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Systematic Notes on Palearctic Birds. No. 46 Accipitridae: The Genus *Accipiter*

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The present paper consists of a discussion of the relationships of *Accipiter brevipes* and *A. badius*, and of a review of *A. nisus*. I would like to express my appreciation to Mr. M. A. Traylor for making his notes on those birds available to me, and to him and also to Dr. A. L. Rand for lending me specimens from the collection of the Chicago Natural History Museum.

Accipiter brevipes and *Accipiter badius*

The Levant Sparrow Hawk (*brevipes*) and the Shikra (*badius*) are closely related and, on the whole, replace each other geographically, with the result that they are considered to be conspecific by some authors, such as Meinertzhagen (1930, 1954), Steinbacher (1936), and Dementiev (1951). These authors are in the minority, however, and other authors, such as Zarudny (1911), Hartert (1914), Swann (1925), Peters (1931), and Stresemann (MS), believe that they are separate species. This last opinion is shared by M. A. Traylor of the Chicago Natural History Museum, who has made a preliminary study of these hawks and generously placed his notes at my disposal; it is shared also by me. The two birds are most distinct morphologically, and their breeding ranges overlap; they apparently do not interbreed, as hybrids are unknown. The following notes review the evidence, as heretofore the status of the two birds seems to have been discussed only very briefly.

Accipiter brevipes is a western form, the breeding range of which extends from southeastern Europe eastward to Transcaucasia and northern and southwestern Iran. It meets and overlaps *A. badius cenchroides* in eastern

Transcaucasia (Talych) and in northern and southwestern Iran, *cenchroides* replacing *brevipes* as a breeding form from the regions mentioned eastward to Transcaspia, Russian Turkestan, Afghanistan, Baluchistan, and North West Frontier Province. Zarudny (*loc. cit.*) may have been the first to mention the fact that *brevipes* and *badius* were sympatric in the Caspian districts of northern Iran. He mentioned also that *badius* bred in the Zagros in southwestern Iran, but he was apparently unaware that Witherby (1903, p. 562) had found that *brevipes* bred in the Zagros in Luristan and Fars east to at least Aliabad, or at about longitude 52° E. The fact that *brevipes* does occur in the Zagros during the breeding season was confirmed by Walter Koelz who collected one adult specimen at Ti, Luristan, on June 5, 1940. A little farther east, Koelz collected two adults of *A. badius cenchroides* at Jahrum on March 21 and 23, 1940, Jahrum being located at about longitude 53° 30' E. In view of the date, one cannot be sure that the last two specimens were local birds, although *cenchroides* is not known to occur in southwestern Iran as a migrant or winter visitor and may very well be sedentary in this region.

The most western point reported so far in the zone of overlap is Vely, near Lenkoran in Talych, where Spangenberg collected five specimens which he says had bred locally. These five specimens were discussed by Dementiev and Spangenberg (1935) and consist, according to these authors, of one male and one female of *brevipes* taken on May 6 and 9, 1933, and three males of *A. badius cenchroides* taken on June 9, 23, and 24, 1933; one of the latter was a young bird molting into adult plumage. I may add that Dementiev (1951) reports that *brevipes* was collected on the Amu Darya on May 25, 1941, and that the Rothschild Collection contains three specimens collected in May (no date) in the Achal Tekke Range of the Kopet Dag (apparently in the region of Ashkhabad) in southern Transcaspia. The Achal Tekke and the Amu Darya are well within the breeding range of *A. badius*, but whether or not these birds were vagrants is impossible to say. At any rate, it is well established that the breeding ranges of the two hawks overlap, although, generally speaking, they replace each other geographically. Hartert (1914, p. 1158) mentioned the record of *brevipes* for the Achal Tekke, emphasizing that it was within the breeding range of *A. badius cenchroides*.

Dementiev and Spangenberg (*loc. cit.*) acknowledge that the two hawks are sympatric, are very distinct morphologically, and apparently do not interbreed. They state in the German resumé of their article, which is in Russian, “. . . *die beiden Formen—badius [brevipes] und cenchroides—nisten in demselben Gebiet ohne sich zu mischen.*” Nevertheless, they prefer to consider the birds conspecific on the ground that they represent a borderline case

between species and subspecies, "*wir hier einen neuen Beispiel von kontinentalen Grenzfällen zwischen Art und Rasse haben.*"

The two birds differ clearly in coloration, *brevipes* being much darker than *cenchroides* in all plumages and more sharply patterned below in the adult which is also well barred on the "thighs." These bars on the thighs are lacking or only very faintly indicated in *cenchroides*. The most conspicuous morphological differences are, however, in the shape and length of the wing.

The wing formula is totally distinct in the two hawks, *brevipes* having a sharply pointed wing, *cenchroides* a relatively rounded one. In *brevipes*, the third and fourth primaries (from the outside) are longest and equal (or the third may be slightly longer), and are distinctly longer than the fifth (by an average of about 13 mm.) and the second (by an average of about 23 mm.), and the first is very short and equal to the eighth or ninth. The wing formula is: $1 < 2 < 3, 4 > 5 > 6 > 7, \dots$; and $2 < 5$. In *A. badius cenchroides*, the third, fourth, and fifth are subequal, and the second is longer than the sixth, the formula being $1 < 2 < 3, 4, 5 > 6 > 7, \dots$; and $2 > 6$ or $2 = 6$. In addition, the fifth primary is not emarginated on the outer web in *brevipes*, but very sharply so in *cenchroides*.

The wing is distinctly longer in *brevipes*, measuring in the adults of the two species that I have measured: *brevipes*, males, 210, 213, 215, 216, 218 (214.4); females, 231, 233, 235 (233); as against, in *cenchroides*, males, 183, 184, 185, 187, 187, 192, 192, 192, 193, 193, 193, 194, 197 (190.3); females, 205, 209, 213, 213, 214, 215, 215, 218 (212.8).

In short, in view of the evidence presented above, it seems to me that there should be no further hesitation in considering that the two hawks are indeed separate species.

Examination shows that all the subspecies of *A. badius* recognized by Peters (1931) have the same wing formula as *cenchroides*. These subspecies, in addition to the latter, are *polyzonoides* and *sphenurus* from Africa, *dussumieri* and nominate *badius* from India, and *poliopsis* from Assam eastward to southeastern China. Two other "subspecies" of *A. badius* recognized by Peters have been shown to be invalid. They are *klossi* Swann, 1925, a synonym of *poliopsis* Hume, 1874; and *chorassanicus* Heptner and Stachanov, 1930, a synonym of *cenchroides* Severtzov, 1872. I did not investigate *klossi*, which was described from southern Annam, but, after comparing topotypes of *chorassanicus* (southern Transcaspia and north-eastern Iran) with material from Russian Turkestan (the type locality of *cenchroides*), I agree that *chorassanicus* is invalid.

Accipiter nisus

The Sparrow Hawk is widely distributed in Eurasia, breeding from

Europe to eastern Siberia, Japan, and northern China, and from the Mediterranean to northern and southern Iran, isolated populations breeding also from the mountains of western China westward to the Himalayas, in Corsica and Sardinia, northwestern Africa, Madeira, and the Canaries. It is sedentary and partly migratory, wintering in the breeding range from southern Scandinavia, central Russia, northern China and Japan, south to the Mediterranean, and, south of the breeding range, to Egypt, the Sudan, Abyssinia, Arabia, the Near East to Turkestan and India, Indochina, and Burma. It varies geographically, and Peters (1931) recognized 10 subspecies, but only six are recognized by Stresemann (MS), a number that seems quite ample, as several of these are only slightly differentiated. The only two that are clearly and constantly distinct from nominate *nisus* of Europe are *wolterstorffi* of Corsica and Sardinia and *melaschistos* from the mountains of western China and the Himalayas. The six subspecies are briefly reviewed below.

1. *Accipiter nisus granti* Sharpe, 1890, type locality, Madeira, with *teneriffae* Laubmann, 1912, type locality, Tenerife, Canaries, as a synonym.

This subspecies inhabits Madeira and the Canaries and is poorly differentiated from nominate *nisus*, differing from it only by averaging slightly darker, a little more heavily barred below, and somewhat smaller. In adults, the wing length of 12 males from Madeira and the Canaries measures 188–199 (193.5) and that of 10 females 218–231 (225.9) as against 192–208 (201) and 226–243 (234.4) in, respectively, 30 males and females each from Scandinavia, Germany, France, and northern Italy.

Peters recognized *teneriffae*, but its validity has been questioned or rejected by virtually every other author. According to Laubmann (1912, p. 164), four specimens which were collected by Thanner on Tenerife differ from the birds of Madeira by being less heavily and darkly barred below, somewhat (“*etwas*”) paler above, and less red in the male. Hartert (1914, p. 1154) found, however, that the birds from the Canaries and Madeira do not differ constantly, mentioning that he had seen three males that were also collected by Thanner on Tenerife, one by Polatzek on Gran Canaria, and one young male and one subadult female from Tenerife. Hartert did not synonymize *teneriffae* with *granti*, probably because he deemed that this comparative material was insufficient, but he strongly questioned its validity. The Rothschild Collection subsequently acquired more material, and I have been able to compare 20 birds from the Canaries with 12 from Madeira, of both sexes and in all plumages. The two series do not differ constantly, but, on an average, the specimens from the Canaries are somewhat less heavily and darkly

barred or spotted below, the males are a little redder (not paler as stated by Laubmann), and the upper parts are very slightly paler in both sexes. *Teneriffae* thus does not seem sufficiently well differentiated from *granti* to warrant its recognition but it is of zoogeographical interest to note that the two island populations are not identical.

2. *Accipiter nisus punicus* Erlanger, 1897, type locality, Tunisia.

This subspecies inhabits Morocco, Algeria, and Tunisia and is also poorly differentiated from nominate *nisus*, differing from it only by averaging slightly paler and slightly larger. The wing length of four males measures 203–212 (209) and that of four females 240–244 (242). Hartert (*loc. cit.*) states that the wing length of adult females measures 243–255 in an unspecified number of specimens, but those in the Rothschild Collection which must have been examined by Hartert are smaller.

Meinertzhagen (1954, p. 367) states that *punicus* "is an intermediate population, some birds being inseparable from *nisus*, while others come close to *wolterstorffi* [*sic*] or *granti*." He does not recognize *punicus* but fails to allocate it to the synonymy of any subspecies. The nine specimens of *punicus* that I have seen bear no resemblance whatever to *wolterstorffi*, which is a very distinct race (see below), and, while it is true that they are not very distinct from nominate *nisus*, they are clearly paler and larger than *granti*. Meinertzhagen grants the validity of *nisosimilis* and *granti*, which seems illogical as they are about as well or as poorly differentiated from nominate *nisus* as is *punicus*.

3. *Accipiter nisus wolterstorffi* Kleinschmidt, 1901, type locality, Sardinia.

This race is restricted to Corsica and Sardinia, where it is sedentary. It is much darker than *punicus*, *granti*, or nominate *nisus*, the males being very dark slate above and the females dark sooty brown. Both sexes are almost blackish and are also very densely, broadly, and darkly barred below. It is the smallest race, the wing length of three males measuring 188, 194, 194, and that of eight females 212–226 (217.8).

4. *Accipiter nisus nisus* Linnaeus, 1758, type locality, Sweden, with the following synonyms: *peregrinoides* Kleinschmidt, 1921, type locality, East Prussia; *hibernicus* Swann, 1924, type locality, Ireland; *optimi* Kleinschmidt, 1940, type locality, left bank of the Rhine in Germany; and *salamancae* von Jordans and Steinbacher, 1942, type locality, Spain.

The nominate race ranges from Europe, including the British Isles, east to northern and southwestern Iran (Caspian districts eastward to Gurgan in the north, and the Zagros to at least Shiraz in Fars in the south) which represents the southeastern extremity of the breeding range of the species, but in the north nominate *nisus* ranges eastward to the Yenisei or beyond. It is replaced in eastern Siberia by the slightly paler

and larger *nisosimilis*, but the mutual limits of the two "subspecies" are impossible to define, as the geographical variation is clinal and slight from Europe to eastern Siberia, and, furthermore, individuals from the west and east can be identical, all of which was emphasized by Dementiev (1951, p. 197), who states that he is merely following convention in recognizing *nisosimilis*. I do likewise.

The difference in coloration between nominate *nisus* and *nisosimilis* is very slight and one of average only, the range of individual variation being identical in both. *Nisosimilis* averages larger, its wing length measuring 205–218 (211.4) in the 15 males, and 239–255 (247.9) in the 30 females that I have measured, as against 192–208 (201) and 226–243 (234.4) in, respectively, 30 males and 30 females of nominate *nisus*. Dementiev (*loc. cit.*), who has measured more specimens than I have, states that in *nisosimilis* the wing length measures 200–213 (206.3) in 24 males and 240–260 (245.7) in 24 females, as against 186–208 (198.3) in 96 males and 223–248 (236.35) in 120 females of nominate *nisus*.

These remarks concerning color and measurements show that it is futile to identify many winter visitors as to subspecies, particularly from the eastern Mediterranean eastward to northwestern India, where the visitors might be expected to be derived from intermediate populations. All the specimens that I have examined from these regions are, with the exception of a few from Russian Turkestan, nominate *nisus*, or more similar to it than they are to *nisosimilis*. The latter has been reported from Iraq, Arabia, and Egypt, but the measurements supplied by Ticehurst (1922, p. 424) for Iraq and by Meinertzhagen (1954, p. 368) for Arabia fall within the range of variation of nominate *nisus*, and the records for these countries are therefore uncertain. The record for Egypt seems to be based on a single male in the Rothschild Collection which Meinertzhagen (1930, p. 406) states has a wing length of 211 mm. and is "even paler than usual [in *nisosimilis*]." I find, however, that it is identical in coloration with topotypes of nominate *nisus* and specimens from Germany and that its wing length measures 208 mm; I believe it is nominate *nisus*.

Peters (1931, pp. 219–220) recognized *peregrinoides* and *hibernicus*, but several authors (with whom I agree) have already shown that these forms are not separable and are synonyms of nominate *nisus*. The birds of Spain were named *salamancae* by von Jordans and Steinbacher (1942, p. 238) on the ground that they are darker and larger than those of "western Europe," but the wing measurements of Spanish birds given by these authors (195, 198 in two males and 226–241, no average given, in nine females) fall perfectly within the range of variation of nominate *nisus*. The statements of von Jordans and Steinbacher show also that the color-

tion varies individually, and I follow Stresemann (MS) in synonymizing *salamancae* with nominate *nisus*. I cannot detect any difference between specimens collected east or west of the Rhine in Germany and mention *optimi* only because this synonym has apparently escaped attention.

5. *Accipiter nisus nisosimilis* Tickell, 1833, type locality, India, with *pallens* Stejneger, 1893, type locality, Hondo, Japan, on migration, as a synonym.

The status of *pallens* remains uncertain, and little can be added to the statement of Austin (1953, p. 375): "The 1942 Hand-List [of the Japanese birds] gives *A. n. pallens* as a winter visitor to Honshu from possible breeding grounds in Kamchatka. In the absence of any evidence linking them with a definite breeding locality, the few known very pale specimens to which this name has been applied are best regarded as individual variants or possibly a color phase which appears occasionally throughout the breeding range of the species." Dementiev (1951, p. 197) has recognized *pallens* provisionally, stating that its validity requires confirmation, as *pallens* "may represent only an extreme individual variant of *A. n. nisosimilis*" (translation). The species is very rare in Kamchatka, according to Dementiev, and no breeding records exist, although it has been observed and collected in southern Kamchatka during the breeding season. I may add, in connection with Austin's statement, that the palest specimen of *A. nisus* that I have seen was collected in southwestern Iran on April 17, 1941, and is paler than the alleged specimens of *pallens* from Japan in the collection of the American Museum of Natural History.

6. *Accipiter nisus melaschistos* Hume, 1869, type locality, Himalayas.

This subspecies is about similar in size to *nisosimilis* or averages very slightly larger, but differs very sharply from it and nominate *nisus* by being much darker throughout. The wing length of six males measures 208–213 (211), and that of 10 females, 247–256 (251.3). *Melaschistos* inhabits the mountains of western China, ranging west through the Himalayas to Gilgit and, according to Whistler (1945, p. 302), south to the Safed Koh in North West Frontier Province and the region of Ziarat in northern Baluchistan whence it was reported by Ticehurst (1927, p. 70). It may also breed in the mountains of eastern Afghanistan (see below).

I believe that the breeding range of *melaschistos* is probably well isolated from that of the other populations of the species, but the statements made by Dementiev (1937, 1951) and Whistler and Kinnear (1936, p. 435) imply that the breeding ranges of *melaschistos* and *nisosimilis* overlap, or that the range of *melaschistos* is interrupted by a southern extension of the range of *nisosimilis*. Dementiev states that two young birds and one adult, which he identifies as *melaschistos*, were collected on August 13 [or 15]

and September 6 and 7, 1936, near Lake Iskander in the Hissar Range, in northwestern Tadzhikistan, northwest of Stalinabad. He believes that they were local birds, but at these dates such a supposition is most uncertain, and there is no evidence that *A. nisus* breeds anywhere in Turkestan. The southernmost breeding locality known with certainty is Zaisan Nor, which is directly south of the Altai. Whistler and Kinnear state that the breeding form of Gilgit is *nisosimilis*, a statement that extends the breeding range of this form to the Himalayas, or within the breeding range of *melaschistos*. These authors were, however, probably mistaken in their identification, as I find that a specimen from Gilgit, which the collector states he "shot off the nest [with] 4 eggs" on June 24, 1879, is *melaschistos*, not *nisosimilis*, and I note that Whistler (1945) subsequently states that the Himalayan race is *melaschistos*, making no further mention of *nisosimilis*.

Dementiev remarked in his first paper (1937) that the species "possibly nests only in the easternmost parts of Tienshan, probably only within the confines of the Chinese province of Sin-kiang," but Ludlow (1933, p. 693) did not confirm the fact that it breeds in Sinkiang. He states: "Common in Kashgar in winter, and observed in the Tian Shan in summer. Scully says it breeds in the hills south of Yarkand. I discovered no nests." I may add that no actual records are mentioned by Scully (1876).

The distribution in eastern Afghanistan might be expected to supply information, but the records from that country are inconclusive. Whistler (1945, p. 302) states that "some form of Sparrow-hawk breeds in the mountains along the eastern border of Afghanistan," mentioning a downy young that was brought to Parachinar in North West Frontier Province in July from the Safed Koh, although there is no evidence that this bird was taken in Afghanistan. He includes also in his list of specimens one collected on July 2, 1933, at Ashraf, or within the breeding season, but some error may be involved, as Whistler does not comment on this bird, although it would be important in establishing the fact that the species breeds in Afghanistan. The locality involved is much too far west of the nearest point on the border (about 220 kilometers on the Safed Koh) and, moreover, is north of the Hindu Kush, at about latitude 35° 25' N. by longitude 68° 16' E.

Paludan (1959, p. 73) believes that the Sparrow Hawk breeds in eastern Afghanistan along the frontier, stating that he saw it "during the breeding season . . . at Pashki in Nuristan," but he does not mention any nest. The two specimens he collected on May 11 and 18 could have been late migrants, as the species is migrating north in good numbers at the end

of April in Afghanistan, according to Meinertzhagen (1938, p. 704). Walter Koelz, an excellent collector who made very large collections during the breeding season along the border of eastern Afghanistan, from Badakhshan due west of Gilgit south to the Safed Koh, failed to find it during that season. The specimens he collected and all those taken by Meinertzhagen (1938) were migrants.

Paludan states that his two specimens are *nisosimilis*, although he would have expected them to be *melaschistos*, adding, however, that Whistler had found that the breeding form of Gilgit was *nisosimilis* (but see above).

If we grant that the Sparrow Hawk breeds along the borders of eastern Afghanistan, as seems likely, it seems to me that Whistler (1945, p. 302) is probably correct in stating that the race involved is *melaschistos*, not *nisosimilis*. Present evidence suggests that the nearest breeding locality of *nisosimilis* is very far away in Zaisan Nor, and that the breeding range of nominate *nisus* reaches its eastern limits in Iran and the Caspian. A huge gap, from which no breeding birds are known, would thus isolate *melaschistos* geographically from the other two races. A similar, though somewhat narrower, gap isolates the easternmost population of *melaschistos* in Kansu from the nearest breeding colony of *nisosimilis* in northern Hopeh. If, however, *melaschistos* breeds in Russian Turkestan, as Dementiev believes, and if Paludan is also correct in saying that *nisosimilis* breeds in eastern Afghanistan, the breeding ranges of the two birds overlap to a considerable extent. If such overlap be substantiated, we will have to recognize that *melaschistos* has probably become reproductively isolated and has reached species level.

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