

Field identification of Red-footed Falcon

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Of the ten species of falcon *Falco* recorded in Britain, the Red-footed Falcon *F. vespertinus* is one of the most attractive. It is an annual vagrant in varying numbers, mostly to the southern half of Britain, the majority in spring and summer and with fewer in autumn. An adult male hovering over a Dorset heathland, offering typically close views and in good light, poses few identification problems, but a brief view under adverse conditions of a female or an immature may confuse the uninitiated. Even with an adult male, it is important to note the silvery-grey primaries, for a Hobby *F. subbuteo* seen in poor light or from certain angles can appear all-dark (but it should always be remembered that immature male Red-footed, before moulting its wing feathers, lacks the adult's pale primaries). In addition to Hobby, other identification pitfalls often discussed include Common Kestrel *F. tinnunculus*, occasionally Merlin *F. columbarius*, but also Eleonora's *F. eleonora*, Sooty *F. concolor* and Amur Falcons *F. amurensis* (see Hollom *et al.* 1988).

The available literature gives good descriptions of most plumages of Red-footed Falcon, though second-calendar-year plumage of both sexes is often treated in somewhat stereotyped fashion. The present paper summarises the species' general behaviour and describes in detail the adult and immature plumages and the moult stages through which they are achieved, based on personal experience of all age-classes together with studies of skins at the Natural History Museum, Tring. The confusion species are discussed within a British and West Palearctic context.

General impression and behaviour

In the air, from a distance, the Red-footed Falcon initially appears as a rather neat,

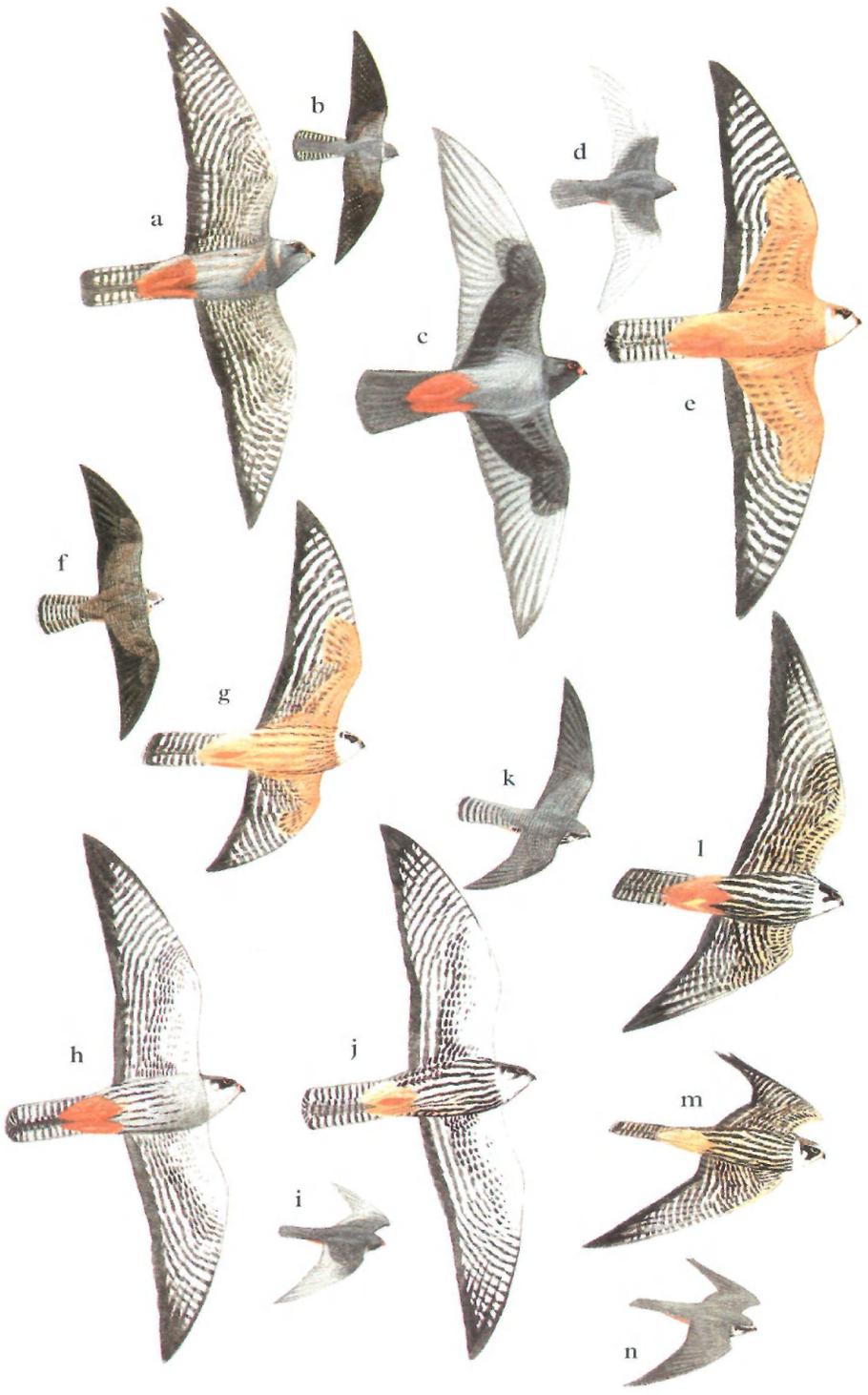




Fig. 1. Falcons *Falco* (Brian Small)

LEFT-HAND PAGE a-g Red-footed Falcon *F. vespertinus* (ab second-year male, cd adult male, e adult female, fg second-year female); h-k Amur Falcon *F. amurensis* (h second-year male, i adult male, jk adult female); l-n Hobby *F. subbuteo* (ln adult, m second-year).
 RIGHT-HAND PAGE o-t Eleonora's Falcon *F. eleonorae* (o dark-phase adult, pq pale-phase adult, r juvenile); s-u Sooty Falcon *F. concolor* (st adult male, u juvenile); v & w Common Kestrel *F. tinnunculus* (v second-year male, w juvenile female); x & y Merlin *F. columbarius* (xy female/immature)

smallish falcon, with a general shape much like a Hobby or a shorter-tailed Common Kestrel, although plumage differences soon become apparent with closer views. Nevertheless, certain features may not always be obvious even at closer range, especially in unfavourable lighting conditions (e.g., with an adult female against the light or against a bright sky, the orange underwing-coverts can simply look all-dark and even the orange colour of the underbody can be difficult to discern), although, conversely, bright lighting can draw attention to the adult male's very pale primaries as it beats its wings. In addition, it is usually impossible to detect the presence or absence of any tail bars on a falcon flying away from the observer at 100 m or more. In such circumstances, it becomes important to watch the bird carefully until it soars, or flies overhead, or behaves in a manner where it finally reveals the all-important characters that enable its identity to be confirmed. Obviously, an element of luck is often required.

Structure and shape

Red-footed Falcon is a little smaller than Hobby, which it somewhat resembles in silhouette, but in flight it shows a proportionately shorter, broader and less pointed wing, a more slender body and a relatively longer, more rounded tail (which seems to swell at the tip). Female Red-footed has an even broader arm than the male, and in flight it appears closer to Common Kestrel in shape. At rest, the wingtips fall about level with the tip of the tail on both Red-footed and Hobby, while on Common Kestrel they fall clearly short of the tail tip.

Flight and feeding behaviour

The Red-footed Falcon's habit of hovering is frequently mentioned as a useful indicator of its identification. Although this mode of hunting can be common on the breeding grounds or at certain places along the migration routes, many vagrants in northwest Europe may not be seen to hover at all during their stay. Indeed, many seem to spend much of their time sitting around on mounds of earth or on the tops of bushes, perhaps flying out briefly from time to time before returning to the same perch. It is not unusual for vagrants to remain perched for much of the day, looking distinctly bored and rather sorry for themselves.

In its flight action, Red-footed Falcon is generally intermediate between Common Kestrel and Hobby, and may at times show characteristics of both. It has a fast and rapier-like dash on swept-back wings, often lifting its feet at the last moment to catch prey (as does Hobby), and it also still-hunts from a fixed position or hovers like a kestrel. Red-footed flies with a quite stiff, regular wing action, and can even recall Common Cuckoo *Cuculus canorus* (an effect created partly by its comparatively long tail).

Certain characters can, to the well-practised observer, appear subtly different. In direct hunting flight, Red-footed is graceful and agile, with a slightly faster wing action than Hobby. When catching insects, it generally uses a more methodical approach, even to the point of landing on the ground and chasing prey; on the ground, it holds its wings lowered, cocks its tail, and runs or hops for a short distance, throwing out its leg to grasp the item. Hobby flies fast, gaining and losing height rapidly, bringing its feet forward at the last moment, occasionally

turning on to its back, to grasp prey. Hunting behaviour, although not diagnostic, can act as a pointer towards either species.

On migration and in winter, Red-footed associates closely with Lesser Kestrel *F. naumanni* and may be seen catching insects at great altitude (or lower levels), gliding and soaring on wings held straight out from the body and slightly pressed down; vagrants also quite commonly behave like this. In these circumstances, it can resemble Common Kestrel, but the latter usually soars on flat or even on raised wings. Further behaviour recalling Common Kestrel includes hovering, but with Red-footed this is less persistent, on a more horizontal plane, and with flat, deeper wingbeats (note that Hobby very rarely hovers, and looks awkward when it does); and the utilisation of posts, overhead wires or treetops from which it flies down on to prey (behaviour recalling shrikes *Lanius* or rollers *Coracias*). In Camargue, France, 'dozens' have been seen perched on roadside wires, with individuals and small groups separated from each other by distances of about 500 m (D. A. Christie *in litt.*).

Finally, although Red-footed Falcon is sometimes said to be rather shy (e.g. Génsbøl 1987), it can also be remarkably tame, as stated by Harris *et al.* (1989). When perched on a bush top, or even when on the ground, individuals or pairs may at times allow an approach to within 10 m or so without showing any alarm, flying off only when the observer is no more than a few metres away.

Plumages

Moult

A knowledge of the various moults, the feather tracts involved, and the resulting plumages will help in the identification process. Cramp & Simmons (1980) listed a post-juvenile moult in the first winter, a further moult during the summer of the second calendar-year, and a post-breeding moult, albeit with great variation.

The post-juvenile moult takes place in the winter quarters and involves some feathers of the head (crown and hindneck) and tail (usually central feathers) and most of the body feathers, with remiges and outer rectrices retained; the wing-coverts are variably moulted, some patchily and others completely. This results in 'first-summer' plumage, which in many books is described in a rather oversimplistic way, not particularly allowing for the diversity which may occur owing to the next stage of moult.

From March of its second calendar-year, the Red-footed Falcon, like the Hobby, has a protracted moult which lasts between three and six months, into September and October. This prolonged period of moult helps to explain the variety of plumages encountered in Britain and elsewhere during the summer months. Throughout this period, first-summer individuals may retain some juvenile head, body, wing and tail feathers, or may, towards the end of the season, be almost entirely adult-like apart from some body feathers and worn juvenile remiges; the moult of the wing-coverts is completed at this time, with the tertials often the last to be moulted. The moult sequence of the remiges is from the inner primaries and inner secondaries outwards. The contrast between the new and denser feathers and the year-old faded and translucent juvenile ones is often visible on individuals from late summer (fig. 2, page 187). During its first summer, a Red-footed Falcon may resemble either a juvenile or an adult, and is

perhaps best referred to as a second-calendar-year bird (see Jonsson 1992). Bare parts also undergo a gradual change in colour and can appear highly variable. The second-calendar-year moult is completed during the second winter and results in full adult plumage.

Plumage descriptions (see fig. 1 on pages 182 & 183)

ADULT MALE

Smallish falcon with predominantly dark plumage. *From above* Head and entire upperparts including upperwing-coverts dark indigo-grey or slate-grey (with purplish tone in some lights), darkest around eye and becoming paler on greater coverts; primary coverts and remiges (especially primaries) noticeably silvery-grey, contrasting with dark grey wing-coverts. *From below* Underparts (breast, belly and flanks) paler grey than upperparts; tibial feathers, vent and undertail-coverts deep rufous-chestnut. Underwing-coverts dark grey. *Bare parts* Bill horn-grey, black at tip, and with minimal amount of crimson at base; cere, eye-ring, legs and feet orange-red; talons pale grey.

SECOND-CALENDAR-YEAR MALE

Extremely variable in plumage. In spring and early summer, differs noticeably from adult male in several respects. Head often shows creamy forehead, with lores, ear-coverts and short diffuse 'moustache' black and cheeks, chin and upper breast creamy-white; neck-sides pale grey-buff or rufous. Upperwing-coverts a mixture of worn grey-brown juvenile feathers and dark slate-grey ones; remiges dark grey-brown above (sometimes with pale notches visible on inner webs) and concolorous with wing-coverts (lacks pale outer primaries of adult male); tail often has new, slate-grey, central feathers contrasting with faded barred juvenile outer. Breast, belly and flanks cinnamon-rufous, variably blotched with pale grey and with obvious black feather shafts; underwing-coverts a mixture of barred juvenile feathers and new dark grey ones; remiges silvery-white below with grey-black bars, latter broadest at tip and forming wide dark bar on trailing edge and black wingtips; tibial feathers rufous, becoming gingery on ventral region. In midsummer and autumn, resembles adult, apart from some rufous neck and belly feathers, worn tertials, and variably retained outer primaries, secondaries and tail feathers. *Bare parts* Initially, bill greyer than adult's, and cere, eye-ring, legs and feet yellow or yellow-

orange, all bare parts becoming more adult-like during course of summer.

ADULT FEMALE

Averages only slightly larger than male (mostly in bill and tail sizes), but plumage conspicuously different. *From above* Forehead pale cream or warm buff, deepening to ochreous-orange on crown, nape and hindneck; crown often unmarked, but some show thin black streaks, in most cases restricted to sides of crown (streaking possibly age-related?). Mantle, scapulars, back, rump and entire upperwing-coverts slate-grey with dark grey-black bars, tinged ochre on upper mantle, and with whitish-grey feather tips visible in fresh plumage. Remiges unmarked dark brown-grey or slate-grey, with silvery colour on outer edges. Tail grey with widely spaced narrow black bars, broadest subterminally, and tipped grey-cream. *From below* Well-defined small black eye-mask (usually extending behind eye as eye-stripe) joins with short 'moustache'. Cheeks, chin, throat and neck-sides off-white or cream. Remaining underparts and underwing-coverts pale orange, as crown, often unmarked but sometimes variably streaked (most heavily on flanks and greater underwing-coverts), though apparently orange on underwing occasionally restricted and largely lacking on greater coverts; ventral region buffy. Remiges silvery-white, barred with black, and with dark trailing edge apparent. Tail much as from above. *Bare parts* Bill grey, with dark tip and orange-red at base; cere, eye-ring, legs and feet orange.

SECOND-CALENDAR-YEAR FEMALE

Similar to adult female, and sometimes almost indistinguishable. In late spring and early summer, can resemble juvenile on head (with pale cream forehead, supercilia and hindneck isolating well-streaked brown 'cap' which joins mantle via a line down centre of hindneck, and with dark smudges on neck-sides), although normally resembles streaked adult female but with paler hindneck, or can have very pale

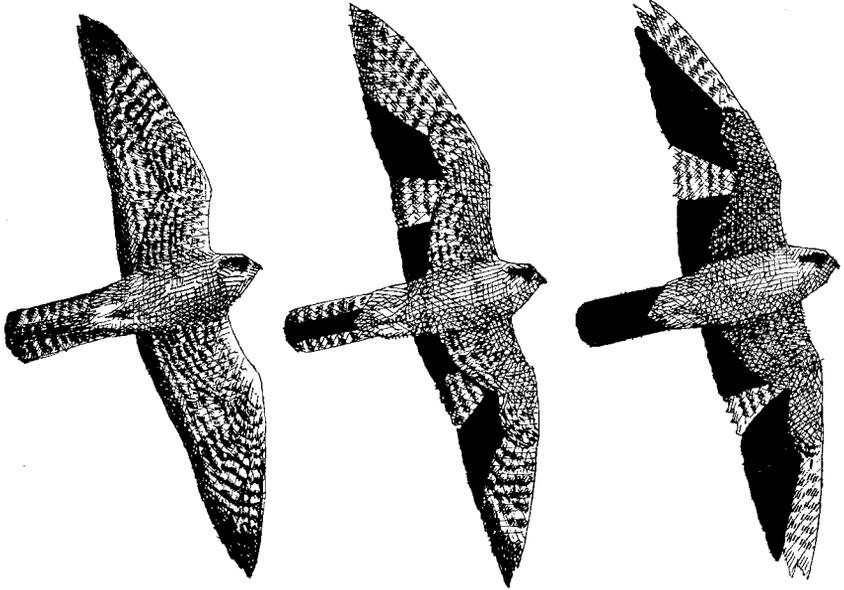


Fig. 2. Second-calendar-year male Red-footed Falcon *Falco vespertinus* showing stages of wing moult (Brian Small)

crown with thin dark streaks; lores, ear-coverts and short 'moustache' more diffuse than on adult female. Upperparts (mantle and scapulars to rump, and upperwing-coverts) a mixture of barred grey-and-brown juvenile feathers (appear quite brown from a distance), but outer greater coverts normally grey, and unbarred (barred on adult female); remiges dark brown-black above, contrasting with wing-coverts, and worn tertials browner than on adult. Tail with adult central feathers and worn juvenile outer ones. Underparts similar to adult female, but paler and often creamier, with variably prominent black shaft streaks, latter strongest on breast, flanks and underwing-coverts; remiges as juvenile below, grey-white barred with black. In late summer and autumn, very similar to adult female and often distinguishable only by presence of worn remiges contrasting with new ones. *Bare parts* Initially, bill grey (darker at tip), and cere, eye-ring, legs and feet ochreous, becoming orange with age.

JUVENILE

From above Forehead and hindneck cream-white; crown brown and heavily streaked, streaks extending as line down hindneck to join mantle; lores, ear-coverts and short 'moustache' black. Upperparts brown-grey, tipped rufous-buff, forming scaly or barred pattern; upperwing-coverts the same, but greater coverts grey, barred darker, edged white and tipped buff (visible as thin wingbar in flight). Remiges brown-black above, paler on secondaries, with thin white trailing edge. Tail brown, barred black and tipped white. *From below* Cheeks, chin and throat cream-white; rest of underparts and underwing-coverts pale cream and heavily dark-streaked, wing-coverts barred. Remiges grey-white or cream-white, barred with black, and with broad black trailing edge and tip to wing clearly visible. *Bare parts* As second-calendar-year female.

Potential confusion species (see fig. 1 on pages 182-183)

Red-footed Falcon in juvenile and (early) second-calendar-year plumages closely resembles Hobby, but it can be separated by concentrating on certain criteria. Hobby has a more compact profile recalling a huge swift *Apus*, and its tail is shorter and tapers to more of a wedge shape when closed. From below, it shows heavily streaked underparts and underwing-coverts, lacks the dark trailing edge to the wing, and possesses a distinctive head pattern (in particular, more extensive black around the eye and a longer 'moustache'); from above, it usually has an unbarred uppertail (some second-calendar-year Hobbies may show faint barring on worn outer tail feathers, but this is never so prominent as on Red-footed). Separating Hobby from juvenile Red-footed is less straightforward, but Hobby is generally more evenly dark across the upperwing, lacking contrast between coverts and flight feathers, has a darker forehead, and is less ochreous on underparts, having more richly coloured, rufous (adult) or buffish (juvenile) tibial feathers and undertail-coverts. Compared with juvenile Hobby, juvenile Red-footed has a much paler crown, more prominent pale edges to upperpart feathers, and its tail is obviously barred across the whole upper surface (juvenile Hobby's tail is barred only on inner webs, so barring not visible from below). Second-calendar-year Hobby can appear similar to juvenile and second-calendar-year female Red-footed; as well as the above distinctions, however, it can be separated by the fact that the crown joins the mantle via two dark lines each side of a pale nape spot, and it is a uniform warmer brown above (see Small 1992).

Melanistic Common Kestrel occurs rarely and has been confused with adult or near-adult male Red-footed Falcon. The former, however, can be easily separated by its shorter wing in relation to the tail (when perched, the wingtips fall well short of the tail tip), its more uniform upperwing lacking pale primaries, the absence of rufous on its rear underbody, and its different bare-part colours.

Merlin is readily distinguished by its smaller size, much more compact appearance with shorter, broader-based wings and square-ended tail, and its different hunting methods (prolonged pursuits of small birds low over the ground). Eleonora's Falcon is considerably larger than Red-footed and should not cause any confusion, being slim-bodied and with distinctly longer wings and long tapering tail; it has an even more dashing flight than Hobby.

Clark *et al.* (1990) pointed out the potential confusion between Red-footed Falcon and Sooty Falcon, mainly in juvenile plumage. Despite being different in shape and size (Sooty is larger), juveniles of the two appear superficially similar. Sooty should, however, in good views, show more extensive dark on the primaries, narrow white bands on the undertail and a lack of barring on the uppertail; a dark forehead concolorous with crown and ear-coverts; a longer 'moustache'; diffuse grey streaking on buffer underparts; and greyer bare-parts coloration. In flight silhouette, Sooty is intermediate between Hobby and Eleonora's Falcon, thus differing from Red-footed.

Amur Falcon, closely allied to Red-footed and sometimes treated as conspecific with it (e.g. Ali & Ripley 1987), breeds southeast of Lake Baikal and into northern China, migrating in autumn southwest across India and the Indian Ocean to winter in southeast Africa, where it tends to keep separate from Red-footed. In spring, it migrates back across the Indian Ocean, whereas Red-footed

follows a westerly route through West Africa into Europe on a broad front across the Mediterranean. Nevertheless, occasional records of small groups of Amur Falcons in Oman and Saudi Arabia (Hollom *et al.* 1988) hint at the possibility of vagrancy in the Western Palearctic. Adult and immature male and juvenile Amur are most like the corresponding plumages of Red-footed: adult male is generally dark grey or grey-black above, paler grey below, but with strikingly white or grey-white underwing-coverts and axillaries; second-calendar-year male is very like Red-footed, but slightly darker above, pale grey below with sharp, neat streaking (not rufous) concentrated mostly on the belly, and the underwing-coverts are usually patchy white; juvenile differs from juvenile Red-footed in having a darker crown which meets the dark 'face' patch, and a white ground colour on the underparts (juvenile Red-footed has white of forehead extending as narrow supercilia on to pale nape and neck-sides). Female Amur Falcon is very different from female Red-footed and resembles Hobby, having dark brown-grey on head and upperparts, with white breast, flanks and belly heavily marked with black, and is rather white on the underwing-coverts.

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