

# Notes

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## Spring passage of second-calendar-year Honey-buzzards at the Strait of Messina

During spring migration, it is widely recognised that among long-distance migrants, juveniles migrate later than adults (e.g. Kerlinger 1989). While the majority of second-calendar-year (2nd-cy) Honey-buzzards *Pernis apivorus* spend the northern summer in Africa (Forsman 1999), some individuals do reach Europe (Ferguson-Lees & Christie 2001), although their occurrence is poorly documented. In recent years, observations have established that small numbers of 2nd-cy birds enter Europe via southern Italy. For example, Panuccio *et al.* (2004) observed the passage of tens of juveniles across the central Mediterranean via the island of Ustica, southern Italy. In this region, however, the greatest concentration of migrant Honey-buzzards occurs at the Strait of Messina, between southern Italy and Sicily (Zalles & Bildstein 2000; Agostini 2002). In 2004, a study was undertaken, between 27th April and 31st May, to establish whether 2nd-cy Honey-buzzards were also using this route to enter Europe.

### Methods

A suitable observation site was selected along the continental coast of the Strait, where migrating Honey-buzzards would pass sufficiently close to observers to enable the age of each bird to be established. The 35-day study period was divided into seven, five-day periods, during which the numbers and age classes of all Honey-buzzards were noted. Although it was not possible to establish the age of each individual, it was possible to do so for birds passing close to the observation site. The number and percentage of each age class was then estimated by dividing the number counted in the sample of age-established individuals by the total count during each five-day period, following the method used in previous studies (e.g. Agostini & Logozzo 1997, Agostini *et al.* 2004).

Forsman (1999) considered that 'in early summer birds are still mostly in juvenile plumage, although head, mantle and upper breast are largely moulted'. Observations of captive birds led Forsman to observe that 'in

2nd cy summer [captive birds] had a yellow cere with darker spots and the eyes were turning yellow, appearing pale from a distance'. In this study, only those individuals which showed the plumage characters, and both yellow cere and dark iris, were considered to be in their 2nd cy. Other individuals resembling juveniles were excluded where either the yellow cere or dark iris was not visible. These birds were included within a separate group, as the plumage of some adult females can resemble that of juveniles, and some birds can show transitional cere and iris colour (Forsman 1999; this study), and these are shown separately in fig. 1.

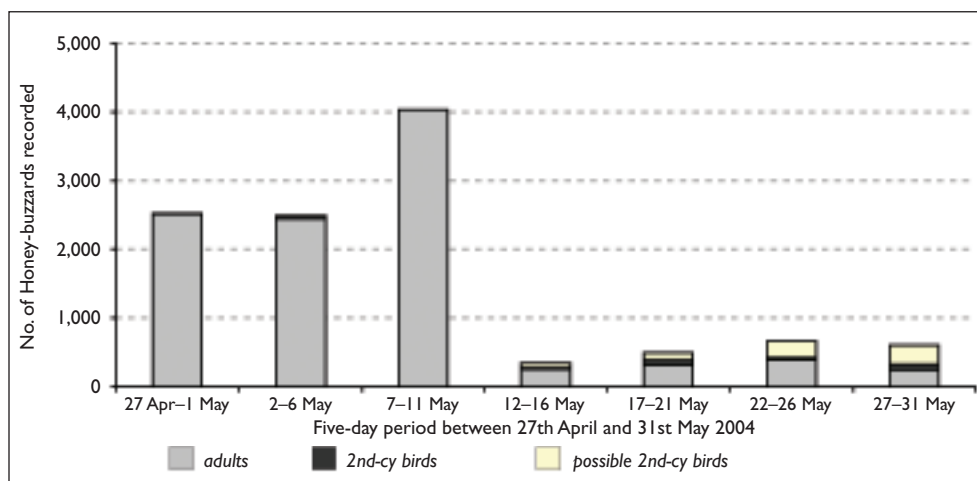
### Results and discussion

In total 11,145 Honey-buzzards were counted during the study period, peaking from 7th to 11th May (fig. 1). Of these, it was possible to age 487 birds that passed close to the observation site, of which 469 were adults and 18 showed juvenile plumage along with a yellow cere and dark iris. These birds were considered to be 2nd-cy-spring birds. As fig. 1 illustrates, almost all occurred during the second half of May. An additional 48 birds were considered to be possible 2nd-cy birds. Of these, 32 showed only the plumage features characteristic of this age, while 12 showed both plumage features and yellow cere, and four displayed plumage characters and a dark iris. Of these, nearly all occurred during the last ten days of May (fig. 1).

The late timing of their passage suggests that these birds were not adults, although some may have been 3rd-cy birds. It is interesting to note, however, that two birds considered to be 2nd-cy birds showed a yellow cere and iris, a further two birds had a dark cere and iris, while two adult males also had a yellow cere and iris.

Examination of two Honey-buzzards recovered at the Strait of Messina by E. Grasso (pers. comm.), established that one was killed on 19th June 2003 and one injured on 11th June 2004. The first individual showed a yellow cere and the grey head typical of an adult male (it was not possible to establish the iris colour).

## Notes



**Fig. 1.** The occurrence of migrating Honey-buzzards *Pernis apivorus* at the Strait of Messina, southern Italy, between 27th April and 31st May 2004, during the seven five-day periods of the study. The number of birds in each age class was derived using the ratios of accurately aged birds determined in the sample count within each five-day period.

The second bird, however, had yellow cere and dark iris, but also showed distinctly marked remiges. Although individuals with transitional plumage characteristics, and cere and iris colour were noted during this study, the passage of other birds with juvenile plumage, dark iris and yellow cere provides evidence that a small spring passage of 2nd-cy birds occurs at the Strait of Messina. It is interesting to note that Shirihai *et al.* (2000) also reported a late-spring passage of 'non adult' Honey-buzzards through Israel.

These observations are also supported by examination of specimens held in the ornithological collection of Ettore Arrigoni Degli Oddi at the Zoological Museum of Rome. Of 33 individuals captured in Italy between 1864 and 1923, 21 occurred between April and June. Based upon plumage characters, along with the notes of the taxidermist, Dal Nero, who described the iris colour, it was possible to identify six individuals that resembled 2nd-cy birds.

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#### Michele Panuccio

Via Mario Fioretti n° 18, 00152 Roma, Italy

#### Nicolantonio Agostini

Via Carlo Alberto n°4, 89046 Marina di Gioiosa Jonica (RC), Italy

e-mail: [nicolantonioa@tiscalinet.it](mailto:nicolantonioa@tiscalinet.it) (corresponding author)

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