Nesting of Black-shouldered Kites in Portugal

N. J. Collar

Although not on the British and Irish list, and with a mere toe-hold in Europe, the graceful and elegant Black-shouldered Kite has enormous appeal to ornithologists.

The Black-shouldered Kite *Elanus caeruleus* is known as a European breeding species only from the south-western quarter of the Iberian peninsula. England (1963) was the first to supply a properly documented account of nesting in Portugal, where it had long been suspected, and in 1975 five nests were found in Spain, the first proof there (Suetens & van Groenendael 1977a, 1977b). I can add five further records of nesting: two in 1976, one in 1977 and two in 1978, all in the Alto Alentejo province of Portugal. Dr W. Suetens (in litt.) has informed me that the chick which he and P. van Groenendael photographed (plates 141 & 142) fledged. These are, so far as I know, the only recorded instances of entirely successful breeding in Europe, although there have been a few observations of juveniles in Iberia, which were clearly of local origin.

1976

At the first site, a pair was seen at the end of March, and on 2nd April the female betrayed the position of the nest by flying to it immediately after copulation. Two days later, I went to the tree she had flown to, a small

141 & 142. Adult male Black-shouldered Kite *Elanus caeruleus* with four-week-old young in nest at 4 m in evergreen oak *Quercus ilex*, Spain, June 1975 (W. Suetens & P. van Groenendael)
evergreen oak *Quercus ilex*, and confirmed that a nest had been built about 5 m from the ground, at one side of and just below the level of the tree’s very flat top (plate 145). The oak itself was one of a loose grove of a dozen, on pasture extending in three directions, with a field of wheat running along one edge (about 25 m from the nest-tree). There was a small stream some 80 m beyond the grove, cutting across the wheat and pasture; on the far side, which was rather steeply rising, there was an isolated wild pear *Pyrus communis* in which one of the adults—presumably the male—and, later, two of the young roosted.


Although the kites would readily alight on any tree or telegraph pole, the most favoured perches were the low fence-posts dividing the wheatfield from the pasture. Pellets and plucking-remains were found at the base of these posts, and the copulation seen on 2nd April took place there. The female initiated this mating, by settling briefly on the perched male’s back, then flying to the next post, ruffling her feathers repeatedly and once opening her wings; he then flew to her and mounted her for about ten seconds, she holding her body almost horizontally forward, he balancing
by gracefully lifting his wings in a high V above his head (cf. plate 146). The male then moved to another fence-post and, after a moment, the female flew up to the nest-tree and dropped out of sight into it.

England (1963) could find no record of eggs laid before April. On 6th May, however, three nearly-fledged chicks could be seen in the nest and, on 11th, all of them made free flights in the vicinity of the nest-tree. Van
Someren (1956) gave 25-28 days for incubation and 30-35 days for fledging, so that, if 11th was the first day on which the young took wing, egg-laying would have occurred between 9th and 17th March, and hatching between 6th and 11th April. In 1978, eggs were laid even earlier (see below).

On 27th April, a pair was located at a second site, 6 km to the north of the first. There, the terrain was predominantly cultivated, and the kites were seen perching on cork oaks Q. suber spaced regularly and relatively densely across a wide field of oats. This crop was bordered on one side by a large open field of wheat, on another by an uncultivable stony hillside, and elsewhere by orchard pasture. Because of the standing crop and the number of trees, I found it impossible on this or occasional subsequent visits to judge where the nest might be; it was only when David C. Bishop visited the area with me on 18th May that we managed, by triangulation, to pinpoint the site. With the local farmer’s permission, DCB entered the field, climbed the tree and quickly photographed the nest (plate 147). The four eggs had a white ground colour, richly overlaid with patches and specklings of purplish-brown, and they were somewhat worn. The tree was about 150 m into the field, and once again the nest was situated in one corner of the rather flat top, 5-6 m from the ground.

During June, I returned on a number of occasions to see if young were visible, but, while the pair appeared still to be actively nesting, there was no indication of success. On 26th June, Primrose J. Ridley-Thomas climbed to the nest and discovered that, alongside the now very worn clutch of four, there had appeared a fresher group of three eggs (plate 148). Although, on three successive days in the middle of May, what I had hoped might be a third kite was seen hunting over a field of wheat 1 km from this nest, no solid evidence of a second female ever emerged, and it seems probable that the original hen laid a ‘replacement’ clutch alongside eggs she had at least partially lost the stimulus to incubate. In August,
after I had left the country, PJRT climbed to the nest a second time and, finding all seven eggs worn and three of the originals cracked and putrid, took them and gave two for analysis to the relevant authorities in Lisbon and sent the remainder to England for similar tests. Toxic residue was found in extremely low concentrations in a clutch that failed in 1964 (Sacarrão 1966), and pesticide spraying seems still relatively uncommon where I was in Portugal; the one egg that proved suitable for analysis here (probably one of the replacements) contained a half-incubated embryo and the following residues in ppm (mg kg⁻¹) wet weight: DDE 7.0, TDE 0.1, Dieldrin 0.1, PCBs 0. The DDE level is on the borderline at which shell-thinning can occur, but the cause of failure remains obscure. Desertion may be ruled out, since the eggs continued to show signs of wearing; and the possibility of chilling or ‘cooking’ as a result of temporarily absent birds can equally be discounted, for on both occasions when the tree was climbed the disturbance was very short-lived, with both birds quietly keeping watch at only 70-80 m distance and immediately afterwards returning to and around the nest-tree.

The domestic tenacity of this second pair—characteristic of many birds of prey—conforms with evidence in the literature. Van Someren (1956) kept a hen who, from her third month, would attempt to brood anything red (including a large notebook) and from that age readily incubated eggs and fostered young, whether of her own kind or not. The sexual bond is strong: for a bird apparently mute outside the breeding season (Glutz et al. 1971), vocal communication between partners is both frequent and varied. Spennemann (1934) noted that mating occurs rather often, which was certainly true of the second pair during May. A behaviour which both pairs showed, and of which I can find no clear previous account, was a sort of ‘patrolling’ or game of tag: one kite would fly up to the other and perch with it in a tree near the nest; they would remain together for a minute or so and then one or other would fly to a second perch; and the bird left behind would wait a while and then join it. This process would continue, so that a whole sequence of contacts would be established in the trees around the nest; this seemed to be largely an evening activity.

There are remarks in the literature on the crepuscular habits of the
Black-shouldered Kite, but, although hunting was most often observed (at the unsuccessful nest) in the late afternoon, no truly crepuscular behaviour was noted. Indeed, on the one occasion when I mounted a dawn watch at the first site—on 11th May (first light about 05.45)—a Kestrel Falco tinnunculus was on the wing at 07.10 and a Montagu’s Harrier Circus pygargus at 07.20, but, although the young kites could be seen clam-bering about in the nest, the one roosting adult visible did not leave its perch to visit them until 08.05. It was, however, immediately joined by the other, also evidently roosting until that moment in a nearby tree. England (1963) thought that his kites were feeding largely on insects, a habit which in Hobbies F. subbuteo helps to account for their evening activity, but he does not mention whether hunting took place more frequently at any particular time of day. Suetens & van Groenendael (1977a, 1977b), who watched kites with young which were not selectively crepuscular and brought no insects, pointed out that Hobbies replace insects with vertebrate prey once they have chicks.

I never saw insects taken in 1976 although elytra and other remains have been found in some kite pellets (S. Macdonald in litt.). At the first nest, some fresh heads of Corn Buntings Miliaria calandra were found during April and May under plucking-posts, and DCB and I once witnessed a kite in the act of decapitation on a roadside telegraph pole. Corn Buntings are probably the most numerous birds in the Alentejo, but this predation by the kites seems more likely to have been of females on nests than of males at song-perches, at least if the characteristic hover-hunting method was employed: bill-measurements of 15 skulls recovered from plucking-posts at this site strongly support such a probability (see appendix). At the second site, I twice saw small rodents taken in the cereal crops, and one of these captures was followed by a neat piece of aerial food-passing as the female came off the nest towards her returning mate. There, hunting was commonly undertaken within a short distance of the nest, whereas at the first site no kite was seen hunting in the area, except on the first day that one was seen (28th March); on the other hand, mating took place rather far from the nest (120-150 m) at the second site, but very close to it (20-30 m) at the first. My impression was that most hunting at the second site was done over or along the edges of crops; likewise, at the first, the directions of departure and arrival were always to and from expanses of growing cereal.

Two of the three young at the first nest behaved from the outset with great attachment for each other, and were regularly to be seen roosting huddled together, or sitting side-by-side on a favourite bare twig (plate 149). When showing interest in something, they would jerk their heads with the comical sideways and circular movements associated with young owls (Strigidae), eyes always trained on the object (adults also sometimes did this). Their greeting to a parent and between themselves was a hoarse dry hiss, best rendered by trying to whisper a long-drawn-out ‘skeeeek’; Glutz et al. (1971) mentioned this call as being produced only when the young kites are badly cowed. The alarm-call of the adult, which in both 1976 and 1977 I heard used only when the young had fledged, struck me
as curious, being composed of two elementally disparate sounds: a high descending whistle punctuated by a sharp guttural rasp. When England (1963) heard this call, his birds were on eggs and the second syllable was almost inaudible; probably my birds were in a greater state of agitation, needing to be heard over a much wider area by both mate and offspring.

Once the juveniles were in the air, it became fairly difficult to distinguish them from the adults. They were far less obviously brown than the literature unanimously suggests. Although the back feathers, wing-coverts and primaries were conspicuously edged with buff (plate 150), and they bore greyish-brown markings on the crown, their uppersides generally were only darker and perhaps more extensively grey than those of their parents, lightly tinged with brown only between the shoulders. Further, while each of them had rust-brown stains on its breast plumage, at any height overhead the only feature that distinguished them from mature birds was their more rounded wings.

Like England’s birds, the adults were retiring in the face of human intrusion, but none of the five pairs I saw over the three years could be described as ‘extraordinarily inconspicuous in the nesting area’, on the contrary, at a safe distance they were always extremely easy to spot, the white of their plumage standing out sharply as they perched in the tops of trees near their nests. On various occasions, they showed intolerance of Montagu’s Harriers, Magpies Pica pica and Jays Garrulus glandarius. Once, too, one of them apparently ‘escorted’ a pair of White Storks Ciconia ciconia that was wheeling quite high across the territory. The Jays and Magpies sometimes mobbed in return, and in 1977 I saw a Woodchat
Shrike *Lanius senator* pursue one of the adults. On the other hand, while Great Grey Shrikes *L. excubitor* loudly and virulently harassed Montagu's Harriers, at the first 1976 site a pair readily shared its territory with the kites.

Inevitably, the sharp angle of the Black-shouldered Kite's wings to its body when gliding was reminiscent of a harrier; but the adult may recall a Barn Owl *Tyto alba*, having a rather large head, stocky but tapering white body, and short tail, with pale wings which are relatively broader than a Kestrel's. When hovering, its wingbeats sometimes flicker as fast as a Kestrel's, but usually decelerate to a less regular series of balancing strokes and pauses, with deeper, more deliberate beats, sometimes recalling a Rough-legged Buzzard *Buteo lagopus*. The similarity of gliding silhouette, however, between the kite and this last species, mentioned by Porter *et al.* (1974), completely escaped me: most gliding was in the soaring position they described, with the wings held in a stiff V a little forward of the body, giving the flight the slight body-wobble which one sometimes sees in the display-glide of domestic Rock Doves *Columba livia*. When taking prey, the Portuguese kites rarely dropped 'gently into the grass' (Brown & Amadon 1968): the stoop was commonly a rapid and emphatic plunge, with wings held vertical and talons outstretched well in advance of impact.

**1977**

On 10th April, I found a nest with four eggs roughly midway between the two 1976 sites, constructed near the top of a very small isolated cork oak; its height above the ground was no more than 4 m. The terrain was sheep pasture, with a few other, larger oaks scattered across it. The pair had been seen in the area since February by PJRT.

Three eggs had hatched by 6th May, and two days later the fourth chick had emerged. At the next visit, on 23rd May, all four young were still alive and apparently healthy, but when I returned on 7th June only two of them were to be seen, both flapping somewhat clumsily out of the tree as I approached. Their landings were equally unskilful, and they may have been making their first flights. This was just 31 days after the hatching of the last egg (which I take to have occurred on 7th May). Since the previous visit, a pair of House Sparrows *Passer domesticus* had woven a loose bulbous nest of hay and straw into the twigs forming the base of the kite nest, and were incubating.

The fate of at least one of the other two chicks was revealed next day, when PJRT discovered a regurgitated leg, talons intact, amid a mass of pellets under an oak used by the adults. It is just possible that this was dropped by one of the fledglings on an earlier flight, but, given their age and condition, it seems more likely that a parent, when removing the less digestible remains of its offspring, had eaten these (cronism). The other missing young kite would almost certainly not have absconded at this stage, for at the successful 1976 nest all three juveniles stayed in the vicinity for some weeks after fledging, as did the two in 1977: no third youngster was ever seen. Suetens & van Groenendael (1977a, 1977b)
suspected that the single surviving chick had starved the other two members of the brood by sheer aggression, and Madden (1977) concluded that two fledglings at a nest in South Africa had killed and eaten a third. Where hatching is staggered and the chicks vary considerably in size, as noted by van Someren (1956) and others, such aggression is to be expected. What seemed slightly unusual here, however, was the extreme similarity in size of all four newly-hatched chicks (plate 151), which, even at two weeks of age, on 23rd May, were showing no appreciable differences. The violence must have started soon after this date, to judge from the size of the leg in the pellet.

Suetens & van Groenendael (1977a, 1977b) found that the one chick was fed independently by both adults, who thus shared hunting duties. Lack of the need to divide prey between the offspring probably accounts for this style of feeding; at any rate, at the Portuguese site in the late afternoon of 31st May (when the chicks were 3½ weeks old), food-passing was observed by DCB, who wrote the following description:

'The female adult was seen perched in a tree close to the nest. She sometimes made a foray after prey, but on the four or five occasions she did so she was not seen to catch any, suggesting that her efforts were not very serious.

'The male was also seen hunting about 300 m from the nest tree, although he ranged much farther away than this. On two occasions, a food pass was made to the female. She would leave her perch near the nest tree and fly towards the male who, beating slowly, would dangle the prey in his talons as she came up underneath him, stretching her legs up to take the item.

'After the pass, the female flew straight to the nest, where she proceeded to feed the young kites. When she had finished, she returned to perch in a tree close to the nest. This happened on both occasions. She was later seen plucking prey, which she then took to the young, but it was not known if this was food which had been passed to her by the male.

'As the female after the pass flew straight back to the nest, it would appear that the
function of this behaviour was not to try to conceal the whereabouts of the nest from predators. The more likely explanation is that it proved an efficient way of feeding the young.'

Among other prey remains found by PJRT under the nest just after the young had fledged were the tail of a lizard (?Lacerta) and the skin of a young but extremely sharp-spined hedgehog Erinaceus europaeus. Evidently, the young kites returned to the nest to roost for some days, one flying from the nest-tree at my approach on 30th June, and all four being seen within a mile (1.6 km) of the site on the occasion of my last visit on 4th July. PJRT continued to see individuals in the area until November.

For just five minutes on 31st March, at a much more distant site which I could not revisit, I watched a pair of Black-shouldered Kites over orchard pasture. During this time, they mated, one uttering a hoarse ‘k’laa k’laa’ as they did so. This was the only time that I ever noted a call during copulation, although Suetens & van Groenendael (1977a, 1977b) recorded the female’s invitation as a shrill nasal ‘piay, piay’: very likely we heard the same thing.

During a very brief visit to Portugal (20th-28th March) to count Great Bustards Otis tarda, Allen M. Rackham and I saw nine Black-shouldered Kites on four successive days. These included two pairs subsequently found to have nests, both in low cork oaks, one above crops, the other above fallow. The first nest, scaled on 25th March, already contained three half-grown but different-sized young, plus one egg. The clutch must have been laid at about the end of the second week of February, and nest-building undertaken at the end of January; there is a similar record of such precocious behaviour from the neighbourhood of Tangier, Morocco (Pineau & Giraud-Audine 1977). The second nest, found and examined by AMR on 27th March, contained four eggs. PJRT subsequently established that young from both nests successfully fledged. Thus, despite the paucity of records from Iberia, Black-shouldered Kites are known to have had eggs in February and young in September (Miguel & Rodríguez 1977); the chances of their being regularly double-brooded seem accordingly high.

In the wake of England’s (1963) discovery, Sacarrão (1966) published a full account of the recorded occurrences of the Black-shouldered Kite in Portugal: data that he has twice had to supplement in papers which, although less exhaustive than the first, bear witness to a considerable growth in the volume of sight-records since the mid 1960s (Sacarrão 1970, 1975). Similarly, the short-note pages of Ardeola since 1969 testify to a sharp increase in the number of observations in Spain, culminating in the publication of the first nesting records (Ardeola 22: 113-129). Although Sacarrão (1975) attributed this growth to increasing observer activity in Iberia, claiming that the species is (my translation) ‘much more frequent in Portugal than authors have thought it’, he did not revise his earlier
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opinion that Black-shouldered Kites breed only sporadically in western Iberia, thus implicitly regarding as coincidence the fact that England’s search for a nest was successful at the first attempt. Furthermore, there is nothing in his more recent papers to indicate a change in the opinion insistently expressed in the first, that the Portuguese population could not be entirely sedentary, but must be augmented by irregular influxes from Africa, otherwise it would long since have been exterminated by hunting and nest-despoliation.

Across the border and at the other end of the scale, Garzón (1977) estimated a total of 100 pairs breeding in Spain. Despite the absence of evidence or argument in support of this claim (made at a time when news of the first breeding records could only just have been emerging), it does not seem wildly exaggerated or improbable. Sacarrão’s view of the situation might at any rate be resisted, on the following points.

(1) Portugal has suffered considerable ornithological neglect, so that studies of the changing status of many species have the shallowest base for development. Indeed, in making the point himself, in order to suggest that the Black-shouldered Kite is at least commoner than records would indicate, Sacarrão (1966) drew attention to England’s (1966) then very recent discovery that there were rather more Great Bustards in Portugal than the 40 quoted by Bannerman (1962); yet, where England’s highest figure was 59, my own counts made throughout the Alentejo in early spring 1977 indicated that the true number in the country lies between 650 (actually counted) and 1,000. If such populations—living on what is evidently traditional habitat little altered in centuries—have up to now escaped the notice of ornithologists as well as hunters, it scarcely seems improbable that a small and uncommon raptor, breeding in the huge areas of cork oak that extend across so much of southern Portugal, might also have been almost totally missed.

(2) Only one Black-shouldered Kite has ever been recorded in Gibraltar, ‘flying north on 14 May 1977, apparently having arrived from Morocco’ (Cortés et al. 1978). While even such an isolated observation tends to support the belief that Iberian numbers may be augmented by immigration from Africa, it is clearly insufficient to establish the dependence of the population on such a phenomenon for its survival.

(3) There is some evidence of traditional areas for these species. England (1963) found his pair 16 km from an estate where two nests had been built in 1944, and what were presumably the same individuals returned the following year to nest (again unsuccessfully) just 50 m from the tree used in 1963 (Sacarrão 1966). Victor H. Reynolds showed me a cluster of trees where he had found a nest in the 1930s, only 800 m from my first 1976 site; while, at the second, the local farmer reported seeing six together over his land some autumns previously, and one was shot there in mistake for a Woodpigeon Columba palumbus in 1969: the first 1978 nest was on the same man’s land.

(4) Any record from the last century tends to suggest that the species must have been present in sufficient numbers to be a permanent resident. Lilford (1865), for example, noting one that had been shot in April near Seville, described the Black-shouldered Kite as ‘certainly not a common species in Spain’. Chapman & Buck (1893) called it rare, but recorded a pair they had seen, again in April near Seville.

Clearly this is only balancing negative evidence against negative evidence; but it seems at least as plausible as Sacarrão’s view to suggest that the Black-shouldered Kite has been present in southwestern Iberia in steady, unobtrusive numbers ever since the records began. One would naturally like to think that such an attractive species is in a phase of expansion there at present (an impression I find hard to resist after my most recent visit); it is a possibility which Sacarrão (1975) allows, and
there are in fact two or three unpublished nesting records for Portugal in the 1970s (L. Palma in litt.). Even so, it needs to be repeated that the current ornithological activity in Iberia may be giving a misleading impression by reflecting its own growth, rather than that of the numbers of Elanus caeruleus. Nevertheless, there need now be no hesitation in describing it as a resident and regular breeding species in Europe.

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Summary
Accounts are given of the discovery and breeding behaviour of Black-shouldered Kites Elanus caeruleus at five nests in Portugal during 1976-78. This raptor is confidently described as a resident and regular breeding species in Europe.

References
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Appendix

Table 1. Mean, standard deviation and range of bill measurements (in mm) of Corn Buntings Miliaria calandra in skin collection of British Museum (Natural History) and found near nest of Black-shouldered Kite Elanus caeruleus in April/May 1976 in Portugal

<table>
<thead>
<tr>
<th>Bill dimension</th>
<th>Males (16)</th>
<th>Females (6)</th>
<th>Kite victims (15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth</td>
<td>8.81±0.49 (8.2—9.8)</td>
<td>7.93±0.19 (7.7—8.2)</td>
<td>7.94±0.33 (7.3—8.3)</td>
</tr>
<tr>
<td>Length</td>
<td>9.45±0.31 (8.95—10.1)</td>
<td>8.96±0.17 (8.8—9.25)</td>
<td>8.65±0.38 (7.95—9.2)</td>
</tr>
</tbody>
</table>

In discussing evidence that wing-length can be used for sexing Corn Buntings, Pris-Jones (1976) suggested that some skins in the British Museum (Natural History) might have been wrongly sexed. When comparing skulls removed by Black-shouldered Kites with skins in the Museum, I was accordingly suspicious of the labelling, and restricted my sample to the 15 West European and North African specimens obtained by Col. R. Meinertzhagen—a reliable bird-sexer—and to the seven sexed Iberian specimens in the collection. Of these 22 skins, six were female (three from Ibérie) and 16 male (four from Ibérie). Measurements were taken of depth of bill in the perpendicular where it meets the feathers, and of length of upper mandible from the anterior edge of the nostril to the tip. The data (table 1) suggested that the kite victims were mostly females.

Personalities

17 Dr Stephanie Tyler

If Stephanie visited the United States (from where we write), she would undoubtedly be dubbed a ‘ball of fire’. This phrase aptly describes this remarkable and personable young woman. Nurtured in Lincolnshire, Stephanie moved a short distance south to Cambridge to graduate in zoology and then gain her PhD with a three-year study under Professor Robert Hinde of the behaviour of free-range ponies in the New Forest.

In this period, she met Lindsay Tyler, her veterinarian husband-to-be; following their marriage, they settled in Wiltshire and, after the normal incubation periods, she brought forth a splendid brood of two pulli: Robert and Sally. It is appropriate to introduce all members of the family, for Stephanie is essentially a family-oriented person, and it is difficult for us to consider her in isolation; indeed we can think of no occasion on which she was engaged in outdoor activities without the presence of at least one member of her family.

During her four years’ residence in Wiltshire, her time was not devoted only to family care, but also to a study of the local Grey Wagtails; and among other achievements, she gained the distinction of becoming