

# Northbound migrant raptors in June and July at the Strait of Gibraltar

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**ABSTRACT** A small but significant northward movement of raptors occurs across the Strait of Gibraltar in June and July, following the main spring passage. Six key species – Honey-buzzard *Pernis apivorus*, Black Kite *Milvus migrans*, Egyptian Vulture *Neophron percnopterus*, Griffon Vulture *Gyps fulvus*, Short-toed Eagle *Circaetus gallicus* and Booted Eagle *Aquila pennata* – continue to arrive throughout June, while the passage of Short-toed Eagles and Honey-buzzards in particular persists into July. The possible reasons for this protracted passage are discussed.

The northbound migration of raptors across the Strait of Gibraltar in spring has received less attention than the southbound, or 'autumn', passage. In particular, co-ordinated counts along the entire width of the Strait have been attempted only in autumn, beginning with the studies by the Grupo Español de Migración de Rapaces (GEMRA) in 1972 (Bernis 1980) and continuing today under the auspices of Programa Migres (Consejería de Medio Ambiente de Andalucía [Andalucian environment agency], in collaboration with the Sociedad Española de Ornitología). Spring movements are much harder to monitor fully since the arrival front may extend from Cape Trafalgar, Spain, in the west to Gibraltar in the east, a span of some 60 km; some species, notably Honey-buzzards *Pernis apivorus*, can arrive on an even broader front. Nonetheless, many observations of the spring passage have been carried out, especially at Gibraltar itself, where monitoring has taken place, albeit variable in coverage, during most years from 1964 until the present day, with some records available from earlier periods.

Gibraltar is particularly well suited for detecting small-scale movements of migrating birds, including raptors. The community of breeding species is limited and includes only three diurnal raptors: Lesser Kestrel *F. nau-*

*manni*, Common Kestrel *F. tinnunculus* and Peregrine Falcon *Falco peregrinus*. Moreover, Gibraltar is a small, isolated promontory, separated from the mainland by the flat, exposed and heavily urbanised isthmus, which may explain why it is seldom visited by raptors resident in the hinterland. It is thus relatively easy to detect migrants, even single individuals, which is not the case further west, for example around Tarifa Island, Spain, the southernmost point of the Iberian Peninsula. In June and July, most raptors approach Gibraltar from a southerly or southwesterly direction, as is the case during the core part of the spring passage. Northbound raptors cross the Strait almost entirely during westerly winds (Finlayson *et al.* 1976; Cortes *et al.* 1980; Finlayson 1992) and virtually all the records discussed here were made when winds were in the westerly sector. Cortes *et al.* (1980) and Finlayson (1992) documented the existence of raptor arrivals during the first half of June. Fifteen years of additional observations have established that arrivals continue throughout June and, in some cases, throughout July as well.

## Methods

Records were extracted from the archives of the Gibraltar Ornithological & Natural History Society (GONHS), covering the years



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**313.** Short-toed Eagle *Circaetus gallicus* mobbed by Yellow-legged Gull *Larus michahellis*, Gibraltar, 2005.

1964–2006. Most observations at Gibraltar, and indeed elsewhere along the northern shore of the Strait, take place between late February and late May. These are periods when large movements of raptors occur and the flow of birds may be considerable. Sustained observations have seldom been attempted later than the end of May, by which time most migrating raptors have passed into Europe. In contrast, June and July are often unproductive months, with few birds passing even during apparently ideal conditions. It is clearly impractical to maintain a regular watch at this time, although systematic recording would be ideal. Many of the data presented here necessarily originate from incidental observations, albeit over a period of 43 years, often by observers engaged in activities such as seabird monitoring.

June arrivals coincide with the fledging period of the large Gibraltar population of

Yellow-legged Gulls *Larus michahellis*. At this time, migrating Short-toed Eagles *Circaetus gallicus* and Griffon Vultures *Gyps fulvus* in particular suffer considerable persecution by the gulls, which mob them aggressively. Not infrequently, individuals are brought down in the sea, where many drown, but some are rescued and rehabilitated by the GONHS, which maintains an experienced team for the purpose. Many late-season records, especially of the larger raptors, result from observers having been alerted to their presence by the clamour of the gulls.

### Results

A total of 3,519 raptors of 13 species were observed during June and July between 1964 and 2006 inclusive. Observations were widely scattered within this period, although in some years no late-passage raptors were recorded. Six species – Honey-buzzard, Black Kite *Milvus*

**Table 1.** Total numbers of Honey-buzzard *Pernis apivorus*, Black Kite *Milvus migrans*, Egyptian Vulture *Neophron percnopterus*, Griffon Vulture *Gyps fulvus*, Short-toed Eagle *Circaetus gallicus* and Booted Eagle *Aquila pennata* recorded on northward passage in June and July at Gibraltar, 1964–2006.

	Honey-buzzard	Black Kite	Egyptian Vulture	Griffon Vulture	Short-toed Eagle	Booted Eagle
June	1,374	1,281	28	448	103	132
July	75	5	2	12	41	4
Combined total	1,449	1,286	30	460	144	136

*migrans*, Egyptian Vulture *Neophron percnopterus*, Griffon Vulture, Short-toed Eagle and Booted Eagle *Aquila pennata* – accounted for 99.6% of all sightings (table 1), with a combined total of 3,505 individuals. The majority of observations were made during June, but 5.2% of the Honey-buzzards and 28.5% of the Short-toed Eagles occurred during July.

### Honey-buzzard

Honey-buzzard is invariably the last of the major raptor species to appear at the Strait in spring, there being no records from Gibraltar earlier than mid April. The date of the earliest sightings since 2000 ranges from 17th April in 2006 to 25th April in 2002; these dates are typical and consistent with those for previous years. Numbers increase rapidly thereafter, and peak movements occur during the last few days of April and the first week of May (Cortes *et al.* 1980). By mid May the majority have passed through but small parties continue to be seen until the end of the month. Passage continues throughout June (fig. 1) but most June sightings involve single birds and small parties (of up to ten individuals). In some years, however, larger June movements suggest that the main passage has been delayed. This was particularly noticeable in 1987, which produced counts of 113 on 1st June, 206 on 7th and 131 on 10th. A count of 280 on 3rd June 1990 was also unusual. These are the only three-figure June counts during 1964–2006, and together account for 50.3% of all the late Honey-buzzard records. Honey-buzzards continue on passage until the end of July but very few individuals are involved; most July sightings are of single birds or groups of up to four, and eight on 4th July 1987 and 11 on 10th July 1993 are the highest day counts on record for this month.

### Black Kite

Black Kites are currently the most abundant migrant raptor at Gibraltar. They begin to

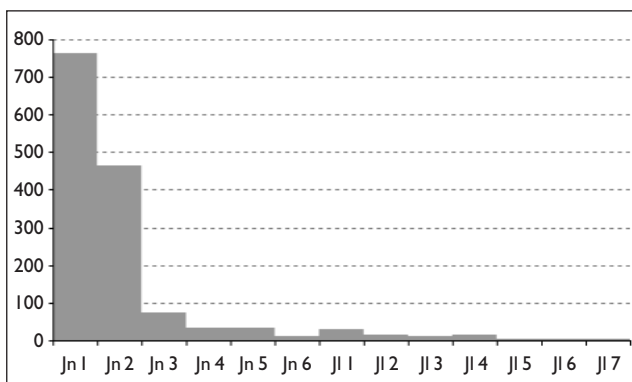


Fig. 1. Total number of Honey-buzzards *Pernis apivorus* recorded at Gibraltar in June and July from 1964 to 2006, in five-day periods from 1st June to 31st July.

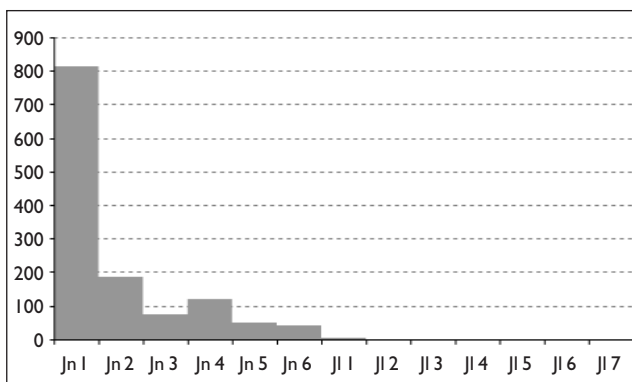
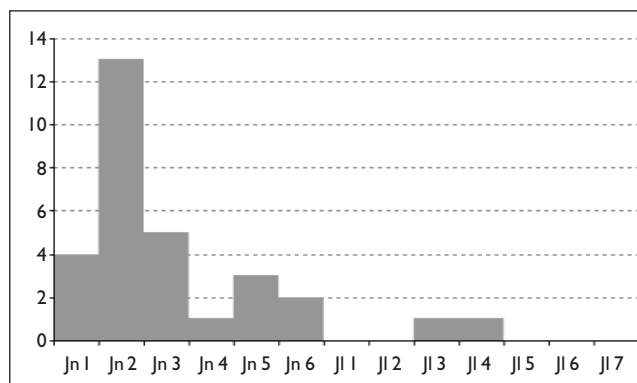


Fig. 2. Total number of Black Kites *Milvus migrans* recorded at Gibraltar in June and July from 1964 to 2006, in five-day periods from 1st June to 31st July.

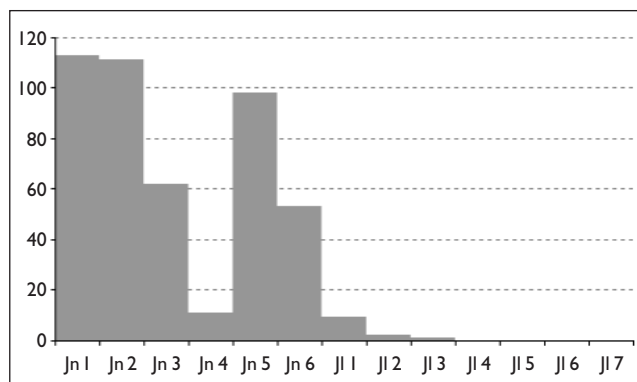
arrive in February and flocks continue to move north until late May. The main arrivals are in March but significant numbers continue through April and May (Finlayson 1992). Small flocks of up to 50 may occur in June (fig. 2), especially up to 20th but occasionally later; 31 on 27th June 2003 is particularly noteworthy. Maximum day counts in June are 102 on 3rd June 2003, and 119 on 20th June 2002. The only July records are of four on 1st July. The age class of most Black Kites was not recorded, but 'immatures' were seen on a number of occasions. Black Kites begin primary moult in mid May (Cramp & Simmons 1980), and June birds were often noted in active moult, typically replacing one or more pairs of inner primaries and sometimes also the central tail feathers.

### Egyptian Vulture

Egyptian Vulture is the least common of the regular late-season migrant raptors at Gibraltar,



**Fig. 3.** Total number of Egyptian Vultures *Neophron percnopterus* recorded at Gibraltar in June and July from 1964 to 2006, in five-day periods from 1st June to 31st July.



**Fig. 4.** Total number of Griffon Vultures *Gyps fulvus* recorded at Gibraltar in June and July from 1964 to 2006, in five-day periods 1st June to 31st July.

but records are widely spread throughout June, and clearly a few may be expected in June in most years (fig. 3). There are just two July records, both of single birds. The main passage is in March, but is prolonged and extends throughout April and May (Cortes *et al.* 1980). Only two adults were recorded in June and July, the remainder being immatures, although specific age classes were not recorded in most cases.

#### Griffon Vulture

Griffon Vulture has increased dramatically as a breeding bird in Spain in recent years (the breeding population increased by 506% between 1979 and 1999, to 22,455 pairs; Martí & del Moral 2003), and this is reflected in the numbers recorded at Gibraltar. Griffon Vultures may arrive at Gibraltar as early as February but their principal movement occurs much later, in May, and clearly extends into June (fig. 4). June records have involved flocks of up to 55 (on 4th

June 1993), but most records are typically of 1–25 individuals. There are just seven July records, the latest being a single bird on 13th July 1990. In addition, an individual that arrived at Gibraltar from the Strait on 3rd August 2004 was quite exceptional. Only immatures have been identified during late-season movements. The arrival of sizeable groups throughout much of June suggests that larger arrivals occur further west, where the crossing is shorter. The southbound passage of Griffon Vultures in October and November now involves several thousand birds and is concentrated as the Strait narrows at Tarifa (pers. obs.). These movements are too late to be monitored by Programa Migres but it is highly likely that more occur now than in the recent past; the same is probably true of spring records as a whole. No fewer than 285 (62%) of the 460 Griffon Vultures recorded in June and July were seen during 2001–06. This most conspicuous of species is the least likely to have been overlooked in earlier years, especially because its presence

invariably rouses the Yellow-legged Gulls into clamorous antipathy.

June arrivals of Griffon Vultures were a particular feature at Gibraltar in 2002 (total 108 birds), and 2005 (107); both months were notable for prolonged westerlies. Fifty arrived at Tarifa Island on 10th June 2005 in strong easterly winds, after a difficult crossing during which three crashed into the sea and drowned (Cuenca & Muñoz 2005); in addition the local press reported 11 dead Griffon Vultures washed up on the north shore of the Strait during June 2005. On 15th June 2006, Mario Mosquera (pers. comm.) counted 151 Griffons, two Honey-buzzards, 47 Black Kites and six Booted Eagles in just one hour at Getares Bay, 7 km west of Gibraltar. All these observations suggest a significant northward movement of Griffon Vultures across the Strait in June, long after the start of the breeding season, which may begin as early as January in southern Spain.

### Short-toed Eagle

Short-toed Eagle also has a prolonged passage period at Gibraltar, with a clear peak from late February to mid March, when most of the dark-breasted adults arrive (Cortes *et al.* 1980; Finlayson 1992). Passage continues throughout April and May, with small numbers in June and July. These late birds are almost invariably immatures, with extremely pale underparts and lacking a dark throat and dark breast markings, indicating that they are second- and third-calendar-year birds (Forsman 1999; Campora & Cattaneo 2005). Short-toed Eagles arrive singly and most day counts are of just one or two birds. Larger day counts in June have included 15 on 6th June 1978, eight on 22nd June 2003 and 15 on 25th June 2004. As noted above, 28.5% of late-arrival Short-toed Eagles occurred in July, a much higher percentage than for the other species discussed.

### Booted Eagle

Booted Eagles begin to arrive over Gibraltar in mid March (Cortes *et al.* 1980), and reach a peak in April. Significant numbers continue during May, while a trickle persists until mid June (fig. 6). Most day counts in June are of one or two birds, but 25 were seen on 4th June 1993 and 17 on 13th June 1982. The first July records were in 2006, when four individuals were logged, the latest being two birds on 20th.

### Rüppell's Vulture

One species which may yet prove to be regular in June and July is Rüppell's Vulture *G. rueppellii*. The first record for the area was in 2005, when a subadult arrived with Griffon Vultures at Tarifa Island on 10th June. Later that year, a juvenile was at Tarifa beach on 7th July (López Velasco 2005). The first for Gibraltar, a juvenile, appeared on 23rd July 2006 after crossing the Strait (plate 314). This species, which associates with Griffon Vultures, is a recent and increasingly frequent visitor to Spain (Gutiérrez 2003; Forsman 2005).

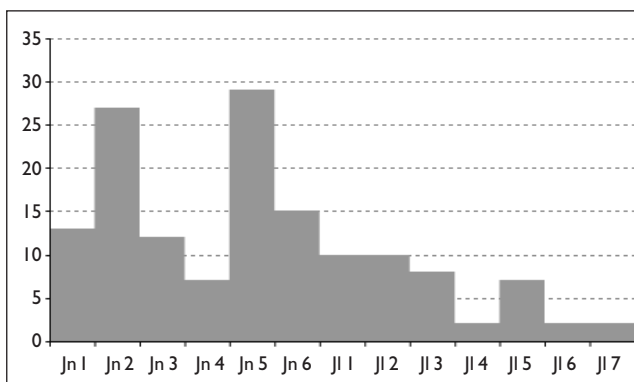


Fig. 5. Total number of Short-toed Eagles *Circus gallicus* recorded at Gibraltar in June and July from 1964 to 2006, in five-day periods from 1st June to 31st July.

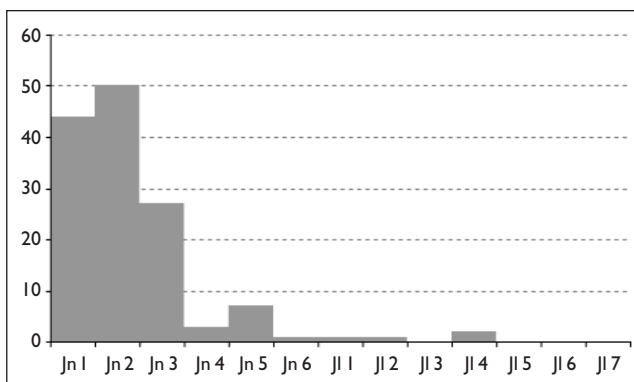


Fig. 6. Total number of Booted Eagles *Aquila pennata* recorded at Gibraltar in June and July from 1964 to 2006, in five-day periods from 1st June to 31st July.

### Other species

Several other raptor species have been recorded on northbound passage during June and July. There are six records of Osprey *Pandion haliaetus*, including three on 13th June 1978 (also the latest date). A Marsh Harrier *Circus aeruginosus* was seen on 14th June 1978; a Common Buzzard *B. buteo* on 5th July 2006; single Long-legged Buzzards *Buteo rufinus* on 13th June 1966, 22nd July 2003 and 29th October 2003; and single Hobbies *F. subbuteo* on 9th June 1977 and 13th June 1982.

### Discussion

These observations of birds returning to Europe, long after the start of the breeding season for all the species concerned, may appear paradoxical. The possibility that they may be local birds dispersing, and not migrants, has been discounted since all arrivals have been from the Strait and not from the hinterland to



the north and west of Gibraltar. In any event, of the principal species involved, Honey-buzzard does not nest near Gibraltar and both Black Kite and Egyptian Vulture are rare breeders locally. Moreover, the birds pass purposefully north, following the same routes as migrant raptors during peak passage periods.

The possibility that some July records involve southbound birds which have aborted their crossing of the Strait and turned back north has also been considered. Certainly, some raptors do abandon their southward crossing and return to land, presumably to try again later. At Gibraltar, the species most frequently recorded doing so is Black Kite, the earliest of the key species to leave its European breeding grounds. In late July and August, small flocks often arrive from the Strait when the main population is migrating south, always when a large southward passage is in progress, and always a small minority of those involved. The other key species are later migrants. Honey-buzzards begin to return from mid August onwards (being powerful fliers, they only rarely abort

their journeys across the Strait in response to severe weather conditions), Egyptian Vultures return in August and September, Short-toed and Booted Eagles in September and October, and Griffon Vultures in October and November.

It seems clear that late northward passage at Gibraltar is a real phenomenon. The scale of the movements is small in relation to peak passage periods, but significant numbers of birds are involved nonetheless. Moreover, the limited observer coverage suggests that between several hundred and a few thousand birds must cross the Strait annually during this period.

The biological significance of returning to Europe so late is open to speculation. These birds will arrive too late to breed and, in any case, the majority are immatures. Perhaps they are simply individuals with a weak migratory urge, although immatures of various species typically remain in Africa throughout the year, and return to Europe only when old enough to breed. For example, there are numerous records of Booted Eagles, Short-toed Eagles and Ospreys from West Africa during the northern



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314. Juvenile Rüppell's Vulture *Gyps rueppellii*, the first record for Gibraltar, July 2006.

summer (Thiollay 1977). Perhaps some are driven out of African winter quarters late in the northern spring by changes in local climate, reduced food availability, or by a seasonal increase in competition with Afrotropical species.

Some immature raptors undoubtedly move north during the main passage periods, although adults generally move ahead of immatures (Kerlinger 1989). Berthold (2001) described such behaviour as a graded return, a strategy in which birds migrate late or only part of the way towards future breeding areas, summering in suitable areas as non-breeders, perhaps to avoid unnecessary migration. Late arrival may also be an example of exploratory migration (*sensu* Baker 1978), in which individuals benefit from spending time locating and evaluating territories in which they will breed subsequently. Arriving late would also make it easier to detect vacant territories; young birds are unlikely to prevail against older and more experienced birds if they arrive early. There may be other advantages in arriving late. For example, most adult Short-toed Eagles return to Spain in March, when reptile prey may be difficult to find; later birds avoid such lean periods. Insect and other prey is more abundant later in the season too, while vegetation dieback during summer drought may make prey and carrion detection easier for inexperienced birds.

Late-season arrivals do not appear to have been reported from other raptor migration sites around the Mediterranean, although there is limited or no survey effort after late May at Cape Bon, Tunisia, the Sicilian narrows, in Italy, or at the Bosphorus, Turkey. Observers at Eilat, southern Israel, farther south than Gibraltar, have reported northward passage of Honey-buzzards as late as 17th June, of Black Kites until 19th June, and of Booted Eagles until 10th June (Shirihai *et al.* 2000). In general, the extent of late raptor arrival has been poorly monitored. The Gibraltar observations suggest that it should be looked for more widely in future.

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