, with the exception of some endangered species such as the Isabela Oriole *O. isabellae* and Silver Oriole *O. mellianus*, or locally vulnerable species such as the Dark-throated Oriole *O. xanthonotus* and the Black Oriole *O. hosii*, the latter

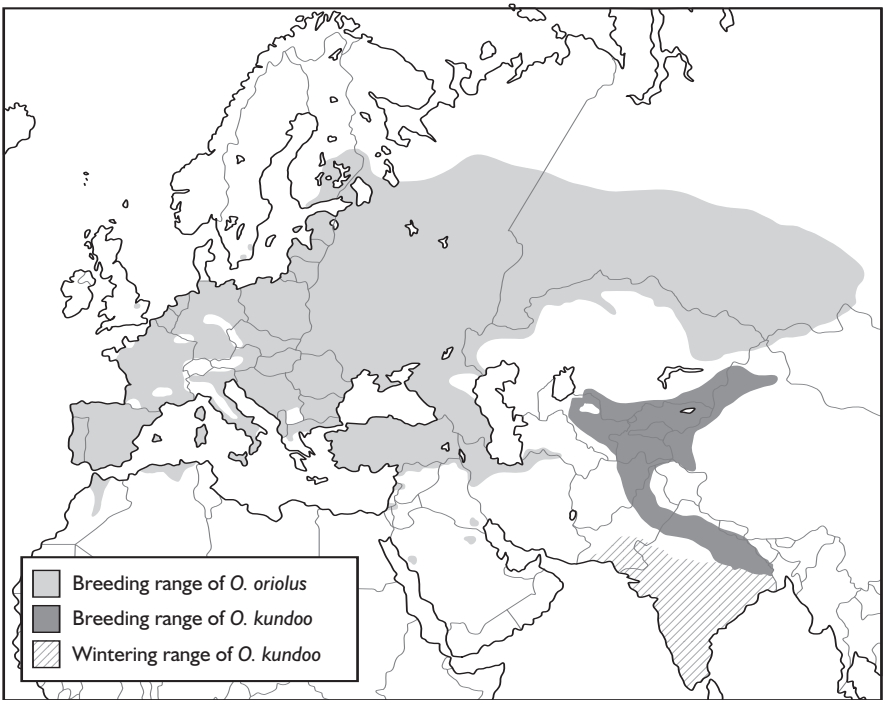


**Figure 1.** The breeding range of *Oriolus oriolus*, and the breeding and wintering ranges of *O. kundoo*.

being endemic to Borneo. Australia has two oriole species: the Olive-backed Oriole *O. sagittatus* and the Yellow Oriole *O. flavocinctus*. The closely related figbirds occur in north and north-east Australia and associated islands, as well as in southern New Guinea. Three species and a handful of subspecies are currently recognised; the Green or Timor Figbird *Sphecotheres viridis*, the Wetar Figbird *Sphecotheres hypoleucus*, and the Australasian Green (or Yellow) Figbird *Sphecotheres vieilloti*.

A list of the *Oriolus* and *Sphecotheres* genera, based on the most recently published checklists (Sibley & Monroe 1993; Dickinson 2003a), is given in Appendix 1.

## The yellow-headed group

In addition to the Eurasian Golden Oriole *O. oriolus*, there are four other species in this group: Indian Golden Oriole *O. kundoo*, African Golden Oriole *O. auratus*, Slender-billed Oriole (*O. tenuirostris*) and Black-naped Oriole *O. chinensis*.

## The Indian Golden Oriole, *O. kundoo*

The Indian Golden Oriole was until recently regarded as a race of *O. oriolus*. Rasmussen & Anderton (2005) treated *kundoo* as a separate species in *Birds of South Asia*; they say it does not seem to interbreed with *O. oriolus*, even though they breed in close proximity towards the north of *kundoo*'s range. They also believe that differences in morphology and vocalisations are 'comparable or greater than those between other oriole species'. *Handbook of Birds of the World* (in prep.) will feature the split.

### *Identification*

The plumage of *O. kundoo* is very like that of *O. oriolus*, but the bird is smaller and its bill longer in relation to its size. The eye-stripe is black but extends further behind the eye than in *O. oriolus*. The carpal patch on the folded wing is larger, and the yellow on secondary and tertial tips covers a slightly larger area. There is a greater proportion of yellow on the tail than in *O. oriolus*, especially when seen from below. The outer rectrices are also yellower. The bill in usually a paler red than in *O. oriolus* and is more curved. This general description is supported by a report of birds seen during a birding trip to Kazakhstan: 'The birds we saw corresponded to *kundoo*, in which the black loral line extends a short way behind the eye and the intensity of the yellow pigment in the plumage is slightly richer than that of the nominate form. Females also differ in being yellower both above and below and exhibit reduced streaking on the underparts.'

The female is very similar to the female *O. oriolus* but the feather streaks below are more obviously sharper. The black-billed juvenile is more heavily streaked on the belly and has a bright yellow face and upperparts, whereas juvenile *O. oriolus* is olive-grey. The latter is also lacking a prominent yellow supercilium, which is obvious, along with a long, dark eye-patch, in *O. kundoo*. There is one possibility of some confusion between juvenile *O. kundoo* and juvenile Slender-billed Oriole where both occur, but *O. kundoo* juveniles are more heavily streaked black on the breast and underbelly. The beaks of the juveniles are black. Biometric data given in Rasmussen & Anderton (2005) is as follows: length 183–203mm, head 54–56mm, tail 87–97mm.

The Indian Golden Oriole winters in southern India and sometimes in Sri Lanka. It migrates north to breed in northern India, north Pakistan, Nepal, Afghanistan (mainly recorded around the capital, Kabul, but also near to other large towns), Turkestan, the lower mountain ranges of Tajikistan, Uzbekistan (where they seem to be quite plentiful, even in some desertified oases) and southern Kazhakstan. Some have been noted in the western Tien Shan mountain slopes of Kirghizstan and into Xinjiang in north-western China; there they breed on the southern slopes of the Tien Shan mountains, while Eurasian Golden Orioles breed on the northern ones (Ma Ming, *in litt.*). Birds are seen in Tibet but breeding there

is uncertain. In northern India (where Indian Golden Oriole is claimed to be resident all year) and Pakistan, it is recorded up to 3,000m on migration, but the numbers thin out north of the Himalayas, where it is not found above 1,800m. However, the main breeding range is in both Indian and Pakistani Kashmir through to western Bangladesh. Its arrival back on breeding territories coincides with the ripening of mangoes in April in northern India, giving rise to its local name, mango bird, because it also blends in with the colour of the fruit and the green and yellow mosaic pattern of mango tree leaves. In India it is called *peeluk*, 'the yellow one'.

### *Pakistan*

Kashmir represents the main Pakistani breeding range, although a few do breed in north Baluchistan province, where Meinertzhagen (1920) claims to have found some breeding in orchards near the town of Quetta. Others have found some nesting along the Zhob river valley and the Shingar mountains. In Northwest Frontier Province they become more common. Many trip reports comment that the birds are encountered in the Islamabad area. In the north Pakistani valley of the river Yarkhim above Chitral, breeding orioles arrive in late March and early April. The males set up and announce their breeding territories by singing from high walnut trees along otherwise conifer-lined lower mountain sides. David Debb (pers. comm.) described how at a village where he spent time teaching, the schoolchildren looked forward to the return of the orioles as a pointer to spring and a good year ahead.

The Kurram valley also has birds nesting in its upper reaches, as do the Baltistan, Gilgit, Panjorka, Swat (2,400m) and part of the Kaghan valleys. Indian Golden Oriole was also found to be breeding at 2,600m in the Babusar, Chilas and Gilgut areas. South of these places breeding thins out considerably. In Pakistan and India, the birds prefer well-wooded and thinly forested areas that are moderately open and dry. Nests are usually placed very high in trees such as Walnut, but some have been recorded in loquat (at 1.5m in one case) and in silk cotton. However, at Rohtak, west of Delhi, a Mr F.R. Blewitt (quoted in Hume 1889) claimed he had taken more eggs from nests in Tamarind than any other tree. At Lucknow in Uttar Pradesh Indian Golden Orioles have been recorded in a Neem tree, sometimes as low as 3.1m. Another nest-taker climbed high in a banyan. He also took two more nests, one of which was in an acacia, the other in Loquat, these again at low heights. Yet another record at Allahabad was in a mango. Whether it happens by coincidence or not, nests have been recorded in trees also occupied by the Black Drongo. It was thought by several observers that they might gain some protection from this species' aggressive actions towards predators and others invading its territory.

### *India*

Whilst *O. kundo*o can at one time or another be found almost anywhere in India according to season, its breeding range is basically in the northern provinces, from Indian Kashmir to western Bangladesh and, as in Pakistan, venturing into highland valleys, sometimes to 2,500m. A very small number breed in the region of Mumbai (formerly Bombay), and numbers are augmented during winter from around early October. There is local movement in winter, which is thought to be within the region. There is also a further influx of this species during winter to Mulund, Colaba, Sion or Kandivli and the National Park, but a pair or two is always possible and the species could be breeding somewhat more widely. In fact, until the 1980s Indian Golden Oriole had been considered just a winter migrant to the region until a pair was discovered breeding at Kandivli:

> Interestingly also, I have noticed that when the Orioles have their fledglings up and about and moving with the adults, [the adults] are particularly effervescent, and it is quite possible this might have been so at Mulund too. There might have been a nest somewhere close-by and the young are learning the tricks of the trade and the trials of life around Aug–Sept.
>
> (Abdulali 1981)

The birds winter throughout India, from Gujarat to the Bay of Bengal and in Sri Lanka. However, the Great Indian Desert near to the Pakistan border seems to be avoided. The orioles are is found generally in the plains of India and lower ranges of the Himalayas, up to 1,400m. This is a good deal higher than its congener in Europe. Elsewhere, the oriole is a rare breeder in western Bhutan. There are also reports from the Maldives and Andaman Islands, far out in the Pacific Ocean and Bay of Bengal respectively – all of females, though perhaps they were immatures as these are possibly more likely to overshoot.

### *Kazakhstan*

Indian Golden Orioles reach to the south-east corner of Kazakhstan and are common around the main city in the country, Almaty (formerly Alma-ata).

Parks and gardens are used extensively by orioles in Kazakhstan, as are almond and walnut orchards, such as in the Panfilov Guards Park, where one OSME trip report in May 2004 met with a pair on the 10th:

> At least four at the arboretum to the east of Almaty on 12th, a pair in the same area again on 14th, a male at the farm near the Konshengol camp on 15th and one heard in the orchard near Astana on 18th. The birds we saw corresponded to *kundoo*, in which the black loral line extends a short way behind the eye and the intensity of the yellow pigment in the plumage is slightly richer than

> that of [*O.oriolus*]. Females also differ in being yellower both above and below and exhibit reduced streaking on the underparts.

Indian Golden Oriole has been recorded breeding in the lower reaches of the Syr Darya. However, the larger part of the country lies within the range of *O. oriolus*. Both species are regularly trapped at the Chokpak ringing station run by Edward Gavrilov and his teams. He reports that to date more *O. kundoo* are ringed in spring than autumn (with *O. oriolus* it is the other way round), which would indicate a migratory pattern of northward travel on a broad front with a more restricted route southwards, again possibly following a fruit supply along the lower farmed reaches of the mountains back to the birds' winter quarters.

### *Afghanistan*

Afghanistan is thought of these days as a war-torn, arid, mountainous country denuded of trees, and in part this is true. However, there are forested areas and also lines of trees along irrigation channels, and many of these consist of poplar and willow. The native poplar is extensively used in constructing the flat-roofed dwellings inhabited by most Afghans. It is laid as planks on rafters and covered with other plant material and soil to provide insulation from the elements. Fruit orchard crops reportedly cover 10% of the irrigated area, which in itself is not a very great area of the whole country. Grapes, almond, apricot, pomegranate and apple occupy some 87% of the area devoted to fruits. Mulberry is a primary fruit crop, with this normally grown along roads and boundaries and Walnut is also an important crop. All these trees are well-known to provide nesting sites for Indian Golden Orioles. Kullberg (2002) visited the country in 2002, but because of the need for personal security all observations had to be made from within travelling vehicles. However, it was noted that orioles were common in Kabul, the capital, in the east and around Herat in the north-west. Other reports mention Jelalabad on the Kumar River section in Afghanistan. On his journey through Pakistan to get to Afghanistan, Kullberg (2002) reported seeing the birds in good numbers around Islamabad.

### *China*

The ranges of the two species, *O. oriolus* and *O. kundoo*, are adjacent to one another but do not seem to overlap in Xingjiang province in northwest China. *O. kundoo* breeds in oases in the south and *O. oriolus* in the north, with the dividing line being approximately along the Tien Shan mountain range to the state capital of Urumqi. These oases are basically small plantations and belts in agricultural land. The birds mostly nest in poplars, *Populus nigra* and local hybrids suitable to the local conditions, which are often in commercial plantations and shelter belts, and *Populus alba*, which grows wild in the region.

Indian Golder Orioles have been found to an elevation of 2,130m in the Kunlun Shan Mountains, and probably occur to 3,000m. These are in the south of the province bordering the northern ranges of the Himalayas. The birds are regarded as common (Ma Ming, pers. comm.).

Indian Golden Orioles breed in the gardens of Karakul, Bukhara, Kettakurgan and Samarkand oases, in mountain sayas of Nuratau, Zerafshan and Turkestan mountain ridges where there are deciduous tree plantations. In mountains, breeding reaches to a height of about 2,200m in the vicinity of Iskanderkul Lake. Near Samarkand, Sagitov (1965) recorded the spring arrival of male orioles in the period 1959–63, earliest date 29 April, latest 7 May. In a particular study carried out by Sagitov in 1958, 11 pairs, which bred in Amankutanskaya forest block, were involved in breeding activity by 30 May. Nests were built in several different tall trees, and those particularly noted were poplar, apple, walnut, willow, apricot, and an *Ailanthus* spp. tree. Here nest construction was thought to be carried out by both sexes. And if so, this will be different behaviour from that of *O. oriolus*. In some cases nest-building went on for quite a prolonged period. One pair in the Amankutan forest had begun to build on 17 May but did not finish till 27 May. On 29 May, the first egg was laid, and the young fledged on 19 June.

There appears to be a difference in the timing of egg-laying between the Zerafshan valley in the lower part of the country, where it occurs around 10–20 May, and the mountainous regions, where 1–10 June is the norm. During the first days after fledging, the young birds stay near to the nest while their parents continue to feed them. After about four days, the young birds leave the nesting territory together with their parents, and this is when family parties are often to be seen in gardens, pecking out cherries and grapes. Oriole insect food here is quite diverse. It consists of larvae of Cerambycidae, Cephidae, caterpillars of the Black-veined White Butterfly, Staphylinidae, Curculionidae, Melolonthidae and other butterflies. Undoubtedly, *kundoo* is an extremely useful pest control for the horticultural and forestry industries (Gavrilov, 1974).

In Kirgyzstan much use is made of orchards and groves in the lower regions, where they are common. Similar conditions exist in Tajikistan along river valleys from the lower reaches to mid-way elevations. One bird ringed in India was recovered during the breeding season in the Vakhsh river system 25km south-east of the capital, Dushanbe. It was nine years old at the time of its death and must have been regularly breeding at this place.

### *Nepal and Tibet*

In Nepal, breeding has been confirmed along the Kathmandu valley and near Dhankthuta (Inskipp & Inskipp 1985). The bird is found in trees and groves around cultivated areas and other wooded areas to an elevation of 1,830m in some places. Many of the birds seen are on passage to Tibet and western China in spring and returning in autumn. Other *Oriolus* species found here are the

Black-hooded, the Maroon and, more rarely, the Slender-billed. In Tibet, it is only a passage bird through the Outer Plateau of Tibet *en route* to Xingjiang in spring returning in autumn with late dates of 20–21 September (Vaurie 1972) Records from Burma, where it could logically winter, are hard to come by, but here and in south India and Sri Lanka it would meet up with the Asian Black-headed Oriole.

Where the exact line lies between the limits of breeding *O. oriolus* and *O. kundoo* is a little unclear, but it would be reasonably safe to assume that the western edge of Indian Golden Oriole's range would be close to the eastern shores of the Aral Sea. According to Dementiev & Gladkov (1954), *O. oriolus* breeds north of a line from the Mangyshlak peninsula on the eastern shore of the Caspian Sea, south of Astrakhan, to Karagaly near Qharagandy, north of Lake Balqash. It then dips south-east to the eastern Altai mountain range close to Urumqi in the Xingjiang province of China and just into the western edge of Mongolia.

The other three species in this group are closely related to the Eurasian and Indian Golden Orioles.

### The African Golden Oriole, *O. auratus*

The African Golden Oriole *O. auratus* breeds from the West African coast to the east coast, south to Mozambique. In essence, its range lies right through the centre of Africa south of the Sahara, but in the winter months of August to April it is known to more across a wider belt, but not to the far south of Africa. It can be confused with *O. oriolus* if not seen well, especially in the case of females. Habitat preferences are miombo woodland but African Golden Oriole will use the closed canopy forest around rocky hills and riverine gallery forests. It is less often seen in gardens and dry savanna (Feather 1986). Food is mainly as other orioles but it has been seen to take locusts (Roberts 1928). Brooks *et al.* (1987) record the bird catching flying termites and returning to a perch to consume them. As to fruit, Oatley (1969) saw it feed on unripe fruit of *Euchlea* spp. and also those of the non-indigenous Neem tree. The nest is similar in construction and materials as those of other African orioles. Baumann (2000a), however, records that it is usually placed in the central branches of a tree while the nest of Black-headed Oriole is mostly at a lower level.

### The Slender-billed Oriole, *O. tenuirostris*

The Slender-billed Oriole *O. tenuirostris* was formerly considered a race of Black-naped. It too has a black nape, but the eye-stripe is much thinner than that of Black-naped, and it also has a distinctly narrower and longer bill. It is found from eastern India through south Bhutan, south-west China and Burma to northern Laos and Vietnam. In Bhutan its range is restricted to the eastern valleys between

1,200m and 1,600m. Between November and April it migrates a short distance south and west and can also be met with in Nepal in winter. That it is closely related to Black-headed is illustrated by incidents of reported hybridisation.

## The Black-naped Oriole, *O. chinensis*

The Black-naped Oriole *O. chinensis* is found over a wide area, from Vietnam to Malaysia to Indonesia to the Philippines and the Nicobar/Andaman island chain. Birders visiting the Beidahe region of China in May report large numbers moving north. Some are believed to breed in nearby poplar plantations (MR, pers. comm.). The first birds reach the Iman river by about 14 May, and in significant numbers by four days later, when trees are already in bloom. In Beijing, the birds' arrival is probably timed to coincide with the blooming of cherry trees. In the plains, the birds breed in oak woods, while around towns and villages, they are to be found in poplars.

At 26–27cm long, Blacked-naped oriole is one of the largest orioles. The plumage of the male includes a bright yellow or orange-yellow body, which includes head, back, neck, underparts and uppertail. Flight feathers are black edged with yellow; the main tail feathers are also black. There is a small yellow wing-patch. The most prominent identification feature is a wide black eye-stripe extending around the back of the head. In some subspecies this black band can give the appearance of a bandit's traditional mask. Females and juveniles have roughly the same plumage details except that the body has a greener tinge. MacKinnon & Phillips (1993) note the flight pattern to be undulating, with a conspicuously slow but powerful wingbeat. To date it is probably the most intensively studied Asian oriole. According to the most recent taxonomic thinking, there are 20 subspecies. What appears to be the most widespread race, *diffusus*, winters in areas of eastern India, Burma and Bangladesh. It migrates north to China and Korea, and to the south-east coastal region of Siberian Russia. It also winters in very small numbers on Honshu, Japan.

In Russia, Dementiev & Gladkov (1954) state that breeding occurs along the Argun river, and the bird is fairly common in the valley of the Amur river between the towns of Blagveschenk and Khabarovsk. It is reported to be very common in the Ussuri river basin, but its range from the Sikhote-Alin mountain range down to Vladivostok is unclear. In south-east Manchuria, it is said to be very common, even in the high Da Hinggan Ling Mountains in the west. It also breeds in good numbers on the Korean peninsula.

In the second half of May, the birds arrive in the Vladivostok area, when the traditional courting behaviour of all orioles results in pair formation by early June. Black-naped Oriole hammock nests are possibly the largest of all the *Oriolus* species. They are often recorded at only 2–5m from the ground in young trees, but even in older trees they are placed in drooping branches at no higher than 5m. Trees used are mainly poplar, oak, willow and bird cherry; usually the younger trees are chosen. Nests are certainly larger than those of Eurasian Golden Oriole but

otherwise show little difference in shape. The clutch size is three to four. In Singapore the nests are built high in trees at the end of branches. Two to three bluish-white eggs speckled brown are laid. In addition to the usual oriole diet of fruit (especially figs) and berries, the birds take small animals and insects and occasionally the nestlings of other birds. There are at least two records of *O. chinensis* further west towards the Baikal region; in 1975 (Dorzhiev 1996) and in 1985 (Melnikov 1998), which may indicate that it is more widespread in eastern Siberia than previously thought. It is possible that within the limits of the Irkutsk-Cheremkhovskaya Plain there is a contact zone of *O. chinensis* and *O. oriolus*, though both species are extremely rare here. It seems that at the present time, however, there is a gap between the ranges of these species that does not exceed 80km (Melnikov 1998).

Birds arrive back in their breeding areas in the third week of May, usually announcing their presence by means of the typical oriole 'catcall' (sometimes referred to as 'chaying'). The earliest record was from 20 May, the latest one 27 May, the average being 25 May. Departure is characterised by a decline in the intensity of calls and by complete cessation of song. The latest record, registered by song, was 23 August in 1986. The orioles begin to nest at the end of May and early June. Nests are placed in tall trees, usually white birch, in the top third of the tree, where they are sometimes still to be seen in the following spring, this enabling fieldworkers to conduct spring counts of nests from the previous year. Nests of separate pairs can sometimes be as little as a few tens of metres apart. These 'Chinese' Orioles, as they are known to Russians, begin to undertake nomadic movements in July, often in family parties of between three and eight in number.

The males have a song like all orioles, which is a variation on a theme and is described as 'gri-gorii', and the female sometimes utters a 't-yu' call in repeated fashion. In their winter quarters they frequent open forests and plantations around villages and beach and mangrove swamps, keeping mainly to trees but occasionally dropping to the ground to pick up insects.

Being a widespread species that occurs on many islands of the Indonesian archipelago, the Philippine islands and the Malay peninsula, *O. chinensis* is quite complex taxonomically. To complicate the picture even more, only some of the races are migratory, and these can be either long-distance or, in India, short-distance. It is also said that birds breeding in Vietnam and Laos move to Singapore in winter but they are impossible to separate from resident birds on plumage characteristics. The nominate race was first described by Meinertzhagen in 1923; these birds occur on the Philippine island of Luzon, especially around the capital, Manila. However, there appear to be significant plumage differences between those in the south of the same island at Sorgoson and those on the island of Fuga off the northern tip. This gave three races for Luzon, all distinct enough to make them