

Identification of Western Palearctic swifts

Philip Chantler



FIGURE 1 Flock of Common Swifts / Gierzwaluwen *Apus apus* with adult White-throated Needletail / Stekelstaart-gierzwaluw *Hirundapus caudacutus* (Gerald Driessens)

This paper on the identification of Western Palearctic swifts treats the *Apus* species, Common Swift *A. apus*, Pallid Swift *A. pallidus*, Plain Swift *A. unicolor*, Alexander's (or Cape Verde) Swift *A. alexandri*, Fork-tailed (or Pacific) Swift *A. pacificus*, Little Swift *A. affinis* and White-rumped Swift *A. caffer*, and the non-*Apus* species, Alpine Swift *Tachymarptis melba*, Chimney Swift *Chaetura pelagica*, White-throated Needletail *Hirundapus caudacutus* and African Palm Swift *Cypsiurus parvus* (the common and scientific names follow Sibley & Monroe 1990).

The accounts of Chimney Swift, White-throated Needletail and African Palm Swift also include a discussion of the main confusion species which occur outside the Western Palearctic. Otherwise, with the exception of House Swift *A. nipalensis*, the discussion is restricted to identification problems in the Western Palearctic; for example, Mottled Spinetail *Telacanthura ussheri* and Nyanza Swift *A. niansae* are not discussed.

Each species is described in full and its identification is then discussed in comparison with the main Western Palearctic confusion species. An attempt is made to describe the species as they can be seen during careful field observations. Although feather-tracts, such as the lesser wing-

coverts, can be impossible to see in the field under anything but the optimum conditions, they are described to help the reader to understand how certain features are being formed.

For convenience sake, the following terms are used in the text: *chest*, the upper breast; *eyepatch*, the coarse invariably black bristle-feathers found in front of and just above the eye; *forecrown*, the most anterior part of the crown, forming a small arc-like area above the front of the eye; *inner wing*, the part of the wing that consists of the inner primaries, secondaries, median coverts and greater coverts; *outer wing*, the part of the wing that consists of the outer primaries, primary coverts, alula and leading edge-coverts; *leading edge-coverts*, the small coverts on the leading edge of the wing; *saddle*, the uniform area on the upperside in many swifts, formed by the mantle, scapulars and upper back (where the saddle is larger, ie, extending onto the nape or lower back, this is mentioned in the text).

This article is primarily based on field-work. Apart from Alexander's Swift and Purple Needletail *Hirundapus celebensis*, I have observed all species dealt with (ie, including the main confusion species), most of them on many occasions and over long periods of time. In addition, I have

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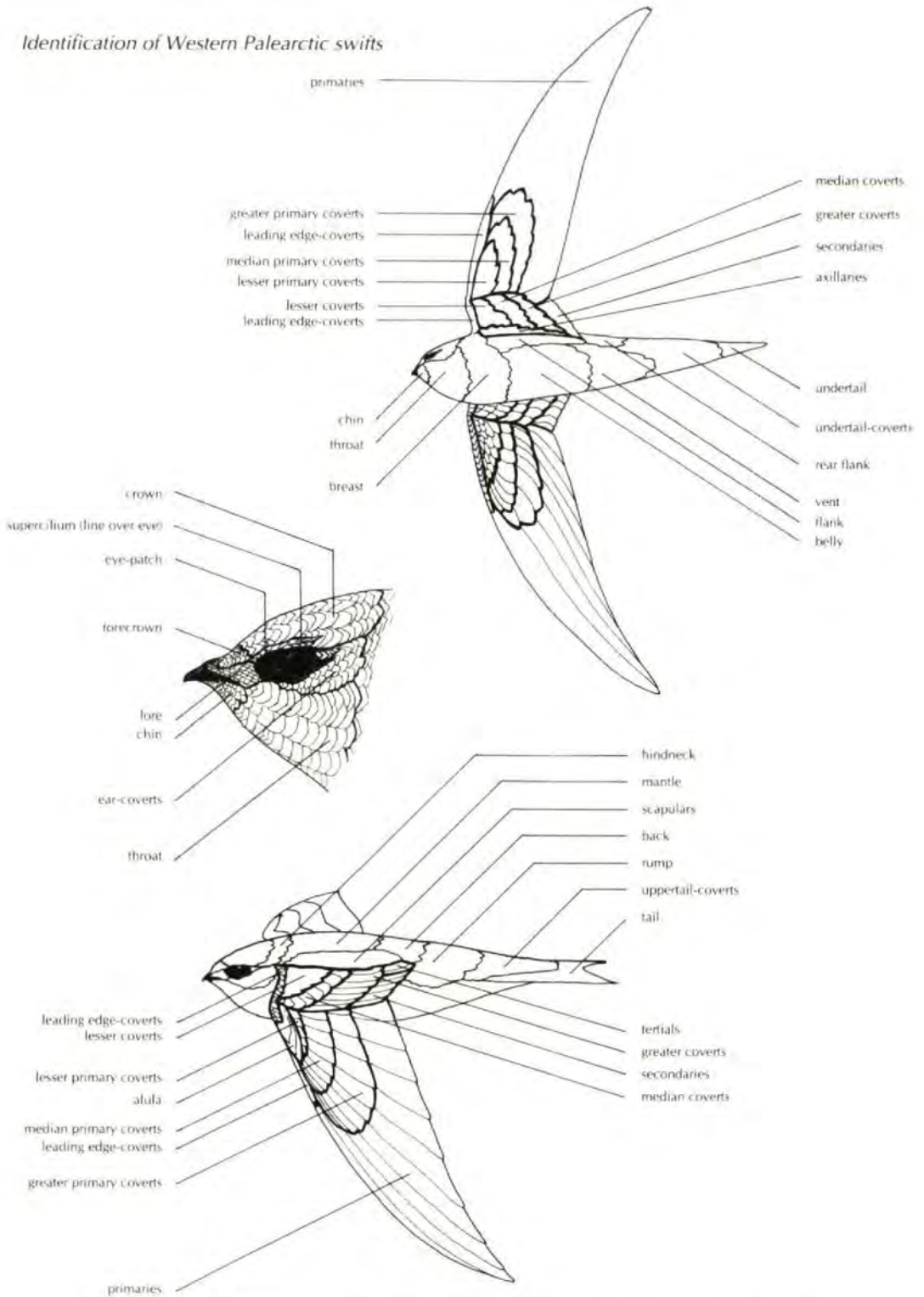


FIGURE 2 Topography of head, upperside and underside of a swift (Gerald Driessens)

examined as many (published and unpublished) photographs as possible. Finally, I have studied the skin collections at the Nationaal Natuurhistorisch Museum at Leiden, Zuidholland, the Netherlands, and at the Natural History Museum at Tring, Hertfordshire, Britain. The first results of this study were summarized in a paper on the identification of Pallid Swift (Chantler 1990).

Apus swifts

Flight

All *Apus* swifts show great aerial mastery and are capable of great turns of speed, sudden drops in altitude, swerves, mid-air stalls and so on. Wind conditions and prey types can affect flight too, making identification based on flight technique an unsafe practice. However, listed below is a comparison of each species with Common, the species most readers will be familiar with. It points out the most characteristic aspect of each species' flight though the above cautionary remarks need to be borne in mind in all cases.

Pallid Swift

Often appears slower, with more deliberate, less spectacular turns. Less frantic wing-beats.

Plain Swift

Faster, more frantic, with rapid shimmering wing-beats. Frenetic nature of this flight is especially apparent when seen in direct comparison with Pallid.

Alexander's Swift

Weakest flight, appearing light and fluttering.

Fork-tailed Swift

Very similar to Common, with perhaps more shearing.

Little Swift

Least graceful flight, fluttering wing-beats and gliding highly pronounced.

White-rumped Swift

More graceful flight, with less frenetic wing-beats than Common. Long periods of gliding.

Calls

With the hope of achieving more meaningful descriptions of characteristic calls, those of Common will be used as a standard against which comparisons with calls of other species are made. There is much similarity between the calls; those of Common will be the most familiar to most readers. A great variety of calls can be

heard in the breeding season, especially around the nest. In this *resumé*, I will concentrate mainly on the familiar screaming calls. The call is of limited use for identification. This is largely due to the variety of calls used by each species and the great similarity of most species' calls.

Common Swift

High-pitched *shree*, variable in both duration and pitch. When uttered by an individual in a group, many calls can be delivered in short bursts. Often, calls of more slurred or disyllabic nature can be heard in breeding season.

Pallid Swift

Coarser, deeper and more disyllabic *sree-er* but very variable.

Plain Swift

Very similar to Common, perhaps pitched slightly higher and more 'wheezing'. When calling amongst Pallids, differences are more obvious than when calling amongst Commons.

Alexander's Swift

Considerably higher-pitched than in Common, less fierce in tone; delivered at lower rate, ie, separate notes more articulated, giving call reeling quality (C J Hazvoet in litt).

Fork-tailed Swift

Similar to Common though less harsh and 'wheezing'.

Little Swift

Harsh, rapid and rippling trill *der-der-der-dit-derdid-didoo*, quite unlike screaming call of Common.

White-rumped Swift

Low-pitched twittering trill based around repeated *sip* notes.

Moult

The three large migratory *Apus* swifts, Common, Pallid and Fork-tailed, and the two small non-migratory *Apus* swifts, Plain and Alexander's, probably have very similar moults. There is a complete moult to winter plumage in the winter quarters (Pallid has been known to start the replacement of the inner primaries when raising a second brood and then suspend the moult until migration has been completed), a partial post-juvenile moult to first-winter plumage in the winter quarters and a complete moult to second-winter plumage in the winter quarters.

The post-juvenile moult to first-winter plumage involves the body-feathers, rectrices and smaller wing-coverts. Notably, the larger wing-coverts



60 Common Swifts / Gierzwaluwen *Apus apus*, Sainte Maries-de-la-Mer, Bouches-du-Rhône, France, August 1988 (René Pop)



61 Common Swift / Gierzwaluw *Apus apus*, Eilat, Israel, March 1992 (Killian Mullarney)

and remiges are not replaced until the moult to second-winter plumage. This has been proved in Common; the other species have been less studied but evidence suggests that this strategy is employed by these species as well (cf de Roo 1966, Cramp 1985). The long retention of the juvenile remiges and the larger wing-coverts is of importance to *Apus* swift identification. In first-summer birds, there is more contrast between the fresh, hence darker, lesser wing-coverts and the worn remiges and greater and median wing-coverts. This is of particular relevance to the separation of Pallid from the other uniform species.

One factor affecting the wing-tip shape is the suspension of moult in the outer primaries. This is well-documented in Common (de Roo 1966) but also applies to the other species. It has been considered to relate to the length of the moult period. When the moult is resumed in the next period, it will start with the first unmoulted feather which is usually p10 or 9 in Common. Plain, with its shorter moult period, often shows suspension in up to its four outer primaries; these are apparently then replaced descendantly in the next moult period, with the inner primaries moulting simultaneously. Interestingly, some Commons and Pallids in the European summer have 'tatty' outer primaries whilst during that season many Plains are not so restricted in the

position of obviously worn primaries.

The moult of Little (at least in Western Palearctic populations) to winter plumage takes place throughout the breeding season, starting in late spring with the innermost primary and finishing with the outermost primary in mid-winter. The body-feathers are moulted throughout this period. The post-juvenile moult to first-winter plumage begins with the replacement of the head- and body-feathers soon after fledging, with the primaries starting to moult after the completion of the tail moult. The primary moult begins from mid-winter to spring, ending from late summer to early winter (of the bird's second calendar-year). During this first primary moult, it is believed that the body-feathers are not replaced whereas they are in the adults.

The moult of White-rumped is imperfectly known. It is possibly like that of Common, Pallid and Fork-tailed or Plain and Alexander's, ie, moulting in the winter season, although in southern Africa the primary moult may start whilst the birds are raising the second brood (Cramp 1985).

Moult and the effect of wear are as important in forming and changing the plumage of swifts as in other groups. It should be remembered that wear can be a major influence on their appearance, causing more contrast between feather-tracts and diminishing the impact of white rumps and throats.

Partially albinistic swifts

Partial albinism has been recorded in most species. Such birds tend to show white on areas of the body that are important for identification, ie, the belly, throat and rump. Any suspected partially albinistic swift should be carefully inspected for signs of asymmetry in the white and for additional plumage and structure features to confirm the identification (see the section on the identification of Fork-tailed, Little and White-rumped for additional discussion).

Another note of caution is that often in the breeding season swifts can be seen carrying feathers to the nest. When a large white feather is seen hanging from the bill of a dark swift and covering the throat-patch, the effect can be very striking!

Ageing

Ageing swifts after the post-juvenile moult to first-winter plumage is practically impossible but this should not hinder identification. It is sufficient to know that in many species the remiges and most wing-coverts will still be the juvenile feathers in first-summer birds, increasing the contrast with the fresh, hence darker, smaller wing-coverts and body. In the hand, the structure of the outer rectrices in particular can be useful; this is covered in depth in Cramp (1985).

Effect of light upon plumage

The effect of light upon the plumage of any species and its effect in changing its appearance is a problem all birders should be aware of. The problem is compounded when birds are viewed in flight as changing body-wing angles must be taken into account. As swifts are seen almost entirely in flight, they are prone to misidentification in the field. The following is a list of the most important light-affected characters. I have endeavoured to describe and illustrate the species and the following phenomena as they are *most likely* to be seen in the *field* but the foregoing comments must be borne in mind.

Body-wing contrast

In the discussions and descriptions, mention is made of the contrast between the body and wing; this is hard to assess in the field and is influenced by the effects of light falling on the various feather-tracts and the angle of the wings relative to the body. This is particularly true of the underwing; it is quite possible that in one individual, within a few minutes, the darkest underwing-coverts could appear darker, paler or equal in tone to the underparts!

Translucency

Although not mentioned in all accounts, any species, when seen from below against bright sunshine, can show translucency in the remiges and rectrices. This is usually most visible in the inner primaries and secondaries (especially in the trailing edge to the secondaries).

Secondaries

In the hand or in museum specimens, the secondaries of all *Apus* swifts can appear darker than the greater wing-coverts (especially in fresh individuals). This is, however, rarely visible in the field, presumably because of the translucency of the secondaries.

Trailing edges to wing-feathers

Another light-affected phenomenon is the appearance in any species of dark trailing edges to wing-feathers (particularly on the remiges and greater coverts of the underwing). Good examples are *Chaetura* and *Hirundapus* swifts which actually have very plain greater wing-coverts but often show a dark terminal bar to these coverts in the field. This is caused by the area of overlap between the overlying and underlying feather-tracts and possibly by the slight change in angle at this area of overlap. All the *Apus* swifts do show some degree of dark subterminal crescents but perhaps these are over-emphasized as a result.

Dark outer primaries

In all species, the outer primaries can appear darker than the inner primaries and secondaries (in both the upper- and underwing) because of the darker outer webs being more densely clustered in the outer primaries whereas in the inner primaries the paler inner webs can be seen clearly when the wing is spread.

Common, Pallid, Plain and Alexander's Swifts

These species are characterized by a uniform brown plumage. The upperparts are darkest on the saddle, with the rump and head paler, a pale throat-patch and the outer wing darker than the inner wing.

Common is a summer migrant and breeding species. It breeds throughout Europe (excluding northern Scotland, Fennoscandia and Russia), Asia Minor and the Mediterranean coasts of the Middle East and north-western Africa. On migration, it has been found throughout the region, including the Canary Islands, Faroe Islands, Iceland and Svalbard (Cramp 1985). It is an uncom-



Gerald Driessens
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PLATE 1 Common Swifts / Gierzwaluwen *Apus apus* (upper) and Pallid Swifts / Vale Gierzwaluwen *Apus pallidus* (lower); adults depicted from below, juveniles from above (Gerald Driessens)

mon visitor to the Cape Verde Islands, mostly in December and January (Hazevoet in press).

Pallid is a summer migrant and breeding species. It breeds throughout the Mediterranean, the Middle East and the northern edge of the Sahara. It arrives earlier on the breeding grounds and leaves later than Common. The populations in the Nile and Euphrates deltas are resident. It is a rarity north of the Mediterranean. It has occurred on five occasions in Britain (involving six birds): 1 Stodmarsh, Kent, 13-21 May 1978; 2 Farlington Marshes, Hampshire, 20 May 1983; 3 Portland, Dorset, 10 November 1984 (two birds); 4 Strumble Head, Dyfed, 12-13 November 1984; and 5 Warden Point, Kent, 14-16 November 1984 (Harvey 1981, Dymond et al 1989). Recently, a specimen was discovered in the Natural History Museum, Dublin, Ireland, which had hit St John's Point Lighthouse, Down, Northern Ireland, on 30 October 1913 (Killian Mullarney in litt). It has been claimed three times in the Cape Verde Islands (Hazevoet in press).

Plain is an endemic species of the Canary and Madeiran Islands. It is at least partly resident and not at all uncommon during winter although numbers are much reduced. The winter quarters of those that leave are not known but a number of birds have been reported in Morocco (eg, Cramp 1985). Any dark *Apus* swift found during the winter season in north-western Africa should be scrutinized with this species in mind.

Alexander's is an endemic species of the Cape Verde Islands. It has been suggested that it may migrate to unknown winter quarters but there is no evidence to support this. Although movements between the islands appear to be regular, it is resident within the archipelago (Hazevoet in press).

Common Swift

Size and shape

Large *Apus* swift. Narrow tapering wing pointed and scythe-shaped. Tip shape variable, with p10 or 9 longest. Deep tail-fork with pointed tip to outer rectrices though this is variable. Juvenile shows shallower fork with more rounded tip to outer rectrices. When closed, tail narrow, less obviously forked and slightly narrower than body. Head neatly rounded. Body is typical of large *Apus* swift in that, although slim, it can be quite broad, especially at rump, compared with smaller species. For measurements, see table 1.

Adult plumage (*A a apus*)

HEAD Small rounded dirty-white throat-patch, often poorly defined; sometimes mottled brown, especially when worn. Patch size varies, it does not reach gape at

TABLE 1 Measurements (mm) of Common *Apus apus*, Pallid *A pallidus*, Plain *A unicolor* and Alexander's Swifts *A alexandri* (from Cramp 1985)

	wing	tail	tail-fork
Common	164-180	69-82	25-36
Pallid	161-180	63-75	23-30
Plain	150-159	67-74	27-34
Alexander's	139-141	56-60	16-19

Measurements of juveniles on average 2-3 mm less.

eye but usually extends beyond eye onto lower throat. Forehead and lore and narrow line over eye grey-brown (lore often somewhat darker), contrasting slightly with black eye-patch. Head gradually darkens, to dark grey-brown on crown and side of head and to black-brown on nape. Lower ear-coverts, feathers around gape and side of throat dark grey-brown, pale grey-fringed when fresh.

BODY Underparts black-brown, undertail-coverts paler grey-brown. When fresh, feather-fringes off-white; when worn, fringes abraded and some paler grey feather-bases become visible. Oily-black saddle extends onto lower back, contrasting with somewhat paler black-brown rump and uppertail-coverts but very uniform with head (some individuals show slight contrast, particularly in bright light). Feathers patterned as those of underparts though fringes narrower and pale bases less apparent (except uppertail-coverts). Plumage browner when worn.

UPPERWING Darkest in outer wing, with outer four or five primaries (inner web black-brown), outer primary coverts (inner web black-brown), median primary coverts, alula and lesser coverts blackish. Inner primaries, secondaries and tertials uniformly black-brown (secondaries can be blacker when fresh and viewed in the hand; however, this is seldom the case in the field). Greater coverts and inner primary coverts black-brown, showing little contrast with remiges. Median coverts blacker than greater coverts though slightly paler than lesser coverts. When fresh, plumage at its darkest and most uniform; however, wear makes inner wing paler and browner, increasing contrast between leading edge and inner wing, especially between lesser coverts and other coverts. Wing-feathers, especially coverts and secondaries, narrowly paler brown-fringed; fringes are reduced by abrasion. Leading edge-coverts black with distinct white fringe.

UNDERWING Similar to upperwing but remiges paler (dark grey), showing more contrast with darker coverts. Greater primary coverts and greater coverts uniform with corresponding remiges. Median primary coverts and median coverts blacker though slightly paler than black-brown lesser coverts and axillaries. Greater primary coverts, greater coverts, median primary coverts and median coverts narrowly white-tipped, greater coverts showing slightly darker subterminal crescent. Inner primaries and secondaries can be translucent



PLATE 2 Worn upperwings of Common Swift / Gierzwaluw *Apus apus* (upper) and Pallid Swift / Vale Gierzwaluw *Apus pallidus* (lower) (Gerald Driessens)

when viewed from below.

TAIL Black-brown, feathers with slightly paler fringe and inner web. Paler below.

BODY-WING CONTRAST Upperparts contrast with wing at tertials, greater and median wing-coverts; usually uniform with lesser wing-coverts. Underparts usually uniform with darker underwing-coverts and clearly darker than rest of adjacent underwing.

Juvenile plumage

Similar to fresh adult plumage though a little blacker (and, therefore, considerably blacker than worn adult plumage) and feathers extensively white-fringed, most notably those of forehead and lore which are white and concolorous with white throat-patch that is broader and more distinct than in adult. Feather-fringing becomes less dense and narrower away from forehead and least distinct on mantle, becoming more marked again on rump. Underparts more extensively 'scaled' than in fresh adult. Wing pattern like that of fresh adult though remiges and wing-coverts extensively white-fringed. In some individuals, white fringes to body-feathers become abraded before post-juvenile moult to first-winter plumage and birds then resemble adults although white fringes to wing-feathers remain longer.

First-winter and first-summer birds retain juvenile wing-feathers until moult to second-winter plumage, except for smaller wing-coverts which are replaced

during post-juvenile moult to first-winter plumage, increasing contrast between inner wing and outer wing. Plumage otherwise resembles that of adult.

Subspecies

A *a apus* is replaced in the eastern and south-eastern parts of the species' breeding range by *A a pekinensis* (cf Cramp 1985). This subspecies migrates to eastern Africa through the Middle East and, although vagrancy has not been proved, it could appear anywhere in the Western Palearctic. Both subspecies are clinal in nature and intergrades occur in the zone where their supposed breeding ranges meet (Cramp 1985).

A *a pekinensis* is a slightly paler bird. The head pattern differs in that the throat-patch is somewhat larger, cleaner white and more pronounced and that the forehead is slightly paler. The upperparts are a browner shade and the underparts are not so deep-black. In the wing, the coverts are more clearly pale-fringed and the inner primaries, secondaries, greater primary coverts and greater coverts are a little paler.

Worn adults of the two subspecies are probably inseparable in the field and, although *A a pekinensis* is slightly paler and browner, the

areas of contrast are the same. Juvenile *A a pekinensis* is probably inseparable from juvenile *A a apus* although on average it may be somewhat paler in the wing.

A a pekinensis is so similar to *A a apus* that there is little risk of it being mistaken for another species.

Pallid Swift

Size and shape

Bulkiest of large *Apus* swifts. Wing broader, outer wing tapering less than in other species of this group. Tip shape variable, with p10 or 9 longest. Tail-fork shallower than in Common and Fork-tailed. Tip to outer rectrices more rounded though this is variable. Juvenile has shallower tail-fork and more rounded tip to outer rectrices. When closed, tail ample and solid, often showing little hint of fork. Head flat and broad. Body, especially at rump, slightly broader than in Common; where it joins tail, considerably broader than closed tail. For measurements, see table 1.

Adult plumage (western Mediterranean populations of *A p brehmorum*)

HEAD Broad-based; very pale grey or off-white throat-patch, variable in size but usually spreads to gape and onto lower throat and chest; birds with narrower throat-patch show distinct line of grey-brown feathers around gape. Throat-patch often ill-defined because of pale grey-brown feathers around it. Some throat-patches faintly streaked by grey-brown shaft-streaks; when worn, darker grey-brown feather-bases become visible. Forehead, lore and line over eye pale grey (lore often somewhat darker), slightly darker than throat (though this often hard to see); areas around bill often uniformly pale, especially striking when viewed head-on. Amount of pale on forehead variable, often extending beyond eye, but more uniform when pale feather-fringes abraded. Forehead and lore contrast with black eye-patch. Head becomes darker towards grey-brown crown, ear-coverts and side of throat. Pale feather-fringes across head apparent when fresh but are lost through abrasion.

BODY Feathers have pale grey base, dark brown subterminal crescent and narrow grey-white fringe. Black-brown or dark olive-brown saddle (pale feather-fringe at its narrowest, dark subterminal crescent at its broadest), contrasting with paler grey-brown lower back, rump and uppertail-coverts (pale bases larger). Dark saddle extends slightly onto nape, contrasting with crown and ear-coverts, emphasizing pale-headed appearance. Underparts olive-brown or dark grey-brown, lightly scaled or (when pale feather-fringes become abraded and feather-bases are more apparent) lightly barred, with undertail-coverts slightly paler (pale bases larger).

UPPERWING Darkest in outer wing, with outer two to four primaries mostly black (inner web dark brown); alula and median primary coverts black-brown and lesser coverts dark olive-brown. Inner primaries

progressively paler grey-brown, with secondaries and tertials uniformly grey-brown. Greater primary coverts with pale fringe and inner web uniform, causing slight indentation into dark outer primaries. This is variable and less apparent when coverts worn. Greater coverts and median coverts similarly grey-brown to secondaries and inner primaries or slightly darker, especially in median coverts. In fresh plumage, secondaries can be darker than greater coverts though this is rarely visible in the field. Leading edge-coverts pale brown, with broad, though indistinct, pale fringe. All wing-feathers narrowly paler-fringed, darker ones less so, this feature being most prominent on secondaries and inner wing-coverts.

UNDERWING Similar to upperwing but remiges paler grey-brown, showing more contrast with darker coverts. Greater primary coverts and greater coverts uniform with remiges (as on upperwing, outer greater primary coverts can be paler than outer primaries). Median primary coverts and median coverts darker than greater coverts though slightly paler than lesser coverts and axillaries. Greater coverts and median coverts white-fringed and greater coverts show slightly darker subterminal crescent.

TAIL Dark olive-brown, feathers with paler fringe and inner web. Paler below.

BODY-WING CONTRAST Outer primaries often darkest part of wing or, indeed, entire upperside. Saddle uniform with or slightly darker than lesser wing-coverts, clearly darker than other wing-coverts and tertials. In underwing, darkest wing-coverts often darker than underparts although this contrast is much affected by light conditions. Rest of underwing clearly paler than underparts.

Juvenile plumage

Similar to adult plumage though pale feather-fringes slightly wider and dark subterminal crescents narrower; thus, overall plumage paler, especially forehead and throat which are whiter. Remiges distinctly paler-fringed.

Subspecies

Three subspecies are recognized: *A p pallidus* (in the southern part of the species' breeding range, from Banc d'Arguin, Mauritania, in the west to Pakistan in the east), *A p brehmorum* (Canary and Madeiran Islands and the Mediterranean, excluding the coasts of the Adriatic Sea) and *A p illyricus* (the east and possibly the west coast of the Adriatic Sea). The relationship between the three subspecies is complex and clinal, with slight variation in both size and colour. Some variation occurs within the ranges of the subspecies (Cramp 1985).

A p pallidus tends to be the smallest and palest of the subspecies. The plumage is the greyest in tone, both on the body and wing. The throat-patch tends to be slightly larger and the saddle less distinct.



62 Pallid Swift / Vale Gierzwaluw *Apus pallidus*, Eilat, Israel, March 1992 (Killian Mullarney)

A p illyricus tends to be the darkest and largest subspecies. The crown is the darkest and more uniform with the blacker saddle. The saddle is larger, extending onto the lower back. The rump also is darker but still remains clearly paler than the saddle. The outer wing is a deeper black. The underparts are darker and consequently the throat-patch is more striking.

Within *A p brehmorum*, there is considerable variation; some of the southern populations are considerably paler than those in the Mediterranean.

Identification of Common and Pallid Swifts

Shape

This feature is a subjective one. It should be used with caution, especially on lone birds. However, when Common and Pallid are viewed together, the differences, coupled with slightly different flight actions, can be striking.

Pallid is broader-winged, especially in the outer wing. The wing of Common is more classically scythe-shaped; the width becomes gradually less towards the tip, resulting in a more pointed wing. The wing-tip shape and the relative position of p10 and 9 are subject to much overlap and the rigours of moult.

The tail-fork of Pallid is shallower and the tip to the outer rectrices is more rounded. These features vary considerably. Juveniles of both species show a shallower tail-fork and a more

rounded tip to the outer rectrices. The closed tail of Pallid is more ample and solid than that of Common though it is usually slightly shorter. The broader body can have the effect of making the tail appear narrower than in Common.

The head of Pallid is broader and flatter than the neatly rounded head of Common. The body of Pallid is also broader; this is especially apparent at the rump which is wider than the closed tail.

Head

The large pale grey forehead and lore of Pallid always contrast with the black eye-patch. The forehead and lore of adult Common are paler than the eye-patch but show little contrast with it, even in bright sunlight. Some *A a pekinensis* may show a pale forehead similar to that of a darker Pallid. Juvenile Common shows an obvious white forehead and lore that contrast with the dark eye-patch.

The pale on the forehead of *A p pallidus* and the palest *A p brehmorum* can appear extensive because of the pale forecrown and crown. In the darker *A p brehmorum* and *A p illyricus*, the pale appears more restricted as these individuals have a darker forecrown and crown although these areas are still paler than the nape (but this contrast can be hard to see in the field). In adult *A a apus*, the pale on the forehead is least conspicuous and the effect is one of great uniformity, with the head gradually darkening to a dark crown, showing little or no contrast with the nape; *A a pekinensis* is similar though slightly paler. The forehead of juvenile Common forms a quite clear-cut white patch restricted to the area in front of the level of the eye, with pale feather-fringes becoming narrower towards the crown.

In Pallid, the dark eye-patch is often the darkest area on the head; it is clearly darker than the ear-coverts. In the darker populations, this feature is less useful though still apparent, especially in bright sunlight. However, in bright sunshine, because of the recessed nature of swift eyes, the impression of a darker eye-patch can be seen in any species. The ear-coverts of Pallid are usually paler than the nape and, at some angles, paler than the adjoining side of the neck with its darker feathers. In Common, the darker ear-coverts show no such contrast.

The pale forehead and lore of Pallid often form a continuous pale area linked to the throat although, when seen well, the forehead and lore are usually slightly darker. In Common, the forehead is usually clearly darker than the throat.

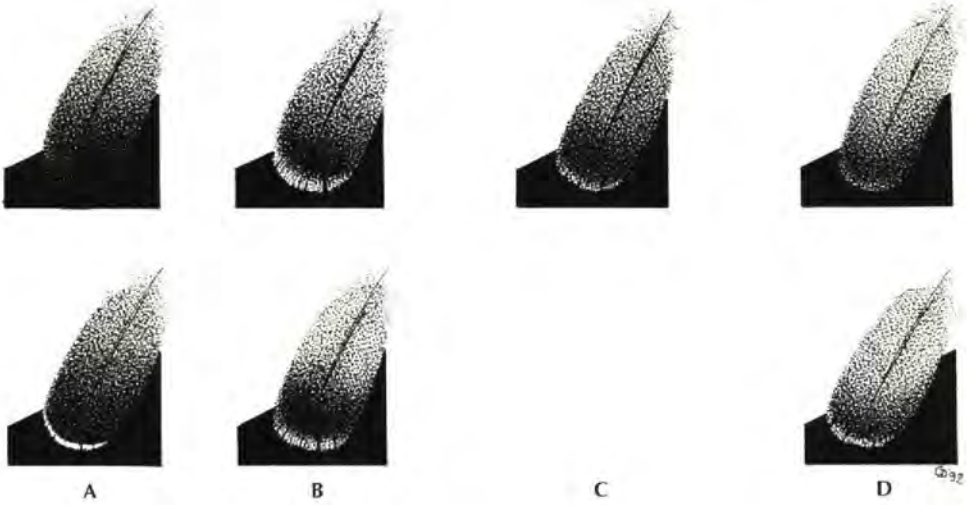


FIGURE 3 Belly-feathers of worn adult (upper) and juvenile Common Swift / Gierzwaluw *Apus apus* (A), Pallid Swift / Vale Gierzwaluw *A pallidus* (B, two variations), Plain Swift / Eilandgierzwaluw *A unicolor* (C) and Alexander's Swift / Kaapverdische Gierzwaluw *A alexandri* (D, two variations) (lower). Note relative extent of pale bases, dark subterminal crescents and pale tips as these influence underpart pattern (Gerald Driessens)



FIGURE 4 Common Swift / Gierzwaluw *Apus apus* of pale subspecies *A a pekinensis* (left) and Pallid Swift / Vale Gierzwaluw *A pallidus* of dark subspecies *A p illyricus*. Note Pallid's more 'broken' wing pattern with more extensive darker outer primaries (darker than lesser coverts), pale notch into outer wing (caused by paler greater primary coverts) and markedly paler inner wing. Note also Pallid's more marked saddle and paler head although this is *A p illyricus* with darker crown than other subspecies (Gerald Driessens)

FIGURE 5 Common Swift / Gierzwaluw *Apus apus* of pale subspecies *A a pekinensis* (left) and Pallid Swift / Vale Gierzwaluw *A pallidus* of dark subspecies *A p illyricus* (Gerald Driessens)



except in worn individuals with a particularly indistinct throat-patch when little contrast can be seen. Juvenile Common shows a white forehead and lore continuous with the throat-patch.

The throat-patch of Pallid is usually larger than that of Common although overlap occurs. It is broader, often extending to the gape and down to the lower throat, being 'flare-ended' or 'triangular' in shape. In the paler populations, the throat-patch is often indistinct because of the pale surrounding feathers. In the darker populations, the throat-patch is more distinct, especially along the lowest edge where it adjoins the darker chest-feathers. In adult Common, the throat-patch is narrower and more rounded than in Pallid. *A a apus* has the narrowest and most indistinct throat-patch while that of adult *A a pekinensis* is whiter, more distinct and slightly broader. Juvenile Common has a somewhat wider more distinct throat-patch than the adult.

Upperside

Pallid shows a more distinct saddle (ie, more contrast between the saddle and the head in front, and the lower back and rump behind) and has generally paler greyer-brown and more olive-brown upperparts than Common which is uniform black-brown above. In *A p pallidus*, the saddle is at its palest; the surrounding feather-tracts are, however, also paler. In *A p illyricus*, the saddle is at its largest, extending onto the lower back, and the crown is less obviously paler than the nape. In *A p brehmorum*, the saddle shows contrast with the lower back and rump, appearing smaller than in *A p illyricus*. All Pallids show some contrast between the nape and crown.

Common shows a saddle in all but the dullest conditions when it looks uniformly dark (more so than Pallid ever does). In the adult, the saddle can be striking but it usually does not contrast with the head (no obvious contrast between the nape and crown) and the upper back, the contrast being between the lower back and rump. In the juvenile, the pale feather-fringes are narrowest on the mantle, becoming broader towards the head and rump.

With good views, the upperparts of Pallid (particularly the rump, less so the mantle) show the typical feather-patterning (ie, a pale base, dark subterminal crescent and a pale fringe). Juvenile Common and, to a lesser extent, fresh adults show a faint feather-patterning.

Underside

In *A p pallidus* and the paler *A p brehmorum*, the body is distinctly paler than in Common. In *A p illyricus* and the darker *A p brehmorum*, the body colour is closer to that of Common (especially in *A a pekinensis*) though, when seen well, the impression is one of olive-brown or grey-brown whereas the body in the palest Common still appears dark grey-brown. The undertail-coverts can be strikingly pale but this is often exaggerated by the effect of shadow across the body and wing. With good views, the underparts of Pallid show the typical feather-patterning, which can appear almost as light barring across the body, most distinct on the flanks, apparent even when the pale fringes are abraded.

In worn Common, the body, although appearing uniformly dark at distance, can at close range show a variable degree of mottling because the paler feather-bases become more exposed as the fringes abrade. When fresh, the narrow pale fringes to the body-feathers can be seen given good views (still visible on many birds upon arrival in Europe). Juvenile Common shows more distinct pale feather-fringing than adult. The effect of the feather-fringing on Common is, however, one of light scaling and never the more heavily marked or barred appearance of Pallid.

Wing and tail

Common and Pallid show a similar wing pattern, with the outer wing darker than the inner wing. In Pallid, the contrast between the outer and inner primaries is usually greater than in Common (especially in the upperwing) as is the contrast between the lesser wing-coverts and the other wing-coverts and secondaries. The area of the darker outer primaries is usually broader in Pallid. Also, the outer primaries can be the darkest part of the upperwing (or indeed the upperside), darker than the lesser wing-coverts. Although this is again light-affected, it probably rarely occurs in Common. In Pallid, the greater uniformity in and the broader pale fringes to the greater primary coverts cause a small indentation into the dark outer wing, the paler coverts contrasting with the darker outer primaries. In Common, the outer primary coverts usually match the outer primaries in darkness. This can be a striking feature but individual variation must be taken into account and, as the feather-fringes abrade, the effect will be one of greater uniformity. In the underwing, the area of the darkest wing-coverts can be narrower than in Common because of the broader pale fringing to the median wing-coverts

and the fact that the median wing-coverts are somewhat paler than the lesser wing-coverts. In Common, the median wing-coverts, although slightly paler than the lesser wing-coverts, form a more uniformly dark block with the lesser wing-coverts. Pale feather-fringing throughout the wing of Pallid can give the wing a distinct 'shimmering' appearance, especially when viewed in bright light. Pale fringes to the wing-coverts often show as distinct lines across the surface of the wing and, although this will be reduced by wear, it would not appear like this in adult Common.

In fresh Common, the wing is at its darkest and shows least contrast. However, as the plumage wears (perhaps most pronounced in first-winter and first-summer birds), the pattern becomes closer to that of Pallid, with the outer primaries (and their corresponding coverts), alula and lesser wing-coverts being the darkest areas on the wing. The contrast between the tracts is, however, still less than in Pallid. In juvenile, the contrast is usually no more pronounced than in a fresh adult but all remiges and wing-coverts are distinctly white-fringed and can appear very pale and 'flashing', especially in bright light.

The tail of Common is darker than that of Pallid but, as the adjoining areas of the body are similarly darker too, it is of little importance.

Body-wing contrast

The underparts of Common and Pallid contrast with the underwing, except the outer primaries and the lesser and median underwing-coverts. In Pallid, the dark underwing-coverts can be darker than the underparts whereas in Common the effect is usually one of greater uniformity. This feature is essentially light-affected; it can be seen in Common at times (as can uniformity in Pallid) and should be used with caution.

On the upperwing of Pallid, the lesser wing-coverts are usually uniform with or paler than the saddle, according to individual variation and the effect of light, with the rest of the adjacent wing being paler and emphasizing the saddle effect. In Common, the pattern, though similar, is of greater uniformity, ie, showing less contrast. The effect in Pallid is of a more broken pattern, especially as the outer primaries are usually darker than the lesser wing-coverts.

Conclusion

Identification can be straightforward when direct comparison can be made between the essentially black-brown Common and the essentially olive-

brown Pallid. The facial and feather patterns and the degree of contrast in the wing and on the upperparts need to be examined critically if the identity of a lone bird is to be established.

Plain Swift

Size and shape

Thin narrow-winged *Apus* swift, distinctly smaller (c 20%) than Common. Wing narrower than in Common, enhancing long-tailed appearance (tail proportionally slightly longer than in Common). Body slim, tapering from broadest point at chest to tail. Considerably narrower at rump than in Common. Head shape as that of Common. P9 longest. For measurements, see table 1.

Adult plumage

HEAD Small indistinct throat-patch grey-brown, occasionally pale grey-white; mottled when worn. Smallest throat-patches restricted to chin; largest ones extending just beyond level of eye, still, however, ill-defined and less clear-cut than in all other swifts (except Alexander's and worn Common), tending to merge with surrounding progressively darker grey-brown feathers. Forehead and lore dark grey-brown, slightly paler than crown, with pale grey feather-fringing. Often, when viewed head-on, areas around bill clearly paler than rest of head. Black eye-patch. Ear-coverts, crown and nape somewhat paler than or uniform with black-brown saddle. Lightly pale grey feather-fringing on head when fresh.

BODY Underparts progressively dark grey-brown away from throat, then uniform to vent; undertail-coverts pale grey-brown. Black-brown feathers from lower throat to vent distinctly pale grey-tipped and grey-based; fringes become abraded and some bases become visible when worn. Feathers of upperparts similar though blacker, with less distinct fringing and smaller pale bases. Blackest on saddle which extends onto lower back, contrasting slightly with dark grey-brown rump and uppertail-coverts.

UPPERWING Outer primaries, alula, outer primary coverts, median primary coverts and lesser coverts black-brown, forming darkest area. Inner primaries and secondaries black-brown, uniform with or somewhat paler than corresponding greater coverts, with median coverts darker, closer in tone to lesser coverts. In remiges, inner webs (and tips to secondaries) palest. Wear increases contrast between inner and outer wings. Coverts indistinctly pale-fringed, especially greater coverts.

UNDERWING Remiges paler grey, uniform with or slightly paler than corresponding greater coverts which are white-fringed. Median coverts also white-fringed and clearly darker though somewhat paler than lesser coverts. Greater coverts have darker subterminal crescent as in Common. Inner primaries and secondaries can be translucent.

BODY-WING CONTRAST As in Common although underwing-coverts are more often darker than under-



63 Plain Swift / Eilandgierzwaluw *Apus unicolor*, Tenerife, Canary Islands, August 1992 (Kris de Rouck)

parts, as in Pallid, perhaps because of slightly paler body.

TAIL Dark olive-brown, uniform with coverts.

Juvenile plumage

Remiges and wing-coverts more distinctly pale- or white-fringed, body-feathers also more distinctly pale- or white-fringed.

Identification

Plain is very similar to Common. In fresh adult or juvenile plumage, Common is blacker than the essentially dark grey-brown Plain. However,

once slightly worn, the plumage of Common becomes less deep-black and very similar to that of Plain and most areas of contrast are similar. Juvenile Common, with its white forehead and lore and broad contrasting throat-patch, is easily excluded. The main differences in plumage between adult Common and Plain are in the throat-patch and the pattern of the feathers of the underparts. The underparts of Plain are more heavily marked than those of fresh adult Common though similar to juvenile Common. Like Pallid, the feather-bases are paler grey than the blackish subterminal crescents and, therefore, some dark barring can be seen, especially when worn. The underparts are also slightly paler than in Common and, interestingly, as in Pallid, the darkest underwing-coverts can be darker than the body (as mentioned before, this light-affected feature should be used with caution and can be shown by Common). The throat-patch is important. Adult Commons, particularly those worn individuals with a dull mottled throat-patch, and those Plains with a larger whiter throat-patch can be highly problematic. The most distinctive Plains are those with a pale grey-brown throat-patch, becoming progressively paler towards the chin, and not showing a true rounded throat-patch as those shown by other species. Those with a larger throat-patch overlap with adult Commons and, although usually less distinct, many Plains are very similar to worn adult Commons. In these individuals, the feathers around the throat-patch of Plain are usually paler than

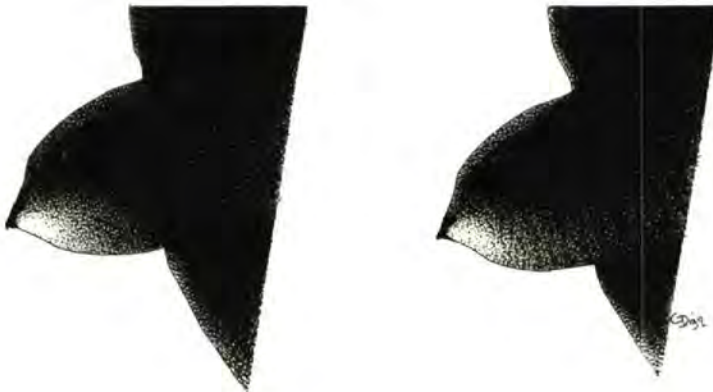


FIGURE 6 Heads of typical worn adult Common Swift / Gierzwaluw *Apus apus* (left) and typical Plain Swift / Eilandgierzwaluw *A unicolor*. Note in Plain paler feathers around throat-patch and more barred underparts (Gerald Driessens)

those around the throat-patch of an adult Common. Because of the problem of some worn adult Commons showing a dull throat-patch, attention should be paid to the underparts and the degree of pale markings there, as these should be entirely worn off on a worn Common (although some paler feather-bases may be seen). A worn Plain, although having lost some pale feather-fringes, still shows light barring.

The jizz of Plain is most important. It is somewhat smaller and considerably slimmer, with a longer deeper-forked tail than Common. The difference in structure is most marked at the rump which tapers to the tail, lacking the 'lumpiness' associated with the large *Apus* swifts. The structural differences are further enhanced by the frantic high-speed flight on shimmering wing-beats, with all the aerial skills of the large species exhibited but at greater speed.

Separation of Plain from Pallid is more straightforward and in many ways similar to separating Common from Pallid. The underparts of Plain are, by virtue of the feather-markings, closer to those of Pallid than Common; however, the large pale grey-white throat-patch of Pallid, although variable in size, probably never overlaps with that of Plain and is always more striking. In Pallid, the pale grey lores and forehead contrast more with the crown and eye-patch than in Plain. The saddle of Plain is more akin to that of Common and, therefore, it lacks the pale-headed appearance and the contrasting lower back and rump of Pallid. The upperwing of Plain is very similar to that of Common and, thus, there is greater uniformity between the inner wing and outer wing than in Pallid. The general coloration of Plain is darker than in Pallid. The structural differences are more marked between Plain and Pallid than between Plain and Common. The body of Pallid is bulkier (especially at the rump), the tail is less forked and shorter and the wings are broader and blunter. The flight of Pallid is slightly slower and more deliberate than in Common and is, therefore, even further removed from Plain.

The separation from Alexander's is dealt with under that species.

Alexander's Swift

Size and shape

Distinctly smaller (c 10%) than Plain and shorter-winged, with shallowest tail-fork of *Apus* swifts. Compact shape, combined with weak fluttering flight, leads to distinct appearance. P9 longest. For measurements, see table 1.



64 Alexander's Swift / Kaapverdische Gierzwaluw *Apus alexandri*, Fogo, Cape Verde Islands, March 1986 (René Pop)

Adult plumage

HEAD Indistinct broad throat-patch, very pale grey-brown or pale grey-white. Whole throat pale, becoming progressively darker towards pale grey-brown breast from whitest area on chin. Forehead and lore grey-brown and lightly paler-fringed, becoming darker towards dark grey-brown crown. Ear-coverts and side of neck slightly paler than nape. Side of throat and feathers around gape becoming darker away from throat. Head-feathers lightly paler-fringed when fresh.

BODY Underparts progressively darker away from throat, darkest grey-brown on belly; undertail-coverts slightly paler. Feathers grey-brown with slightly darker subterminal crescent; when worn, paler fringes abrade and grey bases become visible. Dark grey-brown saddle extends onto lower back and contrasts with grey-brown rump and uppertail-coverts. Feathers of upperparts more narrowly paler-fringed and grey bases less visible when worn.

WING As in Plain though somewhat paler, especially on inner wing.

TAIL Grey-brown, no clear contrast with coverts.

BODY-WING CONTRAST Lesser wing-coverts uniform with saddle, other wing-coverts and tertials slightly paler. In underwing, darkest wing-coverts fairly uniform with underparts; rest of wing paler.

Juvenile plumage

Similar to fresh adult plumage. Inner primaries and secondaries narrowly white-tipped.

Identification

Alexander's is very similar to Plain. It differs in its less black plumage, especially on the inner wing, the pale grey-brown rump (ie, the saddle is more prominent) and pale grey-brown underparts with their lighter feather-markings. The throat-patch,



PLATE 3 Plain Swifts / Eilandgierzwaluwen *Apus unicolor* (upper) and Alexander's Swifts / Kaapverdiche Gierzwaluwen *Apus alexandri* (lower); adults depicted from below, juveniles from above (Gerald Driessens)

as in Plain, is indistinct but is larger and paler greyish-white or very pale grey-brown as opposed to typical grey-brown. A worn Plain at the pale and large-throat-patched extreme would be very hard to separate from Alexander's on throat-patch alone. The general paleness of the underparts (darkest grey-brown on the belly as opposed to the whole of the underparts, being dark grey-brown or even black-brown) is perhaps the most important plumage feature on such an individual.

Alexander's is the smallest of the 'uniform' *Apus* swifts; it is c 10% smaller than Plain, with a considerably shallower tail-fork and a shorter wing and tail. This, combined with a weaker more fluttering flight, leads to a distinctive jizz. The shorter-winged appearance makes the species look bulkier-bodied and perhaps slightly larger-headed and less streamlined.

Common and Pallid are both considerably larger (c 25%) and longer-winged and more powerful in their flight than Alexander's. Separation from Common is similar as from Plain, with the body appearing considerably darker but the throat-patch would appear whiter and more distinct in all but the most worn examples. Pallid would appear more distinctly pale-throated and more extensively pale-foreheaded than Alexander's, with more contrast in the wing and on the saddle. The breast of Pallid is darker than that of Alexander's.

Fork-tailed, Little and White-rumped Swifts

These species are characterized by a white rump, a contrasting white throat-patch and a predominantly black plumage. Fork-tailed, although more closely related to Common in taxonomical terms, is included here only by virtue of having a white rump.

Fork-tailed is a vagrant from the Eastern Palearctic. It has been recorded only twice. On 19 June 1981, an exhausted bird was found on a gas-platform on the Leman Bank at 53:06 N, 02:12 E in the North Sea, c 45 km off Happisburgh, Norfolk, Britain; it was picked up and released at Beccles Heliport, Suffolk (Parker 1990). On 30 May 1993, a bird was seen and photographed at Cley, Norfolk, Britain.

Little is a breeding species, with localized populations in the Middle East and north-western Africa. These populations are largely resident. It is a vagrant away from the breeding areas: 1 Britain and Ireland (11 in May–November); 2 Malta (eight); 3 Spain (five); 4 Sweden (four in June–October); and 5 Italy (two) (Lewington et al

1991, Rogers & Rarities Committee 1992). There has been a large number of unpublished reports from southern Spain in recent years but, although this region is close to the Moroccan breeding area, some caution must be exercised because of the risk of confusion with White-rumped which breeds in the region.

White-rumped is a summer migrant and breeding species, with localized populations in southern Spain and Morocco (High Atlas). It seems likely that the species has been largely overlooked in southern Spain. It is regularly seen outside its previous stronghold, close to Tarifa, Cadiz, and has been reported as far east as Almería, Almería (Cramp 1985), and as far north as Montefrague NP, Cáceres (several observers). It is an extreme rarity away from southern Spain and Morocco: 1 Kestilä, near Oulu, Finland, 18 November 1968 (sick bird); 2 Malta, 25 May 1975; 3 Jomfruland, Telemark, Norway, 18 May 1984; and 4 Eftang, Larvik, Norway, 15 June 1986 (two birds) (Lewington et al 1991).

Fork-tailed Swift

Size and shape

Largest *Apus* swift. Slightly longer-winged than Common, wing more rakish though similar in shape. Tail-fork deeper. Tail heavy when open (outer tail broader than in other fork-tailed swifts); when tail tightly closed, fork can be indistinct or missing. Tail is parallel-edged and lacks slight 'lumpiness' of Pallid and Common where tail joins body (when opened or closed). When closed, it resembles that of White-rumped but tightly closed tail is not held as long (ie, tail is more frequently flexed) and is broader and not so 'spike-like'. Generally, larger- and longer-tailed than Common. Head larger and more protruding than in Common. Body shape as in Common. P9 longest. For measurements, see table 2.

Adult plumage (*A p pacificus*)

HEAD Large broad white triangular throat-patch does not contrast strongly with underparts, especially when worn when it is greyer and mottled. Upperhead black-brown, feathers white-fringed, most extensively on forehead and lore and in line over eye, less so on darker crown. Black eye-patch. Lightly white-fringed black-brown ear-coverts and side of neck somewhat paler than crown.

BODY Heavily marked feathers of underparts black with broad white fringe, giving marked scaly appearance; when worn, some pale feather-bases become visible, giving underparts mottled appearance. Black saddle very lightly pale-fringed, extending onto lower back. White of rump also extends slightly onto rear flank and, in front of rump, gives U shape. Uppertail-coverts black, only pale-fringed immediately below rump.



65 Fork-tailed Swift / Aziatische Gierzwaluw *Apus pacificus*, Cley, Norfolk, Britain, 30 May 1993 (Rob Wilson)

UPPERWING Very dark. Outer primaries, alula, outer greater primary coverts, median primary coverts, median coverts and lesser coverts black, with remainder of wing black-brown. Inner web and tip of remiges palest. Contrast in wing increases when worn. Secondaries lightly paler-fringed. No marked paler fringes to coverts.

UNDERWING Remiges somewhat paler; they can be translucent in strong light. Greater primary coverts and greater coverts slightly darker than remiges though paler than browner median coverts and, in turn, blacker lesser coverts. All coverts extensively white-fringed, with greater coverts somewhat darker subterminally. Axillaries uniform with lesser coverts.

TAIL Black, uniform with uppertail-coverts. Slightly paler below.

FIGURE 7 Fork-tailed Swift / Siberische Gierzwaluw *Apus pacificus* (far right) and Common Swifts / Gierzwaluwen *A. apus*, including juvenile (upper left) and partially albino bird (lower left). Note difference in shape of opened tail and more rakish appearance of wings of Fork-tailed (Gerald Driessens)

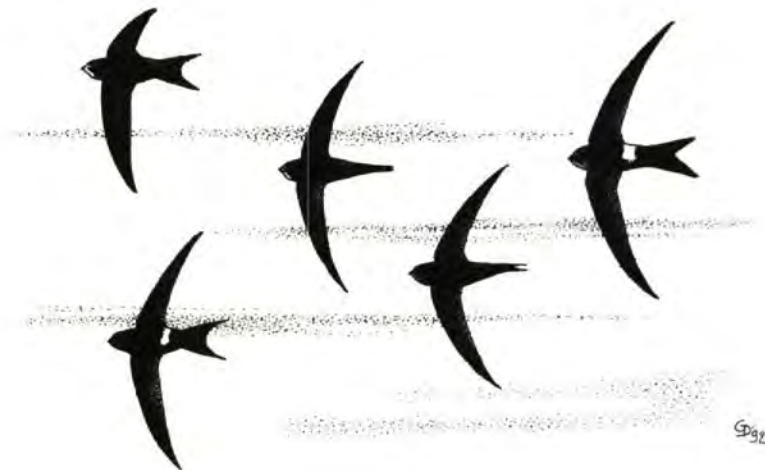


TABLE 2 Measurements (mm) of Fork-tailed *Apus pacificus*, Little *A. affinis* and White-rumped Swifts *A. caffer* (from Cramp 1985)

	wing	tail	tail-fork
Fork-tailed	173-186	75-88	29-40
Little	133-141	39-43	
White-rumped	135-145	66-75	27-36

Measurements of juveniles on average 2-3 mm less.

Juvenile plumage

Similar to fresh adult plumage. Secondaries and inner primaries narrowly white-tipped.

Subspecies

Both records probably concerned *A. p. pacificus* (cf Cramp 1985). The three other subspecies are known from southern Asia; these tend to be darker than *A. p. pacificus*.

Little Swift

Size and shape

Distinctive silhouette. This is largely due to diagnostic shape of tail, which is short, ample (often broader than body) and square-ended when closed, rounded when spread. Caution must be exercised, however, as tail not always square-ended. Many individuals show slight cleft or gap in centre. Wing width less than tail length and wing blunter-tipped than in White-rumped. P9 on average slightly longer than p10. Fairly rounded body, evenly full from head to body until point after wings from where it tapers to tail. Whole appearance compact and chunky. For measurements, see table 2.

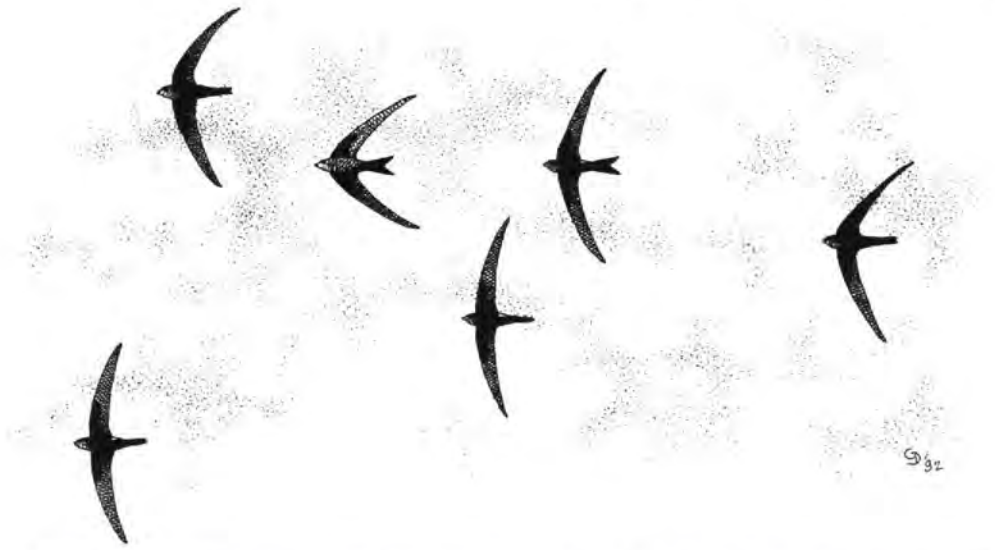


FIGURE 8 Flock of distant Fork-tailed Swifts / Siberische Gierzwaluwen *Apus pacificus* with paler feather-fringing on underparts obscured in all but one. Note variation in tail shape (Gerald Driessens)

Adult plumage (*A a galilejensis*)

HEAD Large white rounded throat-patch, extending to gape and beyond eye onto lower throat. Forehead, lore and line over eye pale grey (lore often slightly darker), darkening to grey-brown on crown and black-brown on nape. Black eye-patch. Ear-coverts grey-brown, darkening to nape and side of neck. Worn individuals show indistinct mottled grey throat-patch (this is particularly prevalent in first-winter and first-summer birds).

BODY Underparts deep black-brown, somewhat paler on edge of throat; some grey-white feather-fringes when fresh; paler grey feather-bases become visible when worn. Undertail-coverts pale grey, especially outer ones. Glossy black-blue saddle extends onto lower back, less black just above rump. Saddle-feathers deep black at tip with paler grey base, only visible when worn. Broad white rump-band extends onto rear flank, giving wrapped-around impression (ensuring that some white can be seen at any angle). Uppertail-coverts grey-brown, paler than saddle, with outer web of outer coverts palest.

UPPERWING Remiges dark grey-brown, with blacker outer web; outer primaries slightly darker (less contrast than in large *Apus* swifts). Secondaries paler-tipped. Greater primary coverts and greater coverts uniform with or somewhat darker than remiges and pale-fringed. Other coverts darker, becoming progressively darker towards leading edge. Leading edge-coverts broadly white-fringed.

UNDERWING Remiges, paler greyer than in upperwing, translucent in strong light. Greater primary coverts and greater coverts slightly darker than or uniform with remiges and white-fringed and somewhat darker sub-terminally, with other coverts becoming darker towards

leading edge. Axillaries blue-black.

TAIL Pale grey, slightly darker in centre. When spread, translucent, with outer tail contrasting with central tail and body.

BODY-WING CONTRAST In upperwing, median and lesser wing-coverts fairly uniform with saddle, rest of wing somewhat paler. In underwing, darkest wing-coverts fully uniform with body, remainder of wing clearly paler.

Juvenile plumage

Less glossy than adult plumage. Feathers slightly paler-fringed, as in fresh adult plumage, but more extensively on wing-coverts.

Subspecies and main confusion species

Two subspecies breed in the Western Palearctic: *A a galilejensis* from northern Africa and the Middle East and the slightly blacker *A a aerobates* from the Banc d'Arguin, Mauritania (this subspecies is also found throughout western and central Africa). Three other African subspecies are recognized, including *A a affinis*, which is also found in western India. A further subspecies, *A a singalensis*, is found in southern India and Sri Lanka. *A a galilejensis* is the palest subspecies.

Further east, a closely related species (sometimes considered conspecific), House Swift *A nipalensis*, occurs. It is largely resident in its range that stretches from Nepal in the west, to Taiwan in the east and to Indonesia in the south. Four subspecies are recognized: *A n furcatus* in Indonesia (Java and presumably Bali); *A n kuntzi*



PLATE 4 Fork-tailed Swifts / Siberische Gierzwaluwen *A pacificus*; adult depicted from below, juvenile from above (Gerald Driessens)

on Taiwan; *A n nipalensis* from Nepal to eastern China (Jiangsu), south through India (Assam) and south-eastern Asia to the northern Malay peninsula (including Tenasserim in Burma); and *A n subfurcatus* on the southern Malay peninsula (south of Tenasserim) and in Indonesia (Borneo and apparently Sumatra) (Brooke 1971). *A n nipalensis* and *A n subfurcatus*, with their larger ranges, are treated here.

Both *A n nipalensis* and *A n subfurcatus* have a blacker plumage than *A a affinis* or *A a galilejensis*. *A n subfurcatus* is particularly dark, with the upperside from hindcrown to uppertail-coverts being black and without contrast, except for the white rump which tends to be narrower.

The forehead and forecrown are browner and slightly though clearly paler. On the underside (below the throat-patch), *A n subfurcatus* is uniformly black. *A n nipalensis* is closer to *A a affinis* but differs on the upperside in that its forehead and uppertail-coverts are all darker (but not uniform with the mantle as in *A n subfurcatus*). As in *A n subfurcatus*, the rump tends to be narrower. The undertail-coverts are also darker than in *A a affinis* but not uniform with the rest of the underside. Both *A n nipalensis* and *A n subfurcatus* are blacker in the wing (especially *A n subfurcatus*), with less feather-fringing than in Little, and have more uniform outer uppertail-coverts (outer webs less obviously paler). In some fresh

A n subfurcatus, the very narrow pale tips to the secondaries stand out more against the blacker secondaries than in Little. The feather-fringing on the underparts of House is often claimed to be more extensive than on those of Little. This is greatly affected by wear and is very hard to see in the field (it is only apparent in skinned specimens).

The structure of both Little and House is similar but the latter is slightly larger and has a longer tail; the shallow fork is clearly visible in the field. The tail-fork is 5-8 mm in all subspecies except *A n furcatus* in which it is 8-13.5 mm.

White-rumped Swift

Size and shape

Long narrow wing pointed, p9 longer than p10. Long deep-forked tail considerably longer than width of wing. When tail held closed (which White-rumped does over long periods), it looks as long thin spike, much the narrowest of closed tails in *Apus* swifts. Tip to outer rectrix pointed. Juvenile has shallower tail-fork and more rounded tip to outer rectrices. Head shape unremarkable but body narrow and tapering from breast to tail, with little distinction from body to tail. For measurements, see table 2.

Adult plumage (southern Spanish population)

HEAD Broad white throat-patch, contrasting with black underparts. When worn, throat-patch can show darker shaft-streaking. Forehead and line over eye pale grey-brown; lore usually darker, uniform with feathers around gape. Black eye-patch. Forecrown and ear-coverts grey-brown, becoming progressively darker towards nape and side of neck. When worn, head becomes paler, contrasting more with saddle. When fresh, some feather-fringing across head.

BODY Saddle uniformly blue-black, feathers of lower back immediately above rump-band slightly paler. Narrow but striking white rump-band, extending slightly onto rear flank and wing, giving U shape. White visible from side but not from directly below. When worn, some darker streaks can be seen in rump. Lower rump somewhat paler than blue-black uppertail-coverts. Underparts and undertail-coverts uniformly blue-black, with very narrow paler feather-fringes when fresh. When worn, grey-brown feather-bases become visible.

UPPERWING Remiges black-brown (inner web paler), with outer primaries slightly darker though less so than in large *Apus* swifts. Narrow white tips to secondaries and often some inner primaries showing as white trailing edge though this is prone to wear. Greater primary coverts and greater coverts uniform with or somewhat darker than remiges, with smaller coverts becoming progressively blue-black towards leading edge. Leading edge-coverts narrowly white-tipped.

UNDERWING Remiges, paler grey than in upperwing, sometimes translucent in strong light. Greater primary coverts and greater coverts uniform with or slightly



66 Little Swift / Huisgierzwaluw *Apus affinis*, Malindi, Kenya, December 1984 (*Jef de Ridder*)

darker than remiges and white-tipped, with somewhat darker subterminal crescents. Smaller coverts increasingly darker towards leading edge, with median primary coverts and median coverts white-tipped.

TAIL Black-brown. Little contrast with uppertail-coverts, more so with undertail-coverts.

BODY-WING CONTRAST Median and lesser wing-coverts uniform with upperparts and underparts, remiges and greater wing-coverts paler. Darkest underwing-coverts often paler than blue-black underparts, remainder of underwing obviously paler.

Juvenile plumage

Very similar to fresh adult plumage. White trailing edge to wing more prominent; narrow white fringes to greater wing-coverts and median wing-coverts soon lost through abrasion. Plumage tone less blue.

Subspecies

Two subspecies are recognized: *A c calfer*, which occupies the southern part of the species' breeding range north to the Zambesi, and *A c streubelii*, which is found in the northern part of the breeding range. The differences are size-based. The subspecific status of the Spanish and Moroccan populations is unknown (cf Cramp 1985) but they probably belong to *A c streubelii*.

TABLE 3 Measurements (mm) of *Apus nipalensis nipalensis* and *A n subfurcatus* (from Brooke 1971)

	wing	tail
<i>A n nipalensis</i>	134-142	48-55
<i>A n subfurcatus</i>	130-140	47-55



67 White-rumped Swift / Kaffergierzwaluw *Apus caffer*, Tsavo NP, Kenya, December 1983 (Chris Steeman)

Identification of Fork-tailed, Little and White-rumped Swifts

The structure is important in the identification of these species. Little, with its distinctive tail, can be distinguished with ease. However, it should be borne in mind that the tail-end can be uneven and often has a very slight cleft. White-rumped can frequently be observed for long periods without any sign of a tail-fork but the tail will appear as a long, fine and thin spike and not as the broad ample tail of Little. White-rumped, although clearly smaller, has the appearance of a slim, narrow-winged and long- and narrow-tailed Common. Little has a more compact and bulky appearance and, although the tail looks longer than the width of the wing, it is still shorter than in White-rumped. The tail of Little often appears wider than the body. When spread, the tail of White-rumped is deep-forked and the outer rectrices look fine and pointed.

Fork-tailed has a different appearance. It is clearly a large *Apus* swift. It is slightly longer-winged than Common and, although having a slightly more rakish appearance than Common, is much bulkier than White-rumped and much longer-winged and -tailed than Little. The tail is much heavier than in White-rumped (indeed, the outer tail is clearly heavier than in any of the other fork-tailed *Apus* swifts dealt with in this article) and is deeply forked when open. When

the tail is closed, its shape is closer to that of White-rumped but it is broader, never 'spike-like' and some fork is usually still apparent (when the tail is tightly closed, however, the fork can be indistinct or missing). White-rumped tends to hold its tail closed over longer periods of time without a hint of a fork; Fork-tailed flexes its tail more often and the closed shape is more transient. Fork-tailed is different in plumage from the two smaller species. The heavy white fringing to the body-feathers (particularly those of the underbody) and the underwing-coverts make this the heaviest-marked of the *Apus* swifts and quite unlike the uniformly black-bodied smaller species. When the body is seen with bright sunlight across, it can appear quite grey. The shape of the rump-patch is very similar to that of White-rumped but slightly broader. The wing of Fork-tailed is closer to that of Common than of Little or White-rumped (but blacker than in any of these species), with the outer wing more uniform through the lesser wing-coverts and onto the outer primaries. Confusion is, therefore, most likely with a partially albinistic Common showing a narrow white rump. Particular attention needs to be paid, therefore, to the feather-fringing on the body and underwing-coverts. Juvenile Common is not as heavily feather-fringed. However, the broad white feather-fringing in the wing of Fork-tailed is restricted to the underwing-coverts, unlike in juvenile Common. Partially albinistic Commons also often show additional areas of white. Structural differences with Common, especially at the tail, should be examined.

Little and White-rumped are much more similar. They differ in the rump shape, deeper in Little and extending much further onto the rear flank, to the extent that, even when a Little is directly overhead, some white can be seen. The rump of White-rumped, although narrower and less expansive onto the rear flank, is still striking. The appearance is enhanced by the black upper-tail-coverts and dark tail which do not contrast with the saddle. In Little, the uppertail-coverts and particularly the tail can appear greyer than the black saddle. Indeed, from below in good light, the grey tail looks pale and often quite translucent when spread, contrasting with the darker body and central tail. The head pattern of both species is very similar but darker in White-rumped, with a more striking throat-patch because of the darker feathers around it. Little often shows considerable contrast between the head and saddle, more so than in White-rumped. The



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PLATE 5 Little Swifts / Huisgierzwaluwen *Apus affinis* (upper) and White-rumped Swifts / Kaffergierzwaluwen *Apus caffer* (lower); adults depicted from below, juveniles from above (Gerald Driessens)

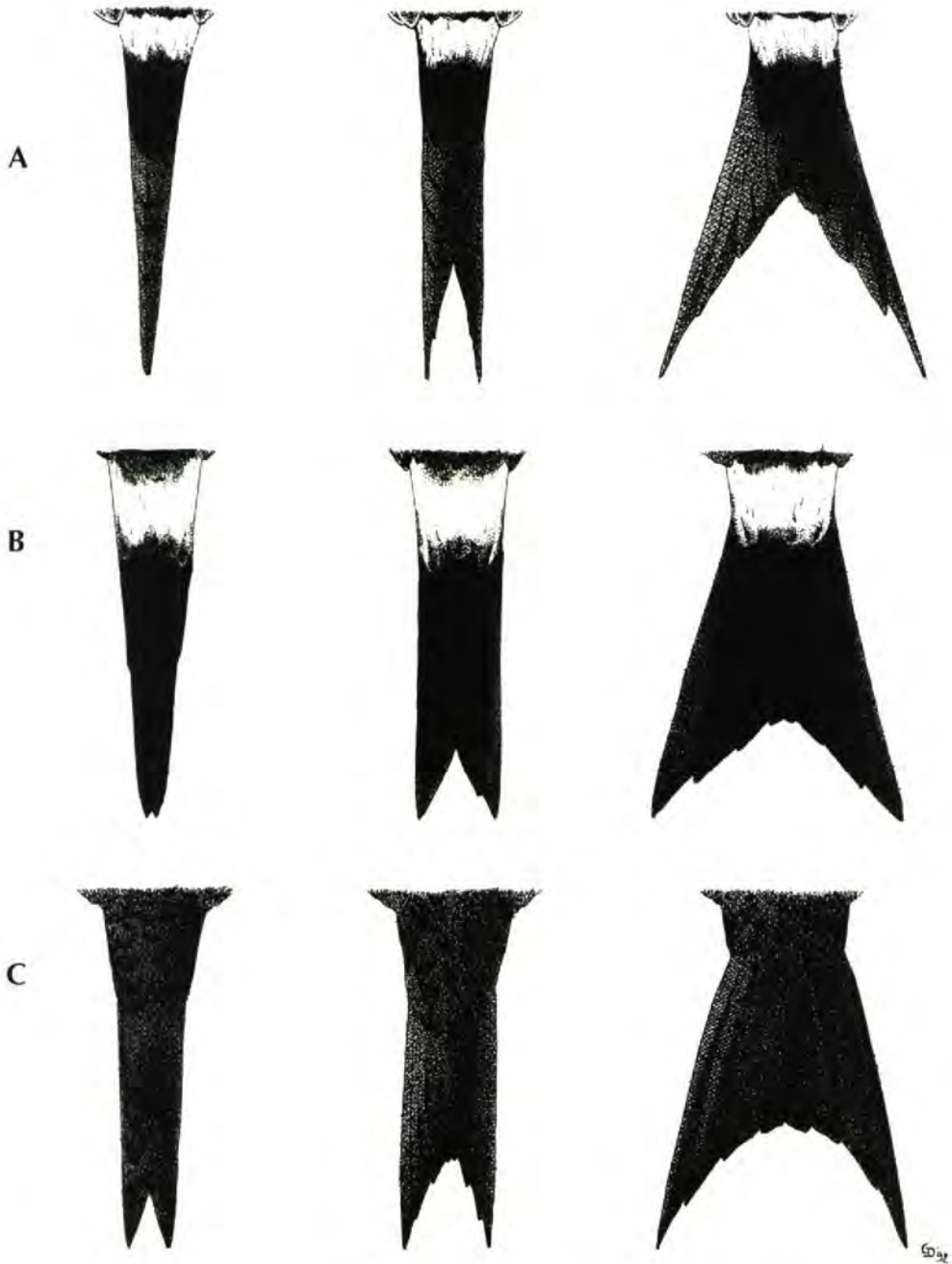


FIGURE 9 Upperside of tail in different postures of White-rumped Swift / Kaffergierzwaluw *Apus caffer* (A) and Fork-tailed Swift / Siberische Gierzwaluw *A pacificus* (B), with Common Swift / Gierzwaluw *A apus* (C) for comparison. Note very narrow tail in White-rumped (especially pointed tip to outer rectrices) and heavy one in Fork-tailed (broad outer tail) (Gerald Driessens)



FIGURE 10 Little Swift / Huisgierzwaluw *Apus affinis* of western subspecies *Apus a galilejensis* (left) and House Swift / Aziatische Huisgierzwaluw *A nipalensis* of western subspecies *A n nipalensis*. Note House's blacker plumage (especially head and uppertail-coverts), narrower rump-band and longer more forked tail (Gerald Driessens)



FIGURE 11 Flock of four Little Swifts / Huisgierzwaluwen *Apus affinis* with two White-rumped Swifts / Kalfgierzwaluwen *A caffer* (upper two). Note differences in wing and tail shapes and translucency in outer tail of Little (Gerald Driessens)

underbody of both species is very similar although darker in White-rumped. The undertail-coverts of Little, particularly the outer ones, can appear paler grey than the uniformly black body.

The body of White-rumped is uniformly black. A fresh White-rumped shows a white trailing edge to the secondaries, often extending onto the inner primaries. Otherwise, the wing pattern is

very similar though Little shows a greater tendency towards feather-fringing than White-rumped.

Non-*Apus* swifts

Alpine is a summer migrant and breeding species. It breeds throughout southern Europe, the Mediterranean and Asia Minor. It is a regular vagrant north of its breeding range as far as Fennoscandia; it is annual in Britain where there were 297 records between 1958 and 1991 (Rogers & Rarities Committee 1992). In Britain, records occur in both spring and autumn (March to November), with most records in the spring (especially early May to early June) but still a significant number of records in the autumn (particularly late September) (Dymond et al 1989).

Chimney is a vagrant from the Nearctic. It has only been recorded in Britain, on four occasions and involving five birds: 1 Porthgwarra, Cornwall, 21-27 October 1984 (two birds); 2 St Mary's and St Martin's, Scilly, 4-9 November 1986; 3 Grampond, Cornwall, 18 October 1987; and 4 St Andrews, Fife, 8-10 November 1991 (Williams 1986, Dymond et al 1989).

White-throated is a vagrant from the Eastern Palearctic. It has occurred with increasing regularity in recent years. There are 15 records: 1 Britain and Ireland (11 in May-July); 2 Finland (May 1933 and April 1990); 3 Malta (November 1971); and 4 Norway (May 1968) (Lewington et al 1991, Rogers & Rarities Committee 1992).

African Palm is a vagrant from the Afrotropics, breeding north up to Wadi Halfa, Sudan, just south of the Egyptian border. It has not been recorded since October 1928 when 'a few birds' were seen at Abu Simbil, Egypt. Formerly, it may have been a resident in southern Egypt. Potential breeding habitat disappeared with the filling of Lake Nasser in the mid-1960s (Goodman & Meininger 1989).

Identification of these species is straightforward; the main confusion species outside the Western Palearctic are, however, discussed.

Moult

The moult of Alpine involves a complete moult to winter plumage, starting with the replacement of p1 (the primaries moult descendantly) in June-July and is completed in the winter quarters (probably in December-February). The primary moult is known to be suspended during migration in at least some individuals though others continue the moult during migration (Stresemann & Stresemann 1966). Non-breeding and first-

summer birds begin the primary moult in May. The body moult can start before p1 starts and is also completed in the winter quarters. The post-juvenile moult to first-winter plumage involves the moult of the body-feathers, rectrices and some wing-coverts in the winter quarters and the replacement of the primaries during the first summer.

The moult of White-throated has not been studied in detail and our knowledge of the subject is, therefore, incomplete. It has a complete moult to winter plumage that in most individuals is probably begun and finished in the winter quarters. Some individuals that start moulting in the summer quarters are probably non-breeding birds. It is thought that these individuals suspend the moult during migration until the winter quarters are reached. The post-juvenile moult to first-winter plumage begins in the winter quarters with the body-feathers, rectrices, tertials and some wing-coverts completed by the spring. The worn remiges are replaced in the first summer although moult suspension for migration does occur, in which case moult will be finished in the winter quarters. The adult moult cycle is then entered.

The moult in Chimney and African Palm has been little studied.

Alpine Swift

Size and shape

Largest fork-tailed swift, appearing considerably bigger than Common or Pallid. Powerful shape, bulky body compared with that of smaller species. Broad-winged and slightly shorter-tailed than Common. Tail-fork shallower than in other Western Palearctic fork-tailed swifts (same as in Alexander's). Juvenile has more rounded tip to outer rectrix. In brief views, it can recall Hobby *Falco subbuteo*. For measurements, see table 4.

Flight

Deep powerful wing-beats, slower than in smaller species. Capable, however, of high speeds, faster than accompanying Commons. Like all swifts, capable of full range of aerial manoeuvres but needs more space to perform these.

Calls

Chattering trill quite unlike that of Common, recalling that of canary *Serinus*, *trit-it-it-ititit-it-it-it*, accelerating then decelerating. Other calls may be heard, especially in breeding season.

Adult plumage (*T m melba*)

HEAD Broad white throat-patch, extending to gape at eye and down to lower throat where bordered by mid-brown chest-band. Throat-patch often ill-defined, dark



FIGURE 12 Flock of Alpine Swifts / Alpengierzwaluwen *Tachymarpis melba* with obscured throat-patches and one Common Swift / Gierzwaluw *Apus apus* (Gerald Driessens)

shaft-streaks most apparent when worn. Pale grey-brown forehead, contrasting slightly with black eye-patch, darkening to mid-brown crown and side of head and neck and feathers around gape and lore. When fresh, all feathers narrowly white-fringed.

BODY Broad mid-brown chest-band (below white throat-patch) slightly narrows at centre, feathers white-fringed when fresh. Whole lower breast and belly white. Vent, undertail-coverts and narrow line of flank-feathers mid-brown, contrasting with white of lower breast and belly. Shape of this body-patch varies somewhat: usually square-cut just before vent but, in some rarer instances, more pointed. When fresh, these feathers have white fringe, narrow dark brown sub-terminal crescent and pale grey base (latter particularly apparent on vent and undertail-coverts). Feather-fringes abraded when worn. Nape and saddle uniform with mid-brown crown; rump and uppertail-coverts slightly

paler greyer-brown. All feathers white-fringed with narrow dark brown subterminal crescent. Feather-fringes abraded when worn and pattern most distinct on rump and uppertail-coverts.

UPPERWING All remiges black-brown in outer web and tip, inner remiges grey-brown. Outer primaries darkest. Outer web of p10 and inner web and tip to secondaries and inner primaries narrowly white-fringed when fresh. Primary coverts as primaries, greater coverts and median coverts somewhat paler than secondaries and dark grey-brown lesser coverts. Leading edge-coverts black-brown and broadly white-fringed.

UNDERWING Remiges paler (grey-brown) than in upperwing, contrasting slightly with darker greater coverts. Greater primary coverts and greater coverts fairly uniform with remiges, median coverts and lesser coverts clearly darker, uniform with axillaries and flank. All coverts white-fringed, somewhat darker sub-terminally.

TAIL Olive-brown, feathers narrowly fringed off-white.
BODY-WING CONTRAST Outer primaries darkest areas of upperside, with upperwing-coverts and tertials fairly uniform with adjoining parts of body. Underwing obviously darker than underparts.

Juvenile plumage

Similar to fresh adult plumage. Feathers extensively white-fringed, more pronounced on wing-coverts. Upperparts appear slightly paler.

Subspecies

Two subspecies are recognized: *T m melba* from southern Europe eastwards to north-western Iran and *T m tuneti* from northern Africa eastwards to southern Iran and western Pakistan. *T m tuneti* is

TABLE 4 Measurements (mm) of Alpine Swift *Tachymarpis melba*, Chimney Swift *Chaetura pelagica*, White-throated Needletail *Hirundapus caudacutus* and African Palm Swift *Cypsiurus parvus* (from Godfrey 1966, Cramp 1985)

	wing	tail	tail-fork
Alpine	214-240	75-94	18-28
Chimney	124-132	41-44	-
White-throated	195-218	47-55	-
African Palm	128-136	87-96	54-63

Measurements of juveniles on average very slightly less (except in White-throated in which juveniles same or very slightly larger on average).



68 Alpine Swift / Alpengierzwaluw *Tachymarptis melba*, Turkey, May 1989 (Killian Mullarney)



69 Alpine Swift / Alpengierzwaluw *Tachymarptis melba*, Trujillo, Cáceres, Spain, July 1983 (René Pop)

slightly paler than *T m melba* but overlap occurs and somewhat intermediate individuals have been recorded. Five more subspecies occur in Africa and Madagascar and three on the Indian subcontinent (cf Cramp 1985).

Identification

Alpine can look much larger than Common. This is because of the broad long wings and bulky body. Brief glimpses may cause confusion with small falcons, especially Hobby. This similarity is heightened by the powerful flight (with its deeper wing-beats compared with those of the *Apus* swifts) which, though appearing slower, can be remarkably fast.

A good view of the underparts with the large white lower breast and belly-patch, below a broad brown chest-band, render identification straightforward. The white throat-patch can be hard to discern, particularly in worn individuals, but this should not be taken as a preclusive point for the identification of Alpine.

The upperparts are distinctly paler than those of *Apus* swifts with the exclusion of Pallid. This is especially apparent on the rump. Alpine shows a very slight saddle but this is less distinct than in Pallid.

The greatest identification pitfall in identifying Alpine is the possibility of a partially albinistic Common or Pallid. Many partially albinistic birds have been recorded showing a white belly-patch. The first thing to check upon encountering such a potential problem is whether the white is restricted to the areas where it should occur (in

this case the throat and the lower breast and belly) and that it is symmetrical. Providing the light conditions are reasonable (Alpine can look quite dark in poor light), a partially albinistic Common would look considerably darker on the upperparts. Most importantly, however, size and structural differences should be striking. Both Common and Pallid would appear smaller and more rakish (narrower more pointed wings and longer deeper-forked tail), with a less powerful flight.

Chimney Swift

Size and shape

Small but bulky swift ('cigar with wings'), most comparable to Little in *Apus* swifts. Wing shape distinctive, with secondaries clearly narrower than inner primaries (slight bulge occurs where they meet). Primaries bulge, with inner ones appearing full, then cut in again before longest ones which appear rather 'hooked' in consequence. This rather uneven wing shape can be seen in moulting *Apus* swifts. Body rather fat and rounded compared with that of *Apus* swifts; head protrudes further forward than in any *Apus* swift, ie, proportions of body in front of and behind wings are more equal than in *Apus* swifts. Appearance more akin to Old World *Hirundapus* (needletails) and *Telacanthura* (spinetails) than *Apus* swifts. Rather short tail (shorter than in Little) evenly rounded when fully spread but narrower than adjoining body when tightly closed; typically, rather square-ended. As in *Hirundapus* and *Telacanthura* swifts, shaft of each rectrix extends beyond feather-webs, clearly forming row of tiny spines. These are visible in the field under exceptional circumstances. For measurements, see table 4.



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PLATE 6 Alpine Swifts / Alpengierzwaluwen *Tachymartia melba* (upper) and Chimney Swifts / Schoorsteengierzwaluwen *Chaetura pelagica* (lower); adults depicted from below, juveniles from above; the two species are not to scale (Gerald Driessens)



70 Chimney Swift / Schoorsteengierzwaluw *Chaetura pelagica*, Cape May, New Jersey, USA, August 1990 (Philip Chantler)

Flight

Greater tendency than most species to fly with wings bowed in narrow downward arch. Flight more 'bat-like' than other species.

Calls

Very different from screaming calls of *Apus* swifts. Soft (though clear) high-pitched insect-like sequence of chirping notes which accelerates and decelerates. Used mainly in breeding season though migrants can also be heard at times.

Adult plumage

HEAD Forehead, lore, crown and ear-coverts dark grey-brown. Pale grey feather-fringes on head, especially on forehead and in narrow line over eye (these are reduced when worn). Black eye-patch of bristle-like feathers similar in size and shape to that in *Apus* swifts. Ear-coverts become paler towards throat. Throat pale or mid-grey, with some darker grey mottling when worn (darker feather-bases showing). Head rather dark-capped.

BODY Dark grey-brown saddle uniform with nape and crown. Lower back, rump and uppertail-coverts slightly paler grey-brown, showing variable contrast with saddle. Lower throat and chest usually very similar to tone of upper throat though becoming steadily darker towards lower breast where it becomes dark grey-brown (very similar to tone of saddle) through to undertail-coverts.

UPPERWING Wing more uniform than in *Apus* swifts. Primaries black-brown with paler inner web, outer ones marginally darker (though less so than in *Apus* swifts). Secondaries slightly browner than primaries. Greater primary coverts and greater coverts uniform with corresponding remiges, median primary coverts and median coverts somewhat blacker. Alula and less-

er coverts black-brown. Leading edge-coverts grey-brown with slightly paler fringing. Grey-brown tertials (especially inner web) palest feathers in wing. Inner web of remiges broadly grey-brown-fringed.

UNDERWING Remiges paler than from above but still uniform with corresponding greater coverts. More contrast than in upperwing, with grey-brown axillaries, median coverts and lesser coverts clearly darker than remiges and greater coverts. Greater coverts darker towards tip. Some indistinct fringing to coverts, probably not visible in the field.

TAIL Dark grey-brown, little shows beyond tail-coverts, except when tail spread. Little or no contrast between tail and tail-coverts.

BODY-WING CONTRAST Upperwing can be darker than upperparts, especially between secondaries and rump, with median coverts and lesser coverts more uniform with saddle. Darker underwing-coverts darker than adjoining underparts.

Juvenile plumage

Closely similar to fresh adult plumage but with distinct but narrow white tip to inner primaries, secondaries and tertials.

Subspecies and main confusion species

Chimney is a monotypic species. It has in the past been considered conspecific with Vaux's Swift *C. vauxi* and Chapman's Swift *C. chapmani*.

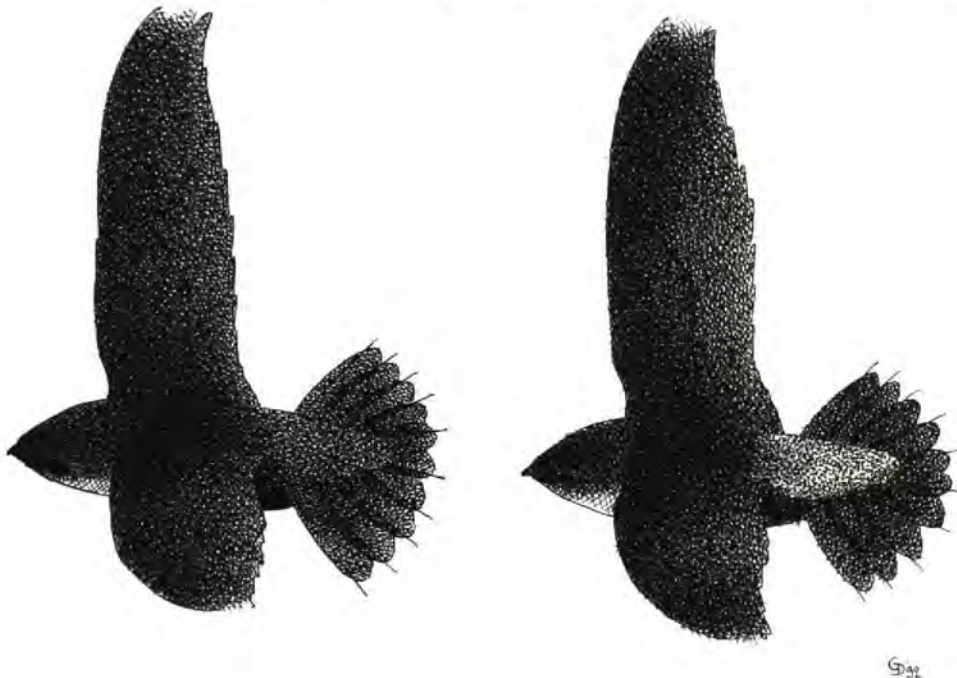
Vaux's is the western North American counterpart of Chimney and, although perhaps an unlikely candidate for transatlantic vagrancy, it is casual on the Gulf coast from Louisiana to Florida (National Geographic Society 1987). Chapman's has a more southerly distribution, occurring no closer to the Western Palearctic than Trinidad and is, therefore, highly unlikely to occur in the Western Palearctic.

Vaux's is slightly smaller than Chimney (wing 105-117 mm, tail 35-38 mm; Godfrey 1966) but very similar in plumage. It differs primarily in the darkness of the throat and underparts. The throat-patch is off-white as opposed to the pale or mid-grey throat-patch of Chimney. This off-white throat-patch (palest on the throat and chest) is fairly uniform to the belly (slightly darker across the lower breast and upper belly) which is a grey-brown that is clearly paler than that of Chimney. The underparts become progressively darker towards the undertail-coverts which are dark grey-brown. To summarize, the extent of the off-white in Vaux's is greater than that of the pale grey in Chimney (dark grey-brown from the mid or lower breast) and the belly is paler than the belly of Chimney and, unlike Chimney which is uniform from the belly to the undertail-coverts, the underside reaches its darkest grey-brown on the undertail-coverts. With its paler throat-patch,



FIGURE 13 Underside of Chimney Swift / Schoorsteengierzwaluw *Chaetura pelagica* (left) and Vaux's Swift / Vaux' Gierzwaluw *C. vauxi*. Note darker underside in Chimney and more capped appearance of Vaux's (because of paler throat-patch) (Gerald Driessens)

FIGURE 14 Upperside of Chimney Swift / Schoorsteengierzwaluw *Chaetura pelagica* (left) and Vaux's Swift / Vaux' Gierzwaluw *C. vauxi*. Note Vaux's paler rump, more contrast between tail and uppertail-coverts and paler innerwing (Gerald Driessens)



Vaux's can give the appearance of being more distinctly capped than Chimney.

The rump of Vaux's is paler than that of Chimney and, therefore, the saddle is more noticeable. The secondaries are also somewhat paler, creating more contrast in the wing. Vaux's shows a greater tendency to some slightly paler feather-fringing in the wing than Chimney, in both the upper- and underwing, especially in the juvenile. The paler uppertail-coverts of Vaux's cause there to be some contrast with the tail that is not evident in Chimney. It has been noted that Vaux's appears to fly slightly faster than Chimney (Jon Curson pers comm).

Chapman's is blacker and glossier than Chimney on the wing, mantle and head. The rump and lower back are mid-grey-brown and, therefore, the saddle is more prominent than in Chimney. The underside is the most uniform of the three species, with the darkest throat, being pale sooty grey-brown to the chest and then uniform grey-brown to the undertail-coverts.

Identification

The wing shape and the cigar-shaped body of Chimney are quite unlike those of any other species. The tail shape alone excludes all but the

differently plumaged Little and White-throated.

Separation from Vaux's and Chapman's is discussed in the previous section.

White-throated Needletail

Size and shape

Large size and bulky body; with broad wing, more triangular and less pointed than in *Apus* swifts. Secondaries usually markedly narrower than broad primaries, especially when angled back. Head protrudes further beyond wing, and tail, although proportionally shorter, is broader and deeper than in *Apus* swifts. Square tail rounded when spread, rather pointed when tightly closed. Each rectrix has spine-like continuation of shaft beyond webs of 3-5 mm. Given good views, this can be seen in the field. Most distinctively shaped species. For measurements, see table 4.

Flight

Graceful and immensely powerful flight, with slow purposeful turns and high degree of gliding and soaring. Capable of sustained high-speed flight, alternating bursts of powerful but surprisingly shallow wing-beats with gliding. Often seen on broad circling flight at great height.

Calls

Screaming call softer and more chattering than in Common, staccato rattling *it-it-it-it*.



FIGURE 15 Underside of adult White-throated Needletail / Stekelstaartgierzwaluw *Hirundapus caudacutus* (left), adult Silver-backed Needletail / Witbuikstekelstaartgierzwaluw *H cochinchinensis* (centre) and adult Brown-backed Needletail / Reuzenstekelstaartgierzwaluw *H giganteus* of subspecies *H g indicus*. Note in all three species that sides of head appear darker than underbody, emphasizing pale throat-patch (Gerald Driessens)

Adult plumage (H c caudacutus)

HEAD Broad white throat-patch reaching gape along its whole length, along lower ear-coverts and down to lower throat, contrasting with surrounding dark plumage. White band across forehead and lore (broadest on lore and just over black eye-patch). Some individuals have browner centre of forehead. Rest of head greenish-blue-glossed though this disappears with wear when some paler brown feather-bases can be seen. Bases of nape-feathers white though, even with heavy wear, it is unlikely that they are often visible in the field. Head very uniform, only slightly paler towards throat-patch. When underparts seen, side of neck and ear-coverts usually darker than underparts, enhancing white throat and dark upperhead.

BODY Underparts (except lower flank) dark olive-brown. When fresh, brown gloss can be apparent. Lower flank and undertail-coverts clear white, forming highly distinctive 'horseshoe' mark. Saddle pale brown, palest at centre of lower mantle and back, becoming progressively darker towards nape and olive-brown scapulars and central rump, and clearly even darker olive-brown side of rump and uppertail-coverts. Saddle palest when worn.

UPPERWING Remiges black, inner web of primaries paler brown though not to tip (becoming palest on outer web). All coverts black. Blue-green gloss on remiges and primary coverts. Coverts with blue-green gloss to outer web and tip of inner web and green gloss on remainder of inner web. Gloss hard to see unless in good light, it disappears through wear. Tertial pattern distinctive, with inner webs contrastingly white (longest tertial has dark shaft-streak). Contrast between inner and outer wings less than in *Apus* swift.

UNDERWING Remiges paler and fairly uniform with greater primary coverts and greater coverts. Greater coverts darker towards tip. Median coverts and lesser coverts darker black-brown, uniform with axillaries.

TAIL Black, with green gloss.

BODY-WING CONTRAST Upperwing obviously darker than saddle. Darkest underwing-coverts usually appear darker than underparts.

Juvenile plumage

Grey-brown forehead with pale grey-brown lore. Throat slightly less contrasting. Black areas of upperparts less obviously glossed green than in adult. Saddle less pale and, therefore, less obvious than in adult. Underparts differ most markedly on lower flank, with some black streaking and spotting on white feathers. Undertail-coverts have black-fringed tip. Upperwing and tail black, showing less gloss than in adult. Inner web of tertials more broadly bordered black (shortest tertial only narrowly tipped).

Juvenile shows greatest variation and can be close to adult, with black fringe to tip of longest undertail-coverts being most consistent feature.

Before post-juvenile moult to first-winter plumage in winter quarters, some paler grey bases (white ones on nape and rump) to body-feathers can be seen, giving body untidy mottled effect.

First-winter and first-summer plumages

After post-juvenile moult to first-winter plumage, very similar to adult plumage but with greater tendency to show grey-brown forehead and typically has black fringe to tip of shortest tertial and black fringe to tip of some undertail-coverts.

Juvenile remiges and larger wing-coverts retained until moult to second-winter plumage and, therefore, clearly worn.

Subspecies and main confusion species

In addition to the highly migratory *H c caudacutus*, a more sedentary subspecies, *H c nudipes*, occurs throughout the Himalaya and east to the mountains of south-western China. *H c nudipes* is slightly shorter-winged and is somewhat darker than *H c caudacutus*. It differs most notably in lacking white on the forehead and lore. It has a slightly black head generally and the pale saddle is usually somewhat darker. The inner web to the tertials is usually slightly browner at the tip than in *H c caudacutus*. The rump and uppertail-coverts are glossed more deep dark blue.

Three other species of needletail occur: Brown-backed Needletail *H giganteus* and Silver-backed Needletail *H cochinchinensis*, both in southern Asia (from the Indian subcontinent east and, in the case of Silver-backed, north to southern China), and Purple Needletail *H celebensis* in northern Sulawesi and the Philippines. They all share with White-throated the typical 'horseshoe' mark on the underparts and have a very similar structure.

Silver-backed is very similar to White-throated; indeed, they form a superspecies. It is best separated by examining the throat-patch. White-throated shows a clear-cut large white patch contrasting with the dark brown underparts whereas Silver-backed has an indistinct pale brown or pale grey throat, not always obviously paler than the underparts. However, in the palest examples, it can be distinct, especially, as in White-throated, the ear-coverts and the side of the neck often look darker than the underparts, emphasizing the throat-patch. It must be noted that the bases of the white throat-feathers of White-throated are grey and, therefore, an extremely worn individual may show some mottling. Otherwise, the plumage of the two species is very similar and shares the dark forehead and lore with *H c nudipes*. The tertial pattern of the two species is very similar although the inner web is pale grey as opposed to white and, in a good view, the effect is similar to White-throated. White-throated shows a more distinct gloss to the plumage, especially on the wing,

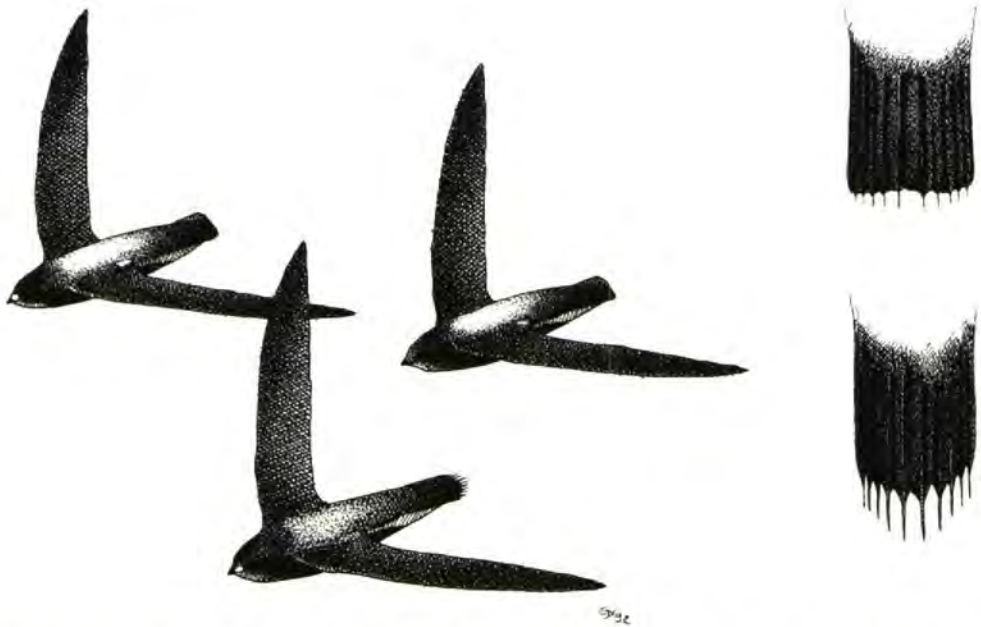


FIGURE 16 Upperside of adult White-throated Needletail / Stekelstaartgierzwaluw *Hirundapus caudacutus* (upper left), adult Silver-backed Needletail / Witbuikstekelstaartgierzwaluw *H cochinchinensis* (upper right) and adult Brown-backed Needletail / Reuzenstekelstaartgierzwaluw *H giganteus* of subspecies *H g indicus* (lower); also tails of White-throated (upper) and Brown-backed Needletails (lower). Note relative darkness of saddles, tertials and different head patterns. Note also both rounded tail of Brown-backed and that species' long and thick 'needles', with rectrix webs drawn into a point along needle (Gerald Driessens)

than Brown-backed and Silver-backed.

Brown-backed is considerably larger and darker than the other two species. The throat-patch is similar to that of Silver-backed (on average slightly darker), being only slightly paler than the underparts which are also a darker brown on average, with the palest individuals showing a mottled off-white chin and central throat. The pale saddle is also darker (pale brown) than in the other two species, never reaching the same silvery-grey paleness; however, it is, especially in strong light, clearly paler than the head and rump. Brown-backed also shows a white loreal spot in the widespread *H g indicus* but individuals of *H g giganteus* lack this feature. Both White-throated and Silver-backed look darker-headed and -tailed compared with Brown-backed, because of the paler more glossy saddle, although it must be remembered that in juvenile plumage both White-throated and Silver-backed have a duller saddle. As well as being considerably larger than these two species, Brown-bac-

ked has a decidedly different tail structure than White-throated, with Silver-backed being somewhat intermediate between the two. The 'needles' are considerably longer and thicker and are surprisingly easy to see in the field. Those protruding from the central rectrices are the longest, with the others becoming progressively shorter towards the outer rectrices. Also, the central rectrices are the longest, the others becoming progressively somewhat shorter towards the outer rectrices. In addition, unlike in the latter two species, the webs of the rectrices are drawn into a point along the needle instead of being rounded. These features make the tail appear a little more rounded when open or spread and more pointed when closed.

Purple is the largest and the darkest of the needletails. The throat-patch is uniform with the blackish underparts and a pale saddle and tertial spots are absent. Like *H g indicus*, Purple has a white loreal spot although in juvenile this appears duller. The plumage shows a distinct purple

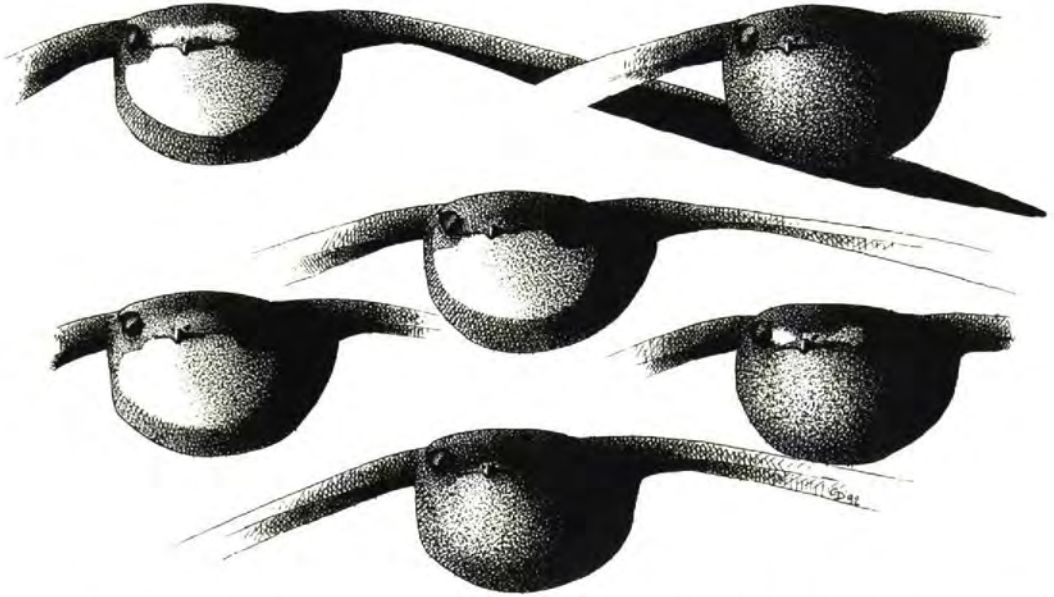


FIGURE 17 Heads of adult White-throated Needletail / Stekelstaartgierzwaluw of subspecies *Hirundapus caudacutus caudacutus* (A), juvenile White-throated (B), adult White-throated of subspecies *H c nudipes* (C), adult Silver-backed Needletail / Witbuikstekelstaartgierzwaluw *H cochinchinensis* (D), Brown-backed Needletail / Reuzenstekelstaartgierzwaluw *H giganteus* of subspecies *H g giganteus* (E) and Brown-backed Needletail of subspecies *H g indicus* (F) (Gerald Driessens)

71 White-throated Needletail / Stekelstaartgierzwaluw *Hirundapus caudacutus*, Wierton Hill Reservoirs, Maidstone, Kent, Britain, 26 May 1991 (Tim Loseby)



72 White-throated Needletail / Stekelstaartgierzwaluw *Hirundapus caudacutus*, Brisbane, Queensland, Australia, November 1991 (Jef de Ridder)



Identification of Western Palearctic swifts

gloss. The tail structure is most similar to that of Brown-backed. Purple has often been considered conspecific with Brown-backed but Brooke & Collins (1976) argued that their plumage differences, coupled with the fact that Purple is nearly 40% heavier than Brown-backed, form a good basis for specific separation. According to them, Purple is monotypic.

Identification

The structure of White-throated is unlike that of other swifts and, as in Alpine, it could be mistaken at first glance for a small falcon. The white throat-patch and 'horseshoe' mark from beneath, the pale saddle (quite different from any other swift), the white forehead and lore from above (let alone the white inner webs to the tertials if seen) make White-throated unmistakable under any condition other than the poorest views.

Brown-backed, Silver-backed and Purple can be excluded by the contrasting white throat.

African Palm Swift

Size and shape

Very slim and highly attenuated appearance best likened to small, slim, long- and narrow-winged and very long-tailed *Apus* swift (almost two-thirds of total length is made up of body and tail after wing). Deep-forked tail with outer rectrices pointed at tip and inner web deeply emarginated, creating fine almost streamer-like effect though this is rarely apparent in the field. Indeed, tail usually held closed, then appearing long and needle-thin; body after wing also narrow and tapering. Juvenile, first-winter and first-summer birds have more rounded and less-marked 'streamers' (although they are still clearly longer- and narrower-tailed than in any *Apus* swift) and consequently shorter tail (although still longer proportionally than in any *Apus* swift). It is also likely that streamers are rapidly abraded since lower percentage than might be expected shows very long tail in the field. P10 longest. For measurements, see table 4.

Calls

Very vocal; quite similar to Little though higher more reedy *sisisi-soo-soo*.

Adult plumage (*C p parvus*)

HEAD Forehead, crown and nape brown-grey. Lore and feathers around nape grey. Ear-coverts browner towards crown. Feathers of upperhead pale grey-fringed when fresh. Throat grey-white (palest on chin and central throat), usually clearly palest area of very uniform underparts though often very hard to ascertain. Throat never appears as defined patch as in some *Apus* swifts, often showing dark grey shaft-streaking. Bristle-feathers in front of eye much reduced compared with *Apus* swifts, never appearing as patch. Face appears far

more 'open' as a result. Head usually dark-capped (indeed, crown can be darkest area on upperbody in some individuals).

BODY Upperparts brown-grey, with rump usually uniform or slightly paler and head uniform with saddle or somewhat darker. Some paler grey feather-fringing evident across upperparts when fresh. Individual feather-patterning more uniform than in *Apus* swifts. Underside mouse-grey, palest on throat. Some whitish feather-fringing when fresh. When moulting, it can look very untidy and mottled on body as darker new feathers replace paler old ones.

UPPERWING Outer primaries dark olive-brown (inner web paler), primaries becoming paler towards inner ones. Inner webs of primaries becoming progressively paler grey and have narrow white fringe. Secondaries similar to inner primaries but fringed greyish or off-white. Greater coverts and greater primary coverts fairly uniform with corresponding remiges. Median coverts, median primary coverts, lesser coverts and alula darker uniform olive-brown, uniform with or little darker than saddle (depending on degree of wear). Leading edge-coverts uniform with lesser coverts. All coverts narrowly paler-edged though least distinctly on smaller darker coverts.

UNDERWING Similar to upperwing though remiges slightly paler. Greater coverts and greater primary coverts fairly uniform with corresponding remiges; other coverts usually somewhat darker than body.

TAIL Olive-brown as remiges.

Juvenile plumage

Similar to fresh adult plumage though feather-fringes more rufous. Structural differences are mentioned in section on size and shape.

Sexual differences

Male generally paler, more whitish in throat than female.

Subspecies and main confusion species

The subspecies that formerly probably bred in the Western Palearctic in southern Egypt was presumably *C p parvus* which occurs throughout northern sub-Saharan Africa. Six other subspecies occur south of *C p parvus* in Africa, Madagascar and Comoro Islands, differing slightly in size, darkness of plumage and degree of shaft-streaking on throat (Cramp 1985).

Asian Palm Swift *C balasensis* differs in that it is slightly smaller, generally darker and greyer in plumage, has a slightly shorter tail with a shallower tail-fork and the adult does not develop the thin streamer-like outer rectrices of adult African Palm. Further plumage differences are that the juveniles have white instead of rufous feather-fringes, the fresh adults lack a streaked throat (worn individuals show some shaft-streaking) and the remiges appear blacker above and below.



PLATE 7 White-throated Needletails / Stekelstaartgierzwaluwen *Hirundapus caudacutus* (upper) and African Palm Swift / Afrikaanse Palmgierzwaluw *Cypsiurus parvus* (lower); adults depicted from below, juveniles from above; the two species are not to scale (Gerald Driessens)



73 Asian Palm Swift / Aziatische Palmgierzwaluw *Cypsiurus balasiensis*, Thailand, February 1991 (Ian Hodgson)

Identification

The measurements of African Palm are similar to those of the smallest *Apus* swifts (cf Little). It is remarkably slight in build, with a highly attenuated structure, particularly caused by the long thin tail in the adult. This is less marked in some individuals and in juveniles.

It has a less-marked throat-patch than all *Apus*

swifts, with the exception of Plain. Its pale mouse-grey-brown plumage is paler than that of all other *Apus* swifts; the dark upperhead (the crown is darker than the ear-coverts) gives a distinct capped appearance.

The plumage features are often hard to see because of the vigorous high-speed frantic flight. Plain is most similar to African Palm in flight but, in the (as yet unrecorded) event of the two species occurring together, the larger significantly blacker Plain would have a more relaxed action, interspersed with a more *Apus*-like tendency to short bursts of gliding and more measured low-level flight as opposed to the helter-skelter style of African Palm powered by rapidly fluttering wing-beats.

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FIGURE 17 Distant African Palm Swifts / Afrikaanse Palmgierzwaluwen *Cypsiurus parvus* in hot weather. Note wing and tail shapes (Gerald Driessens)



photograph by Rob Wilson of Fork-tailed; Peter Colston and Michael Walters for assistance at the Natural History Museum at Tring, Hertfordshire, Britain, and René Dekker for help at the Nationaal Natuurhistorisch Museum at Leiden, Zuidholland, the Netherlands; Patrick Buys, Jenny Hawkes, Richard Heading, Nigel Jarman, Chris Powell, Andy Robinson and Julian Russell who were of great help in the many discussions on swift identification (and other – less ornithological – matters!); Anders 'Singha' Andersson for his part in 'taking' White-throated Needletail, Jack Chantler for his undaunting assistance, Gerald Driessens for his great patience, and Gerald Oorel for his editorial help and enthusiastic support throughout the project; and, finally, the late Peter Grant for encouraging me to put pen to paper.

Samenvatting

HERKENNING VAN WESTPALEARCTISCHE GIERZWALUWEN In dit artikel wordt de herkenning behandeld van alle in het Westpalearctische gebied vastgestelde gierzwaluwen. Het eerste gedeelte behandelt de *Apus*-soorten: Gierzwaluw *A. apus*, Vale Gierzwaluw *A. pallidus*, Eilandgierzwaluw *A. unicolor*, Kaapverdische Gierzwaluw *A. alexandri*, Siberische Gierzwaluw *A. pacificus*, Huisgierzwaluw *A. affinis* en Kaffergierzwaluw *A. caffer*; het tweede gedeelte de non-*Apus*-soorten: Alpengierzwaluw *Tachymarpis melba*, Schoorsteen-gierzwaluw *Chaetura pelagica*, Stekelstaartgierzwaluw *Hirundapus caudacutus* en Afrikaanse Palmgierzwaluw *Cypsiurus parvus*. Op basis van uitvoerig veldonderzoek en bestudering van foto's en balgen beschrijft de auteur het verenkleed (van juveniele en adulte vogels), de rui, de roep en de vliegwijze van deze soorten en gaat in op de onderlinge determinatie en (bij de laatste drie soorten) de determinatie van nauw verwante soorten die buiten het Westpalearctische gebied voorkomen. Verder worden de verschillen tussen ondersoorten die in het gebied (kunnen) worden aangetroffen beschreven. Meer algemeen wordt ingegaan op factoren die de determinatie van gierzwaluwen in het veld beïnvloeden en vaak bemoeilijken zoals het effect van

lichtomstandigheden op het verenkleed en de mogelijkheid van gedeeltelijk albinistische exemplaren (bij de meeste soorten vastgesteld). Van alle (onder)soorten wordt het verspreidingsgebied aangegeven en van soorten die het Westpalearctische gebied alleen als dwaalgast bereiken wordt een overzicht gegeven van de (aanvaarde) gevallen.

References

- Brooke, R K 1971. Geographical variation in the Little Swift *Apus affinis*. *Durban Mus Novit* 9 (7).
- Brooke, R K & Collins, C T 1976. A review of the swifts of the genus *Hirundapus*. *Nat Hist Mus Los Angeles Cty Contrib Sci*.
- Chantler, P 1990. Identification of Pallid Swift. *Birding World* 3: 168-171.
- Cramp, S 1985. *The birds of the Western Palearctic* 4. Oxford.
- Dymond, J N, Fraser, P A & Gantlett, S J M 1989. *Rare birds in Britain and Ireland*. Calton.
- Godfrey, W E 1966. *The birds of Canada*. Ottawa.
- Goodman, S M & Meininger, P L 1989. *The birds of Egypt*. Oxford.
- Harvey, W G 1981. Pallid Swift: new to Britain and Ireland. *Br Birds* 74: 170-178.
- Hazevoet, C J in press. The birds of the Cape Verde Islands. *Br Ornithol Union Check-list*. Tring.
- Lewington, I, Alström, P, & Colston, P 1991. *A field guide to the rare birds of Britain and Europe*. London.
- National Geographic Society 1987. *Field guide to the birds of North America*. Second edition. Washington.
- Parker, M 1990. Pacific Swift: new to the Western Palearctic. *Br Birds* 83: 43-46.
- Rogers, M J & Rarities Committee 1992. Report on rare birds in Great Britain in 1991. *Br Birds* 85: 507-554.
- de Roo, A 1966. Age-characteristics in adult and sub-adult Swifts, *Apus a. apus* (L.), based on interrupted and delayed wing-moult. *Giervalk* 56: 113-131.
- Sibley, C G & Monroe Jr, B L 1990. *Distribution and taxonomy of birds of the world*. New Haven.
- Stresemann, E & Stresemann, V 1966. Die Mauser der Vögel. *J Ornithol* 107 (Sonderheft).
- Williams, L P 1986. Chimney Swift: new to the Western Palearctic. *Br Birds* 79: 423-426.

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