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Systematic Notes on Palearctic Birds. No. 17 Laniidae

By Charles Vaurie

The following notes were made during a study of the present family for a proposed check list of the Palearctic region. Nine of the 14 species that occur in this region, or some of their races, are discussed: *Lanius bucephalus, L. collurio, L. senator, L. vittatus* (in which a new subspecies is described), *L. schach, L. tephronotus, L. minor, L. excubitor,* and *Tchagra senegala.* I am indebted and would like to express my appreciation to Mr. J. C. Greenway, Jr., of the Museum of Comparative Zoölogy for the loan of a critical type, and to Dr. D. Amadon for reading and criticizing the manuscript.

Lanius bucephalus

Bangs and Peters described a new race of this species from southwestern Kansu in 1928 which they called *salicarius.* The new race is based on a single specimen and no additional one has apparently been collected or reported since. Through the courtesy of Mr. J. C. Greenway, Jr., I have been able to examine this specimen, which is an adult female in worn plumage collected in May. It represents a very distinct race differing from female nominate *bucephalus* of which 30 specimens were examined by being, as stated by Bangs and Peters, much more extensively barred below, with the individual bars broader and blacker. The other differences cited by the authors of *salicarius* require comment. They state that this specimen differs also by being darker on the crown and ear coverts, by having the back olivaceous gray, not brownish, the tail more slaty, and the bill all black and more slender. This specimen,

I find, is soiled and somewhat greasy and shows no certain difference in the color of the crown or ear coverts, the color of its tail is identical with that of the great majority of the females of nominate *bucephalus,* and, while it is gray on the mantle, the only female in similar plumage examined (collected on May 18 on Hokkaido) has also lost all traces of brown on the back. In almost a third of the 30 females of nominate *bucephalus* the bill is identical in shape with that of *salicarius,* but in all the 30 specimens the lower half is pale horn color, particularly at the base, not all black as in the type of *salicarius.*

Although only a single specimen of *salicarius* is known, the fact that it was taken in Kansu in worn breeding plumage in May favors the validity of this race, as the nearest breeding populations of nominate *bucephalus* are well separated from Kansu, being known so far only from Shantung and Hopeh.

Lanius collurio

The red-backed (*collurio*) and red-tailed (*isabellinus*) shrikes are considered by some authors to be separate species, but, as they replace each other geographically and it is well known that they are not reproductively isolated, it seems best to follow the more prevalent view that they are conspecific. As shown by Stegmann (1930, Ornith. Monatsber., vol. 38, pp. 106–118), Johansen (1952, Jour. Ornith., vol. 92, pp. 198–202), and several other authors, they interbreed freely where their ranges meet, and all sorts of intermediates are known. Their conspecificity is supported by their habits and attitudes which are said to be identical and the fact that, according to Johansen, their ecological requirements are the same in the regions where they meet.

The populations of the *collurio* type range from Europe eastward to the Altai and northern and southwestern Iran, and have been divided into four subspecies, two of them described very recently, *juxtus* Clancey (1951, Bonner Zool. Beitr., vol. 2, p. 83, type locality, southern England) and *pallidifrons* Hans Johansen (1952, Jour. Ornith., vol. 92, p. 199, type locality, Tomsk, western Siberia). A cline of decreasing saturation runs from west to east, and *juxtus* is separable from nominate *collurio* Linnaeus (type locality, Sweden) by being darker on the mantle in males, more chestnut, less brightly rufous, while *pallidifrons* is paler in males than nominate *collurio,* especially on the head.

The difference between *juxtus* and nominate *collurio* is relatively slight but in the material examined quite constant. An occasional specimen of nominate *collurio* matches the birds of England, but they are few and they seem to occur only in the southern part of the range of this race, where

two out of seven from Sardinia and two out of three from Italy are as dark on the mantle as *juxtus*. Twenty-eight other males from western Russia, Germany, France, Switzerland, and Romania are as bright as six topotypes of nominate *collurio,* while only one of 12 males from England is as bright as the specimens from Sweden. This material does not confirm, however, that the other imputed characters of *juxtus,* a darker rump and wings and slightly more violaceous under parts, are constant, and I cannot discern any appreciable difference in females, although one or two from England are perhaps somewhat more heavily squamated below than is normal in nominate *collurio.* It is clear, however, that Clancey considers the coloration of the mantle in the males to be the most important taxonomic character.

No specimens of *pallidifrons* are available to me at present, but through the kindness of Dr. Johansen I was able to examine in Copenhagen his fine series from Siberia which shows that *pallidifrons* is a valid race. The western limits of this race remain to be defined, but all the populations at the eastern end of the range of the *collurio* group in Siberia are *pallidifrons,* according to Johansen. The collection of the American Museum of Natural History contains a specimen taken while on migration near Bukhara on May 20 which seems to be of this race.

The validity of *kobylini* Buturlin, type locality, Transcaucasia, has been questioned. Olivier (1944, Monographie des pies-grièches du genre *Lanius,* Rouen, Lecerf, p. 94) believes that it is not sufficiently constant and should be synonymized with nominate *collurio.* However, a series examined from Iran shows that this population cannot be referred to this race and that *kobylini,* the range of which extends from the Crimea to Iran, is a very distinct form and should be recognized although it is very variable individually. In 17 males from Iran the rufous pigments of the mantle vary in extent and shade from specimens in which the whole mantle is rufous, as in nominate *collurio,* to others in which the rufous pigments become progressively more reduced in distribution and virtually disappear, to be replaced by brownish or grayish brown. In all but six specimens the rufous area is much more restricted than in nominate *collurio,* and in all specimens the rufous pigments are much duller though not necessarily paler. In 14 specimens the ashy crown and neck are paler to very much paler than in nominate *collurio,* and in some specimens the fore crown is almost whitish.

These specimens, which were collected during the breeding season in eastern Mazenderan in the north and in Luristan and Bakhtiari in the Zagros in the southwest, suggest strongly that a rather free amount of gene flow, which expresses itself in various ways, takes place in Iran be-

tween the two groups of the species, *phoenicuroides* of the *isabellinus* group replacing *kobylini* of the *collurio* group as the breeding race in northeastern Iran and in southern (Kirman) and southeastern Iran. Paludan (1940, *in* Danish scientific investigations in Iran, pt. 2, Copenhagen, pp. 43-44) has reported a series collected during the breeding season in the region of Gurgan in eastern Mazenderan, consisting also of 17 specimens which show many signs of hybridization. Judging by the account of Paludan, the mixture of characters is even more strongly marked in his specimens than in those that I have examined.

It may be added that the validity of *kobylini* is recognized in the latest work on the birds of the Soviet Union (1954, Birds of the Soviet Union, Moscow, vol. 6, pp. 11-13) and that, although *kobylini* does not seem to have been reported before from southeastern Europe, it occurs there on migration, as I have examined two specimens collected in Greece in April.

The populations of the *isabellinus* type replace those of the *collurio* group in the eastern part of the range of the species and have been separated into four subspecies also. These are described in detail and their ranges given by Stegmann (*op. cit.*) in his review of the species. Three, and possibly all four, have been examined by me. Of the four races (*phoenicuroides, isabellinus, speculigerus,* and *tsaidamensis*) the first is the most variable individually. It varies in males from specimens that are buffy brown on the mantle and rufous on the crown to others that are pale gray brown on the mantle and pale mouse-gray on the crown. All the specimens have, however, a blacker facial mask, a well-indicated white mirror in the wing, and darker wings and tails than *isabellinus*. The latter is always pale sandy buff above in both sexes, and the males very often lack the mirror in the wing or, if the mirror is present, it is more or less tinged with buff, *lehmgelblich* according to Stegmann, not pure white. However, a few of the paler males of *phoenicuroides* approach *isabellinus* in the general tone of their coloration, which is true also of some females, because the difference in coloration between the two races is less clear cut in the latter than in males, the facial mask of female *phoenicuroides* being brownish and the mirror in the wing lacking or buffy as in male *isabellinus*.

The paler specimens of *phoenicuroides* have caused much confusion in the literature, and Dementiev (1935, L'Oiseau, pp. 94–97) was led to believe that it is possible that only one highly variable form may be involved, although he recognizes both *phoenicuroides* and *isabellinus* and defines their ranges. He states that the dark *phoenicuroides* predominates in the mountains of Russian Turkestan and the pale *isabellinus* in the plains but finds many exceptions to this "rule," some of which are dis-

cussed below. His definition of the ranges of the two races is diametrically opposite in most respects from the statements of range given by all other authors. He states that *isabellinus* ranges from the southern Kirghiz Steppes southward through the plains of Russian Turkestan and Transcaspia to Iran, while *phoenicuroides* is the breeding form of the mountains of Turkestan and Transcaspia. The material examined by me does not support Dementiev.

This material consists of 349 specimens and is listed, as the remarks that follow are based on its distribution. It includes a number of specimens in juvenal plumage, but almost all of these, as well as the females which are less diagnostic, were not used for comparison.

Lanius c. phoenicuroides: Aral Sea region, four breeding specimens; Russian Turkestan, 37 breeding and 19 taken after or before the breeding season (such specimens are called migrants hereafter); Transcaspia, 13 breeding and two migrants; Iran, 32 breeding and 41 migrants; Afghanistan, 14 breeding and nine migrants; Arabia, 12 migrants and one winter visitor (collected on December 15); Africa, 57 winter visitors.

Lanius c. isabellinus: Russian Turkestan, 20 migrants; Transcaspia, two migrants; Iran, 24 migrants and winter visitors; Afghanistan, 31 migrants and winter visitors; India, 19 winter visitors (collected in the Punjab and Sind); Abyssinia, two winter visitors; eastern Sudan, one winter visitor (Suakin district). Some of the specimens identified as *isabellinus* may be *tsaidamensis* (see below).

Lanius c. speculigerus: Transbaicalia and northern Mongolia, five breeding; Transcaspia, two migrants; Iran, one migrant and one winter visitor.

It can be seen from this large series that the only breeding race examined from Russian Turkestan, Transcaspia, Iran, and Afghanistan is *phoenicuroides,* and that *isabellinus* occurs in these regions only as a migrant (according to the labels from March to the beginning of May and from the end of August to the end of October) or as a winter visitor (from November to February). The breeding range of *phoenicuroides* extends to Baluchistan proper, according to Ticehurst (1926, Jour. Bombay Nat. Hist. Soc., vol. 31, p. 702). No breeding specimens of *isabellinus* were examined, but all authors (including the recent "Birds of the Soviet Union"), with the exception of Dementiev, agree that this race breeds only in Chinese Turkestan. All the specimens that I believe to be *isabellinus* agree in all details with the description of this race given by Stegmann.

Dementiev stated that the pale form which he calls *isabellinus* inhabits the lowlands and *phoenicuroides* the highlands of Russian Turkestan, but he saw that there are many exceptions, for example, that *isabellinus* breeds in the mountains of Ferghana and at Naryn in the Tian Shan. In the material that I have examined, one breeding bird from Ferghana and

two from Naryn are typical *phoenicuroides,* and several immature birds from this last locality appear also to belong to this race. A series of nine breeding birds examined from Djarkent are all very typical of *phoenicuroides,* although this locality is in the lowlands, in the plain of the Ili River at what seems to be only about 2000 feet in altitude. Meinertzhagen (1938, Ibis, p. 675) reports that birds which seemed to be starting to nest in the plains of Afghan Turkestan were typical *phoenicuroides,* although he had expected to find *isabellinus* to be the breeding form. It is not so certain, therefore, that the pale and dark forms (identified by some authors as being, respectively, *isabellinus* and *phoenicuroides* but which appear to be color phases of the latter) replace each other altitudinally.

This series also throws some doubt on the records and statements in the literature which purport to show that *isabellinus* winters commonly in Africa. Its winter quarters seem to be rather the southern parts of the Iranian region and the plains of southern Iraq and northwestern India and Sind, although a few apparently reach Abyssinia and the Sudan. In Africa, *isabellinus* is reported also from the vicinity of Lake Chad, northeastern Belgian Congo, and Uganda and Kenya, but Olivier (*op. cit.,* p. 85) states that the specimens collected in the region of Lake Chad are all in molt and cannot be identified with certainty as to subspecies, while all the many specimens examined by me from Uganda and Kenya appear to be *phoenicuroides.* Chapin (1954, Bull. Amer. Mus. Nat. Hist., vol. 75B, p. 73) collected a series of six specimens in the Congo which he called *isabellinus,* apparently on the authority of Hartert to whom, as noted on the labels, some of these specimens were sent for identification. However, although the under parts of these specimens are less whitish than is normal in *phoenicuroides,* they appear to belong to this race, because all six have a very much darker tail than *isabellinus,* a blacker facial mask, and all the males have a conspicuous white mirror in the wing. The specimens from the Congo in which the plumage is fresher are also brownish above, not sandy, and distinctly darker than *isabellinus.*

Another difference between *phoenicuroides* and *isabellinus* which may be correlated with the longer migration of *phoenicuroides* is of interest although slight and not very constant. As noted by Stegmann, *phoenicuroides* usually has a more pointed wing than *isabellinus.* In the great majority of cases the second primary in *phoenicuroides* is longer and only a few millimeters shorter than the fifth and sometimes is almost equal, the distance usually varying from 2 to 6 mm. shorter, whereas in all the specimens of *isabellinus* measured the distance was not less than 6, usually varying from 6 to 10 mm. In this respect, *phoenicuroides* approaches the forms of the *collurio* group in which the second primary is longer than

the fifth but in quite a few specimens is only very slightly longer. The few specimens of *speculigerus* available have a wing tip similar to that of *phoenicuroides*.

Specimens from Tsinghai, the breeding range of the fourth race (*tsaidamensis*), are not available, but some specimens listed above as *isabellinus* may belong to this race, as they seem to correspond to the diagnosis of *tsaidamensis* given by Stegmann who says that it is considerably larger and somewhat paler than *isabellinus*, its wing measuring 90–99 (96.4) in 21 specimens as against 85–93 (89) in 81 specimens of *isabellinus*. In 30 adults picked at random from the series listed as *isabellinus*, the wing measures 87–100 (93), and about half of the specimens with the longer wings are very slightly paler, and in one or two instances distinctly paler, than those with the shorter wing lengths. It is possible that these may be *tsaidamensis*, which appears to be a valid race, and it is of some interest to note that most of the specimens with the long wings were winter visitors collected in Afghanistan or India, which suggests that the winter quarters of *tsaidamensis*, which are unknown, may be chiefly in the eastern part of the winter range of *isabellinus*.

Lanius senator

In *Lanius senator* three well-characterized races are generally recognized: nominate *senator* Linnaeus, 1758, type locality, the Rhine; *niloticus* Bonaparte, 1853, type locality, the White Nile; and *badius* Hartlaub, 1854, type locality, Gold Coast. The breeding range of the first extends from northwestern Africa and Europe to Asia Minor; *niloticus* breeds in the Near East and in Iran, and differs from nominate *senator* by having the base of the central tail feathers always broadly banded by white and by showing more white in the wing, the exposed part of the speculum extending beyond the primary coverts by 17–21 (19) in 13 adult males as against 10–16 (13) in 64 adult males of nominate *senator*. The males of *badius*, which is restricted as a breeding bird to the Balearic Islands, Corsica, and Sardinia, differ from those of the other two races by almost always lacking a speculum, by having a narrower black band on the fore crown measuring 5–8 (6.5) in eight males as against about 10 in nominate *senator* or *niloticus*, and usually by having a somewhat more robust bill. The winter quarters of this species are in tropical Africa north of the Equator, from the Gold Coast in the west to western Kenya in the east.

Other races, which are discussed below, have been described by Kleinschmidt, but these are not sufficiently constant or are much too poorly differentiated, in my opinion, to warrant their recognition, and an addi-

tional race has been described recently by Clancey (1948, Bull. Brit. Ornith. Club, vol. 68, p. 91). This author states that in this form, restricted to Sicily and which he calls *hensii,* the under parts are darker than in other races, "strongly washed with reddish brown as opposed to yellowish sandy in all other races." No specimens from Sicily are available, but before admitting this new race, which is based on five specimens in worn plumage or in molt, I believe that additional specimens in various plumages should be examined, because in other populations specimens can be found that are tinged with rust below, but this character is not constant. Until then I consider *hensii* to be synonymous with nominate *senator.*

Clancey recognizes *flückigeri* and states that *weigoldi* and *italiae* are valid. These forms as well as *erlangeri* were described by Kleinschmidt between 1907 and 1922, *flückigeri* in 1907 from Algeria, *erlangeri* in 1919 from Tunisia, *weigoldi* in 1919 from Spain, and *italiae* in 1922 from Italy. Because there has never been any agreement as to which, if any, of these forms are valid, they are briefly discussed below. They were described on the basis that in *flückigeri* the buffy wash below is darker than in nominate *senator* and the black band on the forehead narrower, that *erlangeri* is paler than *flückigeri* (all authors agree that *erlangeri* is a synonym of *flückigeri*), that *weigoldi* is colored like *flückigeri* but "strikingly" smaller and has a wider frontal band, and that *italiae* is colored like *weigoldi,* "considerably" large than *badius,* and often has a white band at the base of the central tail feathers. Other authors have added that the red cap in *flückigeri* is darker than in nominate *senator* and that this pigment extends farther down onto the mantle, that the black of the mantle is less intense and the oral spot buffy, not white.

As this species migrates through northwestern Africa and the Mediterranean, it is not certain that specimens collected in these regions before or after the breeding season are local birds. If a comparison is restricted to material collected during this season, which extends from about the last week in April to the middle of June, such a series shows very clearly that none of the putative characters of *flückigeri, weigoldi,* or *italiae* are constant. The under parts are darker in only about one-third or fewer of the specimens from northwestern Africa compared to a series of nominate *senator* collected mostly in Germany, the coloration in the darker birds varying from slightly less whitish to darker buff or slightly tinged with rust. A series from the Iberian Peninsula is identical with the specimens from Germany, while a small series from Italy averages slightly more buffy. None of the other color characters are constant and these, as well as the width of the frontal band (see below), vary individually to the

same extent in all populations. Two of the five specimens examined from Italy have a band of white at the base of the central tail feathers, whereas this band is present in only one of 12 specimens from Germany, France, and Switzerland. However, a cline in the increased presence of this character seems to run from west to east, and in Macedonia, according to Stresemann (1920, Avifauna Macedonia, Munich, Dultz, p. 111) a white band is present in about half of the specimens, Macedonia approaching the range of *niloticus,* the race in which a white band is always present. The fact that such a band is shown by occasional specimens from Italy does not seem, therefore, to be a sufficient basis on which to base a name.

The measurements given below, restricted to males collected during the breeding season, suggest also that the average wing length increases from west to east, but the individual measurements show a great deal of overlap. In short, although the individual populations examined vary slightly from one another, none is truly separable, and this study confirms the views of the various authors who, at one time or another, have rejected all the races proposed by Kleinschmidt.

MEASUREMENTS: The width of the frontal band was measured from the base of the bill to the center of its posterior border.

Lanius senator senator

Spain and Portugal: Wing length, 92, 93, 93, 93, 93.5, 94, 94, 95, 96 (93.7); width of frontal band, 7, 8, 8, 10, 10, 10, 10, 11, 11 (9.5).

Morocco: 92.5, 93, 95, 95, 98 (94.5); 8, 8, 9, 10, 12 (9.4).

Algeria: 93, 93, 94, 94, 95, 95, 96, 96, 96, 97, 98, 98, 98, 98, 99, 99, 100, 100, 101, 102 (97.1); 8, 8, 9, 9, 9, 9, 10, 10, 10, 10, 10, 10, 11, 11, 11, 11, 11, 11, 12, 12 (10.1).

Tunisia: 94, 97, 97, 98, 99 (97); 8, 10, 10, 10, 10, (9.6).

Cyrenaica: 99, 102, 102; 9, 10, 13.

Germany (8), France (3), Switzerland (1): 95, 96, 98, 98, 98, 99, 100, 100, 100, 101, 101, 103 (98.7); 9, 9, 9, 10, 10, 11, 11, 11, 11, 11, 12, 13 (10.6).

Italy: 95, 97, 101, 101, 101 (99); 9, 10, 10, 11, 12 (10.4).

Greece: 101, 104; 13, 13. Corfu: 101; 13. Crete: 99, 100; 12, 13.

Lanius senator badius

Sardinia (6), Corsica (1), Balearic Islands (1): 96, 96, 97, 98, 99, 99, 100, 104 (98.6); 5, 5, 5, 6, 7, 8, 8, 8 (6.5).

Lanius senator niloticus

Syria: 100; 10. Iran: 97, 98.5, 100, 101, 101, 101, 102, 102, 102, 102, 103, 104 (101.2); 8, 8, 9, 10, 10, 10, 10, 11, 12, 12, 14, 14 (10.6).

Lanius vittatus

The bay-backed shrike is restricted to India, Afghanistan, Baluchistan, and southeastern Iran and has been reported from Transcaspia. In Iran it is known only from Persian Baluchistan where, according to Ticehurst (1926, Jour. Bombay Nat. Hist. Soc., vol. 31, p. 702), the range extends to about 100 miles west of Bampur, and it is possible that it breeds also in Khorasan. No evidence of geographical variation has been reported hitherto in the literature, but a series of 94 specimens examined from India, Afghanistan, and Persian Baluchistan shows that the last population is clearly distinct from that of India, and I propose to separate it as follows:

Lanius vittatus nargianus,[1] new subspecies

TYPE: A.M.N.H. No. 661480, Rothschild Collection; adult male; Champ, southern Persian Baluchistan; April 6, 1901 [Russian calendar corrected to April 20]; N. Zarudny, collector.

Paler above in both sexes and in all plumages than nominate *vittatus* and averaging larger.

RANGE: Persian Baluchistan, (Khorasan?), Transcaspia, Afghanistan, and probably Baluchistan proper.

The series from Persian Baluchistan consists of 12 males, two of them in very worn plumage, two females, and two immature birds in barred plumage, and is very clearly paler in all plumages than nominate *vittatus* Valenciennes, 1826, the type locality of which is Pondichéry in southern Madras. The males of *nargianus* are bright chestnut on the mantle, not very deep chestnut, dark bay, or dark maroon as in nominate *vittatus*, and the females are rufous ocher but not chestnut. The immature specimens are grayer and paler on the back, lack the strong rufous tinge of eight specimens in similar plumage from India, and their tails are very much duller and grayer, not so rufous. Other differences, which are slight, are that adult *nargianus* averages whiter below, tends to be paler on the crown, has the black band on the fore crown almost always more restricted, its posterior border usually ending before the eye or at its most developed reaching to the top of the eye but not beyond the eye as is usual in nominate *vittatus*, and the black spots on the outer rectrices average smaller.

From the specimens examined from India it is clear that the color of the mantle in this species foxes with age, the pigments becoming brighter

[1] The native name of this shrike is *Nargiani* in Baluchi, according to Ticehurst.

rufous. The series from India consists chiefly of fresh or relatively fresh skins collected from 1931 to 1953, and, as the series from Persian Baluchistan was collected in 1898 and 1901, its coloration has probably changed to an uncertain extent, but 10 very old skins from India are still considerably darker chestnut than the series from Iran. The 10 old skins from India are not dated, but, as almost all were collected by Elwes, they were probably taken around 1865 or 1870. Furthermore, in skins in comparative plumage collected on the same dates in 1937 in Afghanistan and Madras, those from Afghanistan are very distinctly paler and brighter.

Judging by these specimens from Afghanistan (they were collected in the east) and the other specimens from Persian Baluchistan and India, a cline of increasing saturation runs from west to east, and from northwestern India south through western India (Rajputana and Kathiawar) to central India and from there to southern Madras. This cline seems to be accompanied (table 1) by a cline of decreasing size, as shown in the length of the wing and bill. The name *hardwickii* Vigors, 1831, type locality, Himalayas, restricted to Simla-Almora district by Ticehurst and Whistler (1924, Ibis, p. 471), is available for the birds of northwestern India. But judging by specimens collected in northern Punjab and Garhwal in 1931 and 1946–1948, compared with specimens collected in southern Madras in 1937 and in 1948, the northern populations are only slightly paler, whereas, on the other hand, a clear step in the cline separates the population of northwestern India from that of Afghanistan. The population of Afghanistan is darker than that of Persian Baluchistan but is much closer in coloration to this population than it is to the populations of India. No specimens were available from Baluchistan proper, but I would expect that the population of this region is *nargianus* and that of Sind is probably closer to this race in coloration than it is to the population of Madras.

The literature states that the sexes are alike in coloration in this species (Whistler, 1935, Jour. Bombay Nat. Hist. Soc., vol. 38, p. 305) and that it is migratory, being only a summer visitor to northern Punjab, according to Ticehurst (1922, Ibis, p. 606), quoting Whistler. The species may be partly migratory in the Punjab, but some birds pass the winter in this region, as I have examined specimens collected in northern Punjab on January 28 and February 10. If it be assumed that the many female specimens were not incorrectly sexed, the sexes are not alike, the mantle in the females being very distinctly paler than in the males and the black area on the fore crown smaller and somewhat browner, not pure black.

In *nargianus* the feet are almost always heavier and stronger than in nominate *vittatus,* although this fact cannot be expressed in terms of measurement.

TABLE 1

MEASUREMENTS[a] OF ADULTS IN SOME POPULATIONS OF *Lanius vittatus*

Race and Region	N	Wing	Tail	Bill
L. v. nargianus				
Persian Baluchistan	10 ♂[b]	86–92 (88.8)	84–93 (88.5)	17–20 (18.5)
	♀	87.5, 88	87, 90	17.5, 20
Afghanistan	♂	89, 89.5, 93	88, 90, 96	18, 18, 18.5
	♀	88, 89	88, 91	18.5, 19
L. v. vittatus				
Northern Punjab and Garhwal	♂	85, 85, 87	88, 88, 91	17.5, 17.5, 18
	♀	84	85	17.5
Central India	9 ♂	83–88 (85.4)	85–90 (89)	16–18 (17)
	♀	84, 84, 85	87, 88	15.5, 16.5, 17
Bihar	5 ♂	84–87 (85.8)	85, 88, 92, molt	17–17.5 (17.1)
	♀	84	Molt	17
Southern Madras	9 ♂[c]	82.5–88 (85.5)	85–95 (87)	16–18 (16.5)
	4 ♀	82–85 (83.5)	82–86 (84)	17–17.5 (17.2)

[a] Specimens in very worn plumage or isolated specimens from India were not measured.

[b] Type of *nargianus:* wing, 90; tail, 92; bill, 20.

[c] Includes one from Mysore.

Lanius schach and *Lanius tephronotus*

These two closely related shrikes, which have been discussed extensively in the literature, have been well studied by Dunajewski (1939, Jour. Ornith., vol. 87, pp. 28–53) and Biswas (1950, Jour. Bombay Nat. Hist. Soc., vol. 49, pp. 444–455). These authors consider *L. tephronotus* to be a separate species, which Biswas states is sympatric with *L. schach* in Kumaon, adding that he has found no evidence whatever of intergradation between these two forms in the western Himalayas, although Ticehurst (1926, Jour. Bombay Nat. Hist. Soc., vol. 31, p. 495) had maintained that they intergraded very freely in this region. Dunajewski and Biswas correctly use the name *L. tephronotus* Vigors for the Tibetan

shrike and not *nipalensis* Hodgson (for a discussion of the correct type locality of *L. tephronotus* Vigors, see Mayr, 1947, Jour. Bombay Nat. Hist. Soc., vol. 47, pp. 125–126).

Lanius tephronotus breeds only in the Palearctic region, where *L. schach,* an oriental species, is represented by only two races: *erythronotus* Vigors, the breeding range of which extends from northwestern India through Afghanistan to Russian Turkestan; and *tricolor* Hodgson, which extends only a little way, up to about 6000 feet in the central and eastern Himalayas, but which reaches 10,000 feet in northern Yunnan.

The westernmost populations of *L. schach* have been separated as *jaxartensis* Buturlin, 1911 (type locality, Syr Darya), from *erythronotus* Vigors, 1831 (type locality, Lucknow, as restricted by Baker in 1921), on the basis that they measure larger, but I do not believe that this separation can be upheld. Buturlin stated that the wing length in *jaxartensis* measures 93–100, not 93–110 as quoted in error by Hartert (1921, Die Vögel der paläarktischen Fauna, p. 2132). Dementiev (1935, L'Oiseau, p. 99) recognizes *jaxartensis* but adds that it is very "weakly characterized" and refers the population of the Pamirs to *erythronotus,* stating that males from this region measure 89.6–95. Ivanov (1940, Oiseaux du Tadjikistan, Moscow, pp. 202–203) recognizes *jaxartensis* also, but the measurements that he gives of this form do not seem to differ from those of breeding specimens of *erythronotus* measured by me from northwestern India and Afghanistan in which the length of 20 adults is 88–98 (94). According to Ivanov, 26 specimens from Ferghana measure 93–96 (94.1) and 23 from Tadzhikistan 91–95 (92.3), and specimens are occasionally found in these regions with a wing length of 89 and others with one of 98 and 99. In the latest publication from Russia (1954, Birds of the Soviet Union, vol. 6, p. 54), *jaxartensis* is considered, correctly I believe, to be synonymous with *erythronotus.*

Three other forms which have been separated nomenclaturally in *L. schach* are briefly discussed here, although they are not Palearctic in distribution. Two of these appear, in my opinion, to be insufficiently well differentiated to warrant their recognition. These are *kathiawarensis* Koelz (1950, Amer. Mus. Novitates, no. 1452, p. 7, type locality, Kathiawar Peninsula), which is best synonymized with *caniceps* Blyth, 1846, of peninsular and southern India; and *hainanus* Birckhead (1937, Amer. Mus. Novitates, no. 966, p. 12, type locality, Hainan), which is best synonymized with *formosae* Swinhoe, 1863, of Formosa. The comparative material (see list in Biswas) used in the description of *kathiawarensis* shows, I find, that about a third of the specimens of *"kathiawarensis"* are

identical with those of *caniceps*. The others are paler gray above and show a tendency for the rufous of the rump to extend farther up, but these differences are average differences only and they are very slight.

Dunajewski questioned the validity of *hainanus,* and this form, together with *formosae,* is considered to be synonymous with nominate *schach* Linnaeus, 1758, of southern China, by Olivier (1944, Monographie des pies-grièches du genre *Lanius,* Rouen, Lecerf, pp. 216–222). However, it seems that *formosae* is perfectly valid, for a good series examined from Formosa shows that this population differs very distinctly from nominate *schach* in comparative plumage examined from the Yangtze Valley, by being much paler and whiter below, not so pink on the breast, and much less rufous on the flanks, lower belly, and under-tail coverts. It is also paler rufous above and has the tips and edges of the rectrices dingy gray, not tinged with rufous.

Mayr, who suggested that I reëxamine *hainanus,* has stated (1939, Ornith. Monatsber., vol. 47, pp. 63–64) that this form and *formosae* are identical in coloration but that *hainanus* is smaller, measuring in eight adult males, wing 98–103 (100.9) and tail 122–129 (125.6) as against, respectively, 103–109 (105.4) and 129–138 (134.5) in 13 adult males of *formosae.* My examination supports the findings of Mayr, but little is gained by recognizing such a slightly differentiated race as *hainanus.*

Lanius minor

In *Laninus minor,* although the populations of Asia tend to be larger and paler than those of Europe, most adult specimens from the eastern end of the range are identical in coloration or (see below) in size from those of the west. Virtually no author recognizes *turanicus* Fediuschin, 1927, described from Russian Turkestan, but this race, although it is not strongly differentiated, seems to be valid, because all the juvenal specimens in barred plumage examined from the western and eastern ends of the range are clearly separable. Those from the east are paler above and are more sandy in tone, less gray, than those from the west, as stated by Fediuschin in the description of *turanicus.* The juvenal specimens examined by me consist of 17 from Germany and Italy and 13 from Iran, Afghanistan, Transcaspia, and Russian Turkestan.

It is difficult to state where the two races replace each other. The population of Asia Minor and, according to Fediuschin, that of the Caucasus are nominate *minor;* the populations of Iran, Afghanistan, Transcaspia, and Russian Turkestan, and probably of western Siberia,

according to Johansen [1952, Jour. Ornith. (1944), vol. 92, p. 194], belong to *turanicus.*

MEASUREMENTS OF ADULT MALES: Europe, 115, 115, 116, 117, 118, 119, 120, 120, 120, 123 (118.1); Iran, 117, 117, 118, 119, 120, 121, 123, 123 (119.8); Afghanistan (subadults), 119, 123; Turkestan and Transcaspia, 118, 119, 119, 119, 120, 121, 122, 123, 124, 125 (121.0).

Lanius excubitor

The geographical and individual variation of the populations of *Lanius excubitor* that breed in northern and western Europe has been discussed by Troller (1937, Ornith. Beobach., vol. 34, pp. 105–148), Olivier (1944, Monographie des pies-grièches du genre *Lanius,* Rouen, Lecerf, pp. 33–41, 128–139), and Dementiev (1935, L'Oiseau, pp. 89–90). Troller recognizes *europaeus* Bogdanov, 1881, type locality, eastern Europe, in addition to nominate *excubitor* Linnaeus, 1758, the type locality of which has been restricted to Sweden by Hartert in 1907. Olivier recognizes *melanopterus* Brehm, 1860, type locality, Finland, and also *galliae* Kleinschmidt, 1917, type locality, northeastern France.

The populations from Lapland and northern Russia south to France are not stable. They vary a great deal individually, and specimens can be found in the southern part of this range that are identical with others from Sweden, and this is true also of specimens from Lapland and northern Russia. Other specimens from these last regions show evidence of a certain amount of gene flow from *sibiricus* which breeds in northwestern Siberia, while still other specimens from northern and central Russia, and also from the range of *galliae* in the south, are identical with, or very similiar to, *homeyeri,* the race of Bulgaria, Romania, and southwestern Russia. Dementiev did not discuss *galliae,* which occurs south of the region covered by his studies, but he is quite correct, in my opinion, when he makes *europaeus* and *melanopterus* synonyms of nominate *excubitor,* and I believe that *galliae* is best added also to the synonyms of nominate *excubitor,* because very little seems to be gained by recognizing nomenclaturally this poorly differentiated form.

Two races described from northwestern Africa are also not valid, or are much too poorly differentiated to warrant their recognition. These are *dodsoni* Whitaker, 1898, type locality, central and southern Morocco (probably Marakech, according to Meinertzhagen, 1940, Ibis, p. 202), which I consider to be a synonym of *algeriensis* Lesson, 1839, type locality, Oran in western Algeria; and *batesi* Grant and Mackworth-Praed (1951, Bull. Brit. Ornith. Club, vol. 71, p. 54, type locality, be-

tween Sfax and Aguareb, southern Tunisia), which I consider to be synonymous with *elegans* Swainson, 1831, type locality, "Fur Countries."[1]

Birds from the region of Tangiers in extreme northern Morocco are the darkest of all in Africa, and a cline of decreasing saturation runs from north to south in Morocco and another eastward to Tunisia and Cyrenaica. Many authors have recognized a race paler than *algeriensis,* which they call *dodsoni,* but it is evident from many conflicting statements that the latter is not well differentiated and that it is impossible to define where it is replaced in the north by *algeriensis* or inland into the Sahara by *elegans.* Most authors agree that in Morocco *dodsoni* is found from the Sous Valley southward, at least along the coast, but specimens examined by me from Mogador, and from Agadir and Taroudant in the Sous Valley, and which therefore should be *dodsoni,* are not separable from a series collected in western Algeria at Lalla Mania and from 28 kilometers northeast of Tlemcen. As Tlemcen is only about 100 kilometers southeast of Oran, I consider therefore that these specimens are virtual topotypes of *algeriensis* and that *dodsoni* is a synonym of it. Concerning the birds at the southern end of the cline in Morocco and those that grade inland into *elegans,* it seems sufficient to remark that they become paler, but not to separate them nomenclaturally.

Rothschild and Hartert (1914, Novitates Zool., vol. 21, pp. 194–195) have already stated that specimens from southwestern Morocco and western Algeria are not separable, but Hartert nevertheless continued to recognize *dodsoni,* although he could not define its range satisfactorily without restricting *algeriensis* to the very coast of the Mediterranean (with the exception of the population of northern Cyrenaica, which, being paler, he called *dodsoni*). However, as Hall and Goodwin (1954, *in* Stanford, Ibis, p. 619) remark in a paper on the birds of northern Cyrenaica, "birds from Algiers and N. Tunisia are almost as pale [as *dodsoni*] and fit better with the paler than the darker race, if two races are to be maintained." Topotypes of *algeriensis* were not available to them, but they came to the conclusion that "It seems better to keep all

[1] According to Bannerman (1927, Ibis, p. 127), the type in the British Museum is labeled Hudson Bay, but the specimen was obviously not collected in North America, and Hartert (1907, Die Vögel der paläarktischen Fauna, p. 427), who has examined it, believes that it was collected in Algeria or Tunisia. Because the darker *algeriensis* grades into the pale *elegans* of the Sahara in various regions and the intermediate populations vary somewhat from one another, it is desirable to select a single population that can be considered to be "typical" *elegans,* and I accordingly restrict the type locality of *elegans* to Tilremt in the Mzab, between Laghouat and Ghardaïa in the northern Algerian Sahara.

the grey-bellied forms of the Great Grey Shrike in N. Africa under the one name *L. e. algeriensis,* while noting the tendency for this form to become paler as it approaches the range of *elegans.*"

The material examined by me supports this conclusion, but the cline of decreasing saturation running from Morocco eastward to Cyrenaica is apparently not so well indicated as in the material available to Hall and Goodwin, and it is less well indicated than in the cline running from north to south in Morocco. Hall and Goodwin have remarked also that this second cline is better indicated. In the first cline specimens from western Algeria are only slightly paler than those from Tangiers, and the difference is not very constant. A lone specimen from Algiers is identical with those from western Algeria, while a series from northern Tunisia averages only slightly paler and another from northern Cyrenaica is not, or is only very faintly, palest.

Concerning the form described as *batesi* by Grant and Mackworth-Praed from southern Tunisia, *algeriensis* is replaced in this region by the much paler and whiter *elegans* along a line running from about Gafsa to the coast. It is not surprising, therefore, to find that specimens collected somewhat north of this line are slightly darker, but this does not necessarily warrant their description as a distinct race. The authors of *batesi* made no attempt to define its range, and as Bannerman (1927, Ibis, pp. 126–127), who collected the specimens on which *batesi* is based, stated that they were not truly separable from *elegans,* and seven adults examined by me from Oued Nakta just south of Sfax and from the region of Gafsa are identical or virtually so with a long series from the Algerian Sahara, I consider *batesi* to be a synonym of *elegans.*

In the same paper, Grant and Mackworth-Praed described another race of *L. excubitor* from British Somaliland which they called *dubarensis,* but it does not appear to be valid either. According to Meinertzhagen (1954, Birds of Arabia, Edinburgh and London, Oliver and Boyd, p. 165) *dubarensis* is a synonym of *aucheri* Bonaparte, 1853, and is based on "a single very worn specimen [which] may be an intermediate between *buryi* [the race of the Yemen] and *aucheri* or it may be typical *aucheri* in very abraded plumage."

Meinertzhagen (1953, Bull. Brit. Ornith. Club, vol. 73, p. 72) has himself proposed a race of very doubtful validity from Galilee in northern Palestine which he called *theresae,* stating that a series of six specimens from this region is distinctly darker on the mantle than *aucheri.* This new form is known so far only from these specimens, and Meinertzhagen gave no indication as to his comparative material of *aucheri.* Because *aucheri,* of which I have examined 90 specimens from various parts of

its range, varies slightly in coloration from region to region, particularly in Iran which is its type locality, it remains to be seen whether the population of Galilee is sufficiently well differentiated to warrant the recognition of *theresae*. In 1954 (*loc. cit.*) Meinertzhagen changed the diagnosis of *theresae* from "distinctly" to "slightly" darker, and it seems best in my opinion to treat this name as a synonym of *aucheri*, at least until additional specimens become available from Galilee.

Tchagra senegala

This species, which is very widespread throughout the African savannas, is represented in the coastal zone of northwestern Africa by one race, *cucullata* Temminck, 1840, which breeds from Morocco to Tunisia. Payn (1945, Bull. Brit. Ornith. Club, vol. 66, p. 15) has decribed a new form, which he calls *meinertzhageni*, from northeastern Algeria, but I am inclined to doubt that it is a valid subspecies and consider it, pending examination of additional material, to be a synonym of *cucullata*. The new form is based on five specimens collected at Ain Mokra, about 40 kilometers west of Bone, which Payn states show very "marked differences" from *cucullata* of Morocco by being larger and darker, and by having a longer and stouter bill, and he believes that the range of the new form will almost certainly be found to extend from northern Tunisia to northwestern Algeria. The measurements given by Payn are, for *meinertzhageni*, wing length, 88, 96 in two males, 87–90 in three females, and the bill length, measured from the nostril, 14, 14.5 in the males and 13.5 in the females, as against in *cucullata* from Morocco, wing length 84 in one female and 85–89 in an unspecified number of males, and 11.5–13.5 for the bill in both sexes.

The measurements given by Payn for *cucullata* are not confirmed by those of the specimens that I have measured from Morocco and northeastern Algeria. These are not smaller than his "*meinertzhageni*" and measure: Morocco, wing length, 86 + (very worn), 89 + (very worn), 92, 93, 96, 98 in males; 91, 92 in females, and 90 in an unsexed adult; bill length from the nostril, 13, 13, 13.5, 14, 14.5, 15 in the males; 14, 14 in females, and 14.5 in the unsexed specimen; Algeria, 90, 92, 92 and 13, 14, 14.5 in males and 91, 13 in an unsexed adult. According to Payn the depth of the bill in *meinertzhageni* is 8.5 in both sexes as against 7.5–8 in *cucullata*, but I find that the specimens from Morocco and Algeria average about 9 in both sexes.

While it is possible that specimens from the region of Ain Mokra are darker, those examined by me from Morocco and from northeastern Algeria are identical in coloration. The latter, to be sure, were collected

in Kabylie, about 200 kilometers west of Ain Mokra. This distance is considerable but, as some of the putative characters of *"meinertzhageni"* most emphasized by Payn have been shown to be invalid, it remains to be seen whether birds from farther east differ at all in coloration or differ to such an extent to warrant the nomenclatural recognition of two races in northwestern Africa.