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Systematic Notes on Palearctic Birds. No. 15 Turdinae: the Genera *Turdus*, *Grandala*, and *Enicurus*

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The following notes were made during a study of the Turdinae for a contemplated check list of the Palearctic region. They are limited to the typical thrushes¹ of the genus *Turdus* and to two genera (*Grandala* and *Enicurus*) of uncertain affinities. The other genera of the Turdinae were reviewed in a separate publication.²

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TURDUS

In the genus *Turdus* the following species or some of their races are discussed below: *T. cardis*, *T. merula*, *T. chrysolaus*, *T. celaenops*, *T. musicus*, *T. mupinensis*, *T. viscivorus*, and *T. naumanni*.

Turdus cardis

In *Turdus cardis* the birds breeding in China in the Yangtze Basin have been separated from *T. cardis* Temminck, 1831, type locality, Japan, as *lateus* (*lapsus* for *latens*) by Thayer and Bangs in 1909, type locality, Ichang, and a single specimen was described as *merulinus* by Stresemann in 1929. This specimen was collected in November on the Yao Shan in

¹ The species *Zoothera mollissima* and *Z. dixonii* were reviewed in a separate publication (Vaurie, 1955, Amer. Mus. Novitates, no. 1706).

² Vaurie (1955, Amer. Mus. Novitates, no. 1731).

Kwangsi, a region where the species is known only as a winter visitor. In my opinion, *latens* and *merulinus* are synonyms of *T. cardis*, and this species appears to be monotypic.

The two forms were described as darker, but they appear to fall within the range of individual variation of the population of Japan. This was the opinion of Hartert (1922, *Die Vögel der paläarktischen Fauna*, p. 2159) concerning *latens*. Austin and Kuroda (1953, *Bull. Mus. Comp. Zoöl.*, vol. 109, p. 528) state that *latens* is larger but according to Thayer and Bangs the wing length measures 119 mm. in the type of *latens* (the only measurement given by Thayer and Bangs), and I find that in 10 specimens measured by me from Japan the wing length measures 116–121 (118).

The specimen described as *merulinus* by Stresemann is apparently a very dark bird, but its putative characters, black on the back rather than slaty and blackish rather than gray on the sides of the body and on the axillaries, correspond to those of some specimens examined by me from Japan. Yen (1933, *L'Oiseau*, pp. 773–774) identified as *merulinus* two November specimens from the Yao Shan and a December specimen from Tonkin, but it is not clear whether or not these specimens confirm the validity of *merulinus*. Yen cites their characters "as according to Stresemann" and does not mention comparative material.

Until confirmed by adequate series of breeding birds, it seems best to consider *latens* and *merulinus* as synonyms of *T. cardis* Temminck.

Turdus merula

After examining a very large series of *Turdus merula* I believe that the following forms are not valid or are too slightly differentiated to warrant nomenclatural recognition:

Turdus merula agnetae Volsøe (1949, *Dansk. Ornith. For. Tidsskr.*, vol. 43, p. 82, type locality, La Palma Island, western Canaries) is, in my opinion, a synonym of *T. m. cabreræ* Hartert, 1901, type locality, Tenerife. Volsøe separated the population of La Palma on the basis of its being much darker in the females than the population of Tenerife, and he stated that the population of Hierro from where he had no specimens would probably belong to the new form. Volsøe had three females from La Palma which as his photograph shows are distinctly darker, but I believe that these specimens may be individual variants and that the validity of *agnetæ* is not established with certainty. Three females examined by me, one from La Palma and two from Hierro, vary individually to a conspicuous extent. One of the two specimens from Hierro is quite dark and seems to correspond to the specimens illustrated by Volsøe from La

Palma, but the other specimen and the one from La Palma are pale and identical with topotypical female *cabreræ*. It should be remarked that female *T. merula* is very variable individually and that apparently the range of variation is greater in the insular than in the continental populations. This is well shown by a series of about 40 females examined by me from the Azores, where on any one island, for instance, in specimens from Fayal, the contrast in coloration between females in identical state of plumage is even greater than that depicted by Volsøe between females from Tenerife and those from La Palma. All the females from the Azores have yellow bills as noted by Volsøe in his females from La Palma.

Volsøe had but one male from La Palma which he found to be distinctly deeper black than the three males of *cabreræ* at his disposal (apparently from Tenerife and Gomera, see 1951, Vidensk. Meddel. Dansk Naturhist. For., vol. 113, p. 82), but such a difference is not confirmed by my material. Two males from La Palma and two from Hierro are identical with five from Tenerife and two from Gomera.

Volsøe states that the measurements given by Hartert for *cabreræ* show that the populations of the Canaries are intermediate in size between nominate *merula* (larger) and *azorensis* (smaller), but the material that I have measured indicates that the birds of the Canaries and of the Azores are identical in size, although it is always stated that the latter have a shorter tail. In adult males, 14 from the Canaries have a wing length of 123–129 (126) and a tail length of 84–104 (95), while 48 from the Azores measure, respectively, 122–129 (125) and 89–102 (95). *Turdus m. azorensis* is a valid race, however, separable from *cabreræ* by its more rounded wing where the third primary is equal to the sixth instead of being longer and by the coloration of the females which in *azorensis* are more whitish and more sharply streaked on the throat than in *cabreræ*.

Turdus m. algira Madarász, 1903, type locality, Bône, northern Algeria, is not sufficiently well differentiated from *T. m. mauritanicus* Hartert, 1902, type locality, western Morocco, to warrant its recognition, because the two forms differ only slightly in average measurements. I have measured all the specimens in the Rothschild Collection identified by Hartert as *algira* and as *mauritanicus*, and their measurements show a great deal of overlap. In adult males, 13 specimens of *algira* have a wing length of 119–131 (125) and a tail length of 95–115 (104.5), whereas 39 specimens of *mauritanicus* measure, respectively, 122–135 (128) and 99–120 (108). Hartert (1910, Die Vögel der paläarktischen Fauna, pp. 668–669) recognized *algira* for the northern populations of Tunisia, Algeria, and Morocco because he believed these birds to

be "distinctly smaller." His authority has been followed to this day, although some authors have protested that it is impossible to identify individual specimens and to define where the two forms replace each other. Even Hartert, however, although he continued to recognize *algira*, had some doubts as to its validity. In 1911 he measured a specimen from Algiers with a wing of 131, and in 1914 (Novitates Zool., vol. 21, p. 198) he reports another collected near Tlemcen with a wing of 132, although Algiers and Tlemcen are within the breeding range of the supposedly smaller "*algira*."

Some authors have referred the populations of the Balearic Islands, southern Portugal, and central and southern Spain to "*algira*." It is probable that a cline of decreasing size and increasing saturation could be demonstrated on the Iberian Peninsula, but in my opinion it is best to refer the continental populations to nominate *merula*. A lone specimen examined by me from Malaga is identical in coloration and size with nominate *merula*.

Turdus merula ticehursti Clancey (1938, Ibis, p. 750, type locality, Darnley, east Renfrewshire, Scotland) does not seem sufficiently well differentiated nor constant enough to warrant its separation from nominate *merula*. Clancey separated this form on the basis that females in fresh plumage are darker above and on the abdomen, wings, and tail than female nominate *merula* in comparative plumage. My material from the range of *ticehursti* is limited, but Clancey is probably correct in stating that this form represents the end of a cline of increasing saturation, but in six specimens examined by me from Scotland and the Hebrides only three show the characters indicated by Clancey, and the difference is slight. The other three, and a series from England, are identical with topotypes of nominate *merula* (type locality, Sweden) in comparative plumage. See Meinertzhagen (1953, Bull. Brit. Ornith. Club, vol. 73, p. 44) for a similar opinion concerning the population of Ireland.

Turdus merula insularum Niethammer (1943, Anz. Akad. Wiss. Wien, p. 8, type locality, Crete) is not sufficiently well differentiated from *aterrimus* Madarász, 1903, type locality, Caucasus, to warrant its nomenclatural recognition. Apparently the populations of Crete and Rhodes measure smaller, but the material available to Niethammer was insufficient to establish the validity of a dimensional race. His three adult males and another cited (1943, Ann. Naturhist. Mus. Wien, vol. 53, p. 32) have a wing length of 114, 115, 119, 120. The only specimen measured by me from Crete, an adult male, has a wing of 125. This specimen is identical in coloration, size, or shape and size of the bill, which Niethammer states is relatively longer in *insularum*, with a series of eight adult males examined

by me from Romania, Transcaucasia, and northern Iran. In these specimens the wing measures 120–130 (125).

Turdus merula brodkorbi Koelz (1939, Proc. Biol. Soc. Washington, vol. 52, p. 67, type locality, northeastern Afghanistan) is a synonym of *intermedius* Richmond, 1896, type locality, Tian Shan. According to Koelz, *brodkorbi* differs from *intermedius* in the female plumage by being not so brown and by being grayer on the belly. I have examined the Koelz specimens which consist of a female collected on July 6 (the type), apparently his only breeding bird, and seven other females taken from October 21 to December 3, four of them in Afghan Turkestan and the others at Kandahar in southern Afghanistan. The type is very badly worn and not diagnostic, and the other specimens appear to be winter visitors or are not separable from female *intermedius* examined by me from Russian and Chinese Turkestan. In these last specimens, which were used by Koelz as his comparative material and which are skins from 40 to 50 years old, some show definite signs of foxing and are therefore browner, but those that are less or little foxed are identical in coloration, including that of the belly, with more than half of the specimens collected in Afghanistan by Koelz.

The specimen collected on July 6 is apparently the first breeding record of *T. merula* for Afghanistan, but the breeding of this species in northeastern Afghanistan was to be expected, for *intermedius* breeds in the Pamirs and directly across the Amu Darya in Tadzhikistan. Ticehurst (1927, Jour. Bombay Nat. Hist. Soc., vol. 31, p. 710) and Whistler (1944, *ibid.*, vol. 45, p. 67) had already compared specimens of *intermedius* collected in winter at the same localities where Koelz collected his specimens and concluded that they were *intermedius*.

The subspecific status of the form of *T. merula* that is known to breed in the Safed Koh and neighboring northern Baluchistan is still unknown. I would expect that these populations are *maximus* or closer to the characters of this race than they are to those of *intermedius*, for breeding specimens that I have examined from Hazara in northern North West Frontier Province are *maximus*.

Turdus merula buddae R. and A. Meinertzhagen, 1926, type locality, southern Tibet, does not appear to be sufficiently well differentiated from *maximus* Seeböhm, 1881, type locality, Kashmir, to warrant its recognition. According to the Meinertzhagens, birds from the eastern Himalayas differ from those of Kashmir only by having a smaller bill, "24–26 in *buddae*" in adults as against "27–28 in Kashmir" in adults. However, in a recent paper Ludlow and Kinnear (1944, *Ibis*, p. 189) state that adults from southern Tibet have a bill length of 26.5–28 in seven males

and 26–27 in three females, so the variation is apparently greater than realized by the describers of *buddae*.

Turdus chrysolaus

In *Turdus chrysolaus*, Yamashina (1929, *Tori*, vol. 6, p. 155) has separated as *orii* the populations of the Kuriles from those of Japan (the type locality of *T. chrysolaus* Temminck, 1831) as being larger and darker, but it seems best to consider that this species is monotypic. According to Yamashina the wing length in five adult males from the Kuriles is 126–130 (no average given) and 118–126 in 28 specimens from Sakhalin and Hondo. On page 74 of the same volume of the *Tori*, Yamashina gave the wing length of three adult male topotypes of *orii* as 125, 127, 130. I did not have specimens from the Kuriles, but I question that there is an appreciable size difference between this population and that of Japan, because the average wing length in a series of 25 adult males that I have measured from Japan is 125, the range in variation being 118–132. Because, according to Hartert and Steinbacher (1935, *Die Vögel der paläarktischen Fauna*, suppl. vol., p. 304) the difference in coloration is very slight, I do not believe that *orii* is sufficiently well differentiated to warrant its recognition.

Turdus celanops

I consider that *Turdus celanops* also is monotypic. In this species, the population of Yakushima Island was separated as *yakushimensis* by Ogawa in 1905 from the population of the Seven Islands of Izu, the type locality of *T. celanops* Stejneger, 1887, on the basis of being somewhat larger and somewhat darker. Austin and Kuroda (1953, *Bull. Mus. Comp. Zool.*, vol. 109, p. 532) have shown that these differences do not hold when the two populations are compared in series, but they state that the bill is darker in male *yakushimensis*, the females showing no difference. In the males of the two populations compared by me, this difference is not constant. A few males from Yakushima have a darker bill, but the difference is extremely slight and, in my opinion, is not of taxonomic importance.

The present status of this species on Yakushima is unknown. According to Austin and Kuroda, it has not been collected or reported there since 1911.

*Turdus musicus*¹

Turdus musicus, as stated by Meinertzhagen (1947, *Bull. Brit. Ornith.*

¹ For the use of this species name rather than *T. ericetorum* or *T. philomelos*, see Mayr (1952, *Ibis*, pp. 532–534).

Club, vol. 68, pp. 28–30), shows a strongly marked cline of increasing saturation running from east to west, from Siberia to the British Isles. Its coloration varies from that of populations that at the eastern end of the range are pale gray-brown above and whitish below with brownish spots to that of populations that at the western end of the range are chocolate brown above, rufous buff on the breast, and more densely spotted with blackish spots. Many populations are intermediate, and some of these intermediates from the continent and the British Isles are discussed by Meinertzhagen, and also by Clancey (1948, *Ibis*, pp. 112–115) in the case of those from the British Isles.

Meinertzhagen recognized only three races: *philomelos* [=nominate *musicus*] for the populations of Scandinavia and of the continent westward to central Germany, *clarkei* for all the other populations except that of the Outer Hebrides (*hebridensis*) which is the darkest of all. He did not recognize *catherinae* Clancey (1938, *Ibis*, p. 749, Scotland) which he considers to be synonymous with *clarkei*, and he used the name *clarkei* Hartert, 1909, type locality, Tring, England, rather than the older *ericetorum* Turton, 1807, for as he has shown (1947, *Ibis*, p. 670) this last name is indeterminate.

An examination of about 200 specimens from the continent and the British Isles supports the findings of Meinertzhagen except as regards those of the easternmost populations which I believe are sufficiently distinct to warrant separation as *nataliae* Buturlin, 1929, type locality, Krasnoyarsk, central Siberia.

I follow Meinertzhagen in considering *catherinae* to be synonymous with *clarkei*. I have examined only a few specimens from Scotland. They are not typical of either topotypical *clarkei* or topotypical *hebridensis* but in series are closer to *clarkei*, and little would be gained by recognizing nomenclaturally such a poorly defined intermediate form.

Hartert and Steinbacher (1935, *Die Vögel der paläarktischen Fauna*, suppl. vol., p. 302) state that *nataliae* was separated [from nominate *musicus*] as being grayer above and as having a more pointed wing, but they do not accept its validity. But it is upheld by Dementiev (1935, *L'Oiseau*, p. 425), although he states that it requires confirmation. According to Johansen (1954, *Jour. Ornith.*, vol. 95, p. 325) *nataliae* is too poorly differentiated to warrant recognition, but, for reasons given below, I believe that it is desirable to recognize an eastern race, for which I use that name.

Specimens from Siberia were not available, but a good series of 34 specimens collected by Koelz shows that a dark form (which I refer to nominate *musicus*) as well as a pale and gray form occurs in Iran, and the

latter seems to correspond to the description of *nataliae*. The dark birds consist of seven juvenal specimens collected in July in the region of Gurgan in northern Iran at the southeastern corner of the Caspian and of 10 adults or birds in first winter plumage collected in the fall or winter in northern Iran in Azerbaijan and near Tehran, and in Kermanshah in western Iran. All these specimens are distinctly darker, browner, less grayish above, and darker rufous buff on the breast and flanks than a series of 13 specimens collected in southern Iran in the Zagros in Luristan and Fars from March 9 to April 6.

It is possible that these paler birds (for which I use the name *nataliae*) are winter visitors that may have come from Siberia or they may have been local birds, for Zarudny (1911, Jour. Ornith., vol. 59, p. 226) lists this species as possibly breeding in the Zagros. This has not been confirmed, but at any rate the pale birds are clearly distinct and stand at the very opposite extreme from *hebridensis* in the range of geographical variation of the species. Topotypes examined of the two intermediate races (*clarkei* and nominate *musicus*) are less well differentiated from each other than these pale birds are from topotypical *musicus*. Four additional specimens collected during the same season in the Zagros and in Kirman are, however, intermediate in coloration between the dark and pale birds from Iran.

The population of the southern Caspian districts of northern Iran was separated as *distinctus* by Zarudny in 1918, but this name seems to be correctly considered to be a synonym of nominate *musicus*. Stresemann (1928, Jour. Ornith., vol. 76, p. 381) states that four specimens collected in Gilan in the southern Caspian districts April 18–28 do not differ from German and Swedish birds, but I believe that a cline of decreasing pigmentation is discernible in the populations of nominate *musicus* from Sweden eastward to northern Iran. In specimens examined by me, those from Sweden are slightly darker throughout and more richly colored than ones from Pskov in western Russia (Meinertzhagen noted that birds from Uppsala are slightly darker than the birds of Finland), specimens from Pskov are very slightly darker than specimens from Orenburg in eastern Russia, and these in turn are very slightly darker than the dark birds mentioned above from Iran, while *nataliae* is paler still.

A cline of increasing size also seems to run from west to east. In adult males measured the wing length is as follows: 113, 114, 115, 118, 119, 120 (116) in specimens from Sweden and Norway, 119 at Pskov, 120 at Orenburg, 115, 121 in northern Iran (the three males from this region measured by Stresemann had a wing length of 114, 116, 121), while the males among the pale birds (*nataliae*) from the Zagros measure 118, 118, 119, 121, 122, 122, 122, 123, 123, 124, 128 (122).

Turdus mupinensis

Turdus mupinensis appears to me to be most closely related to *T. musicus*, of which it is the geographical representative in China, but until further study it may be retained as a separate species.

In *T. mupinensis*, Bangs in 1921 separated the population of northern Yunnan from that of Szechwan as *conquisitus*, but *T. mupinensis* appears to be monotypic, because *conquisitus* does not seem valid. Bangs described this form as being "much more heavily spotted" below. No one seems to have questioned the validity of *conquisitus*, although the material available to its describer was very inadequate, consisting only of a single specimen from the Likiang Range in northern Yunnan compared to one from Szechwan. Bangs supported his action by stating that Rothschild (1921, *Novitates Zool.*, vol. 28, p. 32) had observed that a single adult from Yunnan was "much more heavily spotted on the flanks and abdomen" than a single adult from the Tsingling Range in Shensi.

I have compared the type of *conquisitus* with the specimens mentioned by Rothschild from Yunnan and Shensi and six additional specimens from Szechwan and can find no difference whatever. Bangs was misled by Rothschild as to the difference between the single specimens from Yunnan and Shensi. It is true that the one from Yunnan is "more heavily spotted" than the one from Shensi, but Rothschild failed to recognize that this last specimen was useless for comparison because it is in such very poor condition and was so badly prepared, I find, that it lacks all the skin from the breast down.

Turdus viscivorus

In *Turdus viscivorus* a very well-marked cline of decreasing saturation, best shown in the coloration of the upper parts, and of increasing size runs from west to east on the continent, from the British Isles to Russian Turkestan and the Himalayas. The western populations (nominate *viscivorus* Linnaeus, type locality, southern England) are brownish, with the feathers of the rump edged with yellowish buff, while the eastern populations (*bonapartei* Cabanis, type locality, Himalayas) are distinctly paler and grayish. There is virtually no difference in the density of the spotting or the size of the individual spots between the two forms, but in the eastern race the spots average less dark and the ground tone of the under parts is paler, more whitish, less strongly buffy, than in the western race, although in some individuals from Great Britain and the Himalayas the coloration of the under parts is virtually identical. In size, the wing length of adult males measured by me is 150–162 (154.5) in 19 from Great Britain against 162–175 (168.5) in 20 from eastern Afghanistan, Russian Turkestan, and the Himalayas. Dementiev (1935,

L'Oiseau, p. 424) stated that the populations grade very gradually into one another and that it is very difficult to define where they replace one another. He placed the eastern limits of nominate *viscivorus* at about the Urals, and I find that in northern Iran they replace one another very clearly at the southeastern corner of the Caspian.

In view of the clinal changes, I believe that the following forms are best synonymized with either nominate *viscivorus* or *bonapartei*. I consider the following to be synonymous with nominate *viscivorus*: *precentor* Clancey (1950, *Limosa*, vol. 23, p. 337, southern Scotland), a name given to the populations at the western end of the cline which differ only in series from topotypical nominate *viscivorus* from southern England by averaging a little darker; and three poorly differentiated intermediates, *jubilaeus* Lucanus and Zedlitz from western Russia, *uralensis* Zarudny from the southern Urals, and *bithynicus* Keve (1943, *Aquila*, vol. 50, p. 360, Mytilene), the name under which Keve separates the populations of western Asia Minor. In Khorasan and Transcaspia the populations (*transcaspius* Zarudny, type locality, Kopet Dagħ) average smaller in their measurements than topotypical *bonapartei*, but the size difference is insufficient to warrant the nomenclatural separation of these birds from *bonapartei*, with which they are identical in coloration including the spotting of the under parts. Three males measured by me from Transcaspia and Khorasan have a wing length of 163, 164, 167.

Breeding material from Iran shows very clearly that "*transcaspius*" is replaced in the southern Caspian from Gurgan westward by nominate *viscivorus*. In a resident series collected by Koelz which consists of two adults and 10 juvenal specimens from the region of Gurgan in Mazenderan and three adult and three juvenal specimens from northern Khorasan, the Mazenderan specimens are nominate *viscivorus* and the Khorasan specimens match perfectly two of Zarudny's specimens from Transcaspia, an August specimen and a topotype of "*transcaspius*" collected in June. Stresemann (1928, *Jour. Ornith.*, vol. 76, p. 380) identified his specimens from the southern Caspian as *transcaspius* but stated that these specimens, three adult males collected in May in Gilan and a specimen in juvenal plumage collected on August 6 in the region of Astrabad [=Gurgan], were identical in coloration with nominate *viscivorus*. Stresemann stated that his specimens from Gilan have a bill somewhat longer (1–2 mm.) than in nominate *viscivorus*. The length of the bill, measured from the nostril, is 15, 16, and 17.5 in his three males and 14.5 and 15.2 in my two males from Mazenderan, and 14–17 (15.4) in 17 males measured by me from Great Britain.

It may be added that I find that, with the exception of the populations

at both extremes of the cline, no two other populations within the entire range of the species are more clearly differentiated morphologically from each other than the population of Khorasan and Transcaspiya is from that of Mazenderan.

The third and only other subspecies of *T. viscivorus* inhabits Corsica, Sardinia, and north Africa. This race, *deichleri* Erlanger, type locality, Tunisia, is rather poorly differentiated. It is similar to *bonapartei* in coloration, but is smaller and similar in size to nominate *viscivorus*, the wing length of 14 adult males measured by me from north Africa being 150–160 (154.8). When compared in series the bill in the populations from north Africa is more attenuated than in nominate *viscivorus* and averages very slightly longer, but in some breeding specimens from Great Britain and north Africa the bill is identical in shape, and measurements show that there is an almost complete overlap in length. In the 14 males from north Africa the length of the bill from the anterior border of the nostril measures 14–17.5 (15.7) as against, as stated above, 14–17 (15.4) in 17 from Great Britain.

I consider that *reiseri* Schiebel, type locality, Corsica, is best synonymized with *deichleri*, and I find also that material from north Africa does not confirm the validity of *theresae* Meinertzhagen (1939, Bull. Brit. Ornith. Club, vol. 59, p. 67, type locality, Moyen Atlas). The populations (*reiseri*) of Corsica and Sardinia are said to be grayer above than nominate *viscivorus*, but the validity of *reiseri* has been questioned often. Specimens from Corsica were not available, but six from Sardinia are grayer above, especially on the rump, than nominate *viscivorus*, but not separable in coloration from *deichleri*. The bill in the specimens from Sardinia is similar to that of nominate *viscivorus*, but the small difference in bill characters, discussed above, does not seem sufficient to warrant the recognition of *reiseri*. In the specimens from Sardinia three adult males have a wing length of 151, 154, 156 and a bill length of 15.5, 16, 16.

Concerning *theresae*, which was described as being gray above as in *deichleri* but darker, I find that 17 adults from the Grand and Moyen Atlas, some of which are virtual topotypes of *theresae*, are identical with seven adults of *deichleri* from Algiers, Djelfa, and Lambèse in eastern Algeria. Only one of the 17 specimens from Morocco is darker than those from Algeria. All my specimens from both regions were taken before or during the breeding season and are in moderately worn to worn plumage. It is possible that a difference exists in fresh plumage (the type of *theresae* was collected on December 7), but Meinertzhagen states that three specimens collected in Morocco in April, June, and July are darker than a single March specimen from Tunisia. Subspecific differences in

coloration which are not apparent in the adult plumage are often well indicated in the immature plumage, but I find that one immature specimen from the Moyen Atlas is identical with one from Lambèse. These two specimens which were collected on May 30 and June 3 were very young for they had not yet started their post juvenal molt.

Altogether about 210 specimens of *T. viscivorus* were examined from the continent and 32 from Sardinia and north Africa. All plumages were represented.

Turdus naumanni

In *Turdus naumanni*, Johansen (1954, Jour. Ornith., vol. 95, p. 329) has separated the western populations of *T. n. eunomus* as *turuchanensis*, type locality, Dudinka, on the lower Yenisei, on the basis of being larger, "wing length of males 130–138 as against 125–130 in *eunomus*." I have not seen specimens from the western end of the range, but those that I have measured from the eastern limits of the range of *eunomus* suggest that the size difference noted by Johansen is not constant. It is possible that specimens from the eastern end of the range average somewhat smaller, but the variation seems too small to warrant the recognition of *turuchanensis*, and there is apparently a great deal of overlap in individual measurements. In breeding males measured by me, three from north-eastern Siberia and the Commander Islands have a wing length of 131, 132, 136, while 10 collected while on migration in Amurland and Ussuri-land measure 130, 132, 132, 132, 133, 133, 134, 134, 136, 137. These measurements suggest that the eastern populations are not smaller.

GRANDALA

This genus consists of a single species, *coelicolor*, which is so specialized that it has even been compared to starlings and swallows. Its position is uncertain although Ripley (1952, Postilla, no. 13, p. 13) following Seebohm (1881, Catalogue of the birds in the . . . British Museum, vol. 5, p. 327) believes that it is "most closely related" to the American bluebirds (*Sialia*) and places *Grandala* and *Sialia* close to the redstarts. This is open to question, because *coelicolor* seems to have nothing in common with *Sialia* except for the blue coloration, and even so *coelicolor* is blue throughout, not white on the abdomen and under tail coverts, and lacks the red breast of two of the three species of *Sialia*. It differs strikingly from *Sialia* by having a very much longer wing tip caused by much shorter secondaries. In the passerine birds, only the swallows have such a remarkably long wing tip. It differs also from *Sialia* in habits. *Grandala coelicolor* is extremely gregarious at all seasons, not solitary as is *Sialia*,

the males are suspected to be polygamous, and it builds a strongly constructed nest on open rock ledges, not a loosely made one placed in a cavity or inside a crevice as does *Sialia*.

Oberholser (1919, Jour. Washington Acad. Sci., vol. 9, pp. 405-407) has gone so far as to erect a separate family (Grandalidae) for *G. coelicolor*, but, while this action seems extreme, I agree with him when he states that "Even a casual examination is sufficient to show that *Grandala* has, as Oates [1890, The fauna of British India, vol. 2, p. 110] long ago concluded, nothing to do with *Sialia*," and I believe that it is "a highly specialized offshoot from the turdine stem."

Grandala coelicolor

This species appears to be monotypic. Bangs in 1926 separated the Chinese populations as *florentes* (type locality, Tatsienlu, now Kangting in eastern Sikang) from that of the Himalayas, because he thought that the birds of China are smaller and brighter blue in the male, but his material from China was very insufficient, consisting only of one male and one female. The validity of *florentes* has been disputed. Some authors accept it on the basis of size, such as Kinnear (1934, Jour. Bombay Nat. Hist. Soc., vol. 37, p. 358) who finds, however, that the difference in coloration is caused by wear, and Schäfer (1939, Proc. Acad. Nat. Sci. Philadelphia, vol. 90, p. 224) on both size and color differences, but Schäfer thought the males are duller not brighter! Other authors, such as Stone (1933, Proc. Acad. Nat. Sci. Philadelphia, vol. 85, pp. 203-204) correctly hold that any difference in coloration is due to seasonal variation, and Birkhead (1937, Amer. Mus. Novitates, no. 966, p. 10) concluded that there is too much overlap in measurements to warrant recognition.

A good series examined by me from China and the Himalayas, including topotypes from Sikang and Nepal (the type locality of *G. coelicolor* Hodgson), shows that there is no difference in coloration in either sex if specimens in the same state of plumage are compared. The measurements given below show too much overlap to warrant the recognition of *florentes* on the basis of size.

Wing length of males: Himalayas, 140, 141, 143, 144, 144, 144, 145, 146, 146, 147, 147, 150 (144.7); China, 139, 139, 140, 141, 142, 142, 142, 142, 142, 143, 143, 145, 145, 146, 146, 147 (142.8).

ENICURUS

Enicurus, or the Fork Tails, is another genus of uncertain affinities which is usually considered to form a separate tribe (Enicurini) of the subfamily Turdinae, or a subfamily (Enicurinae) by those authors who elevate the thrushes to family rank.

Enicurus scouleri

The range of *Enicurus scouleri* extends from southern Russian Turkestan and the Himalayas eastward to the mountains of central and southeastern China, Formosa, and northern Tonkin. The population of Formosa, which was separated as *fortis* by Hartert from *E. scouleri* Vigors, 1832, of the Himalayas, averages very slightly larger and taken in series has a somewhat larger white patch on the fore crown, but for reasons stated below it seems best to treat *E. scouleri* as a monotypic species.

The population of Formosa is very poorly differentiated, the wing measurements overlap, and in many specimens the white patch is similar to, or scarcely larger than, that in specimens from the Himalayas. Furthermore, the recognition of *fortis* complicates the identification of specimens from China that have been referred by various authors to either nominate *scouleri* or to *fortis*. Some specimens examined by me from various parts of China and from northern Tonkin are identical with specimens from the Himalayas, others are like the best-characterized specimens from Formosa, while still others are more or less intermediate. Under the circumstances it seems more constructive not to recognize nomenclaturally the poorly differentiated race of Formosa.

Wing length of adults: Sikkim, unsexed, 72, 72, 74, 75, 76, 76, 77; northern Tonkin, males, 72, 74; Kwangtung, male, 78; Fukien, males, 74, 75, 78; Szechwan, males, 74, 76, 76, female, 73; Shensi, males, 78, 78; Formosa, males, 74, 75, 76, 77, 78, 79, 80, 81, females, 75, 76, 76, 76, 77, 78, 78.

Enicurus leschenaulti

In *Enicurus leschenaulti* the validity of *indicus* Hartert, 1910, type locality, Assam, has been questioned, for instance, by Smythies (1953, Birds of Burma, Edinburgh, Oliver and Boyd, p. 123) who states that it is a synonym of *sinensis* Gould, 1865, type locality, Shanghai, but I find that *indicus* is a valid race. In a very large series that I have examined the outermost tail feather in *indicus* is only 10 to 15 mm. shorter than the next pair, while in specimens of *sinensis* collected in Yunnan and from southeastern China north to Shensi this feather is 30 to 50 mm. shorter. Specimens from Hainan are identical with those of China.

Enicurus maculatus

In this species the nominate race is replaced in the Himalayas from Sikkim eastward to northern Yunnan by *guttatus* Gould, 1865, type locality, Sikkim, and in southern China by *bacatus* Bangs and Phillips, 1914, type locality, Loukouchai near Mengtsz, southern Yunnan. The name currently in use for the population of southern China is *omissus*

Rothschild, 1921, type locality, Fukien, but apparently should be replaced by *bacatus*. Bangs (1930, Bull. Mus. Comp. Zoöl., vol. 70, p. 333) has stated that specimens from southern Yunnan and Fukien are identical, and I find that specimens collected not far from Mengtsz in the region of Laokay on the border of southern Yunnan and northern Tonkin are not separable from a series from Fukien, although the specimens from Laokay average smaller (see below). The series from Fukien includes the type and paratypes of *omissus*.

According to Stuart Baker, who separated the population of southern Annam as *robinsoni* in 1922, this population differs from *guttatus* by "being very much smaller and in having fewer and much smaller spots on the back . . . from . . . *omissus* [= *bacatus*] in having much smaller spots on the back." However, judging by the great range of individual variation in the magnitude and number of the white spots on the back, I doubt that *robinsoni* will be found sufficiently well differentiated to warrant its recognition, and I regard it provisionally as a synonym of *bacatus*. A lone specimen from Annam (a paratype of *robinsoni*) has only a few small spots but can be matched by the majority of the specimens examined by me from Sikkim and northern Yunnan and by half of the specimens from Tonkin.

Wing measurements of adults of both sexes taken by me in some populations of *E. maculatus* are as follows:

Sikkim: 92, 92, 96, 97, 98, 98, 99, 105, 107, 108 (99.2)

Northern Yunnan: 100, 102, 105

Fukien: 107, 108, 111, 111, 113, 115, 117 (111.7)

Northern Tonkin: 100, 104, 104, 105, 105, 106, 107, 108, 111, 115 (106.5)

Southern Annam: 112 (103–115 according to Baker)

ADDENDUM

After completing the study of the Turdinae, the notes on which are published in the present number of American Museum Novitates and in two earlier ones (1955, nos. 1706, 1731), I received an important publication issued at the end of 1954 by the Academy of Sciences of the Soviet Union. In this recent work (Synoptic tables, Fauna U.S.S.R., no. 54, birds, vol. 3), Portenko, the author of this volume, has described 16 new subspecies from the Palearctic region, eight of them thrushes. A brief discussion and the names of the new forms are given in the text (in Russian) and their diagnoses (in Latin) and type localities in footnotes. The forms proposed among the thrushes are listed below in the order in which they appear in the book, and my reasons for not recognizing these forms are given,

I would like to express my appreciation to the officials of the Academy of Sciences of the Soviet Union for sending me this publication and to Mme. Tatiana Gidasova of New York for translating the text.

1. *Oenanthe isabellina sibirica* (p. 162), type locality, Kacha River, region of Krasnoyarsk.

Portenko states that the populations which he describes as *sibirica*, found in southern Siberia from the Altai and Minusinsk Steppe to Krasnoyarsk and southern Transbaicalia, are darker above "in summer plumage" than the other populations of this species (which hitherto had been considered to be monotypic), more rosy on the breast in fresh fall plumage, darker in the immature plumage, and smaller. The wing length, according to Portenko, is in male *sibirica* 91–101 (96.08) as against 92–106 (97.9) in males of the other populations of *isabellina*. These measurements do not indicate a size difference of taxonomic importance, and as all the authors who have studied this species in detail (see Vaurie, 1949, Amer. Mus. Novitates, no. 1425, pp. 38–39) agree that its geographical variation is not constant or is much too slight to warrant the recognition of any subspecies, I consider *sibirica* to be a synonym of *isabellina* Temminck, 1829.

2. *Tarsiger cyanurus pacificus* (p. 191), type locality, southern Kuriles.

Portenko has described this new form, which he says ranges from Kamchatka and the Kuriles to Sakhalin and Japan, on the basis that it is grayer green and that more of its males are bluer and darker than in *ussuriensis* Stegmann, 1929. However, as stated in Vaurie (1955, Amer. Mus. Novitates, no. 1731, p. 12), the plumages of this species require further study, and *ussuriensis* is not constant and is not recognized as valid by Kozlova (1933, Ibis, pp. 321–322) or by the standard work on the birds of the Soviet Union (1954, Birds of the Soviet Union, vol. 6, p. 541). Because the same reasons for not recognizing *ussuriensis* apply equally well to *pacificus*, I consider this name synonymous with nominate *cyanurus* Pallas, 1773.

3. *Erithacus rubecula valens* (p. 193), type locality, Guraly, Crimea.

This new form is described as being paler above and more rufous in the tail than nominate *rubecula* Linnaeus, 1758, but less rufous on the upper tail coverts and tail than *caucasicus* Buturlin, 1907. In this species it is well known (see Vaurie, 1955, Amer. Mus. Novitates, no. 1731, p. 3, quoting the studies of Lack) that a cline in the increased amount of rufous pigments in the tail runs eastward, from nominate *rubecula* to *hyrcanus* Blanford, 1874, via *caucasicus*. The Russian authors recognize this last form as valid, but, as it is purely intermediate, I have followed Lack and synonymized it with *hyrcanus*. I see no point, therefore, in recognizing in the nomenclature still another intermediate and believe

that *valens* is best synonymized with *hyrcanus* also, or with *caucasicus* if the latter is recognized. Specimens from the Crimea are not available, and it is possible that *valens* would be best synonymized with nominate *rubecula* instead.

4. *Pseudaëdon* [= *Luscinia*] *sibilans swistun* (p. 196), type locality, Lake Mazharskoye, east of Minusinsk.

No subspecies have hitherto been separated in this species, but Portenko states that when "large series" are compared from the western and eastern ends of the range, the western ones, which he describes as *swistun*, are larger and paler above and have the scaly pattern of the under parts less conspicuous. He may consider the size difference to be the most important, as this is the first difference cited in the Latin diagnosis, but his measurements hardly establish a difference of taxonomic importance; the wing length, according to Portenko, is 67.5–74 in males, and 66–70.3 in females of *swistun* as against 66.4–68.7 in males and 64.5–67.4 in females of the eastern populations of *sibilans*. As these measurements show so much overlap, I doubt that *swistun* is a well-differentiated form, which seems best synonymized with *sibilans* Swinhoe, 1863.

5. *Luscinia megarhyncha tauridae* (p. 207), type locality, Chorgun, near Simferopol, Crimea.

Portenko has separated the population of the Crimea as *tauridae* on the basis of its being paler and larger than nominate *megarhynchos* Brehm, 1831, but more reddish and smaller than *africana* Fischer and Reichenow, 1884. No specimens from the Crimea are available but judging by this diagnosis the population of this region is intermediate, as one would expect, but as *africana* itself (the range of which extends in the northern Caucasus westward to about the region of Krasnodar) is not very sharply differentiated from nominate *megarhynchos* in coloration or size, the recognition of an intermediate between these two does not seem to be warranted. I consider *tauridae* synonymous with *africana*, but specimens from the Crimea may be closer to nominate *megarhynchos*. One cannot judge as to the size difference, as no measurements are given for *tauridae*.

6. *Oreocincla* [= *Zoothera*] *dauma exorientis* (p. 221), type locality, Suputinka River, Ussuriland.

Portenko has described under this name the populations of the "Far East" and Japan, separating them from *varius* Pallas [= *aureus* Holandre, 1825] of western and central Siberia on the basis that they are smaller, and the wing length of adults is 152–160 (157) as against 162–172 (166) in *aureus*. Portenko is quite correct in saying that these eastern populations are smaller in measurements, but they have already

been described by Momiyama under the name *toratugumi* (1940, Dôbutsu Zasshi, vol. 52, p. 462, type locality, Shikoku), of which *exorientis* becomes a synonym.

Although *toratugumi* is a recognizable race, the measurements taken by myself and also by Johansen (1954, Jour. Ornith., vol. 95, p. 319) show that there is a certain amount of overlap. Eleven adult males of *aureus* measured by me have a wing length of 161–173 (168) and two measured by Johansen, 172, 173, as against 154–163 (160) in six males measured by me from Japan, and 150–168 in 37 adults of both sexes from Japan according to Johansen. It is difficult to define where the two races replace each other on the continent, because, as stated by Johansen, the populations of eastern Siberia, Ussuriland, Korea, and Manchuria are intermediate. The population of Ussuriland at any rate seems to be much closer in measurements to *toratugumi* (a lone male measured by me from Ussuriland has a wing of 160), while the measurements given by Yamashina (1939, Tori, vol. 10, p. 496) for the population of Manchuria (160–167 in six adults) suggest that the latter is closer to *aureus*. It has not been established with certainty that the species breeds in Korea.

7. *Turdus viscivorus expetibilis* (p. 227), type locality, Katon Karagai, Russian Altai.

8. *Turdus viscivorus tauricus* (p. 227), type locality, Totakoi, [about 10 kilometers southeast of] Simferopol, Crimea.

This species shows a strong cline of decreasing saturation running from west to east which is discussed elsewhere in this paper (pp. 9–10), and a number of intermediate forms have been described. In view of the clinal variation the nomenclatural recognition of the two additional forms proposed by Portenko does not seem warranted, as they are intermediate also in their coloration, and I consider *expetibilis* to be synonymous with *bonapartei* Cabanis, 1860, and *tauricus* synonymous with nominate *viscivorus* Linnaeus, 1758. However, it is possible that *tauricus* is separable on the basis of measurements, because Portenko states that it is very much smaller than nominate *viscivorus*, its “wing length averaging 147.2 in males and 146.6 in females” but individual measurements, which were not given by Portenko, should be compared before *tauricus* is recognized. Nineteen males measured by me from England (the type locality of nominate *viscivorus*) measure: 150, 150, 150, 150, 151, 152, 152, 153, 154, 154, 155, 156, 156, 157, 157, 157, 158, 161, 162 (154.4), but Witherby (1940, Handbook of British birds, vol. 2, p. 114) has measured males from England with a wing of 145.