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## Systematic Notes on Palearctic Birds. No. 52 Supplementary Notes on *Bubo bubo*

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The Eagle Owl (*Bubo bubo*) is very widely distributed in the Palearctic Region from western continental Europe east to Sakhalin and the southern Kuriles and south to the Sahara, Arabia, the Iranian region, southern India, and southern China. It varies geographically to a conspicuous extent, and many subspecies have been described. It was reviewed by me (1960) in an earlier paper of this series in which I recognized 16 subspecies. One of these was *ascalaphus* (the so-called Pharaoh Owl) of Africa, the Near East, and the Arabian Plateau, which represents a borderline case between species and subspecies but which seems best considered conspecific with *bubo* because it apparently hybridizes freely with it in the Near East. This question was discussed in detail in that paper and is not reopened here.

It is difficult to assemble a large series of this very large owl, because it is not abundant anywhere, and collectors are quite content when they are able to secure two or three specimens. Nevertheless, I succeeded in gathering about 220 skins for the review published in 1960. This material seemed adequate, but the individual and geographical variations of this bird are great, and I took the opportunity to examine as many specimens as I could during a visit to European museums in the spring and summer of 1961. About another 300 birds were seen, and it is perhaps not surprising that this large quantity of material has brought new facts to light.

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The number of valid subspecies had to be revised, and it now seems desirable to recognize four more than the number recognized in 1960.

The specimens studied for the review published in 1960 came from the leading American museums, with the exception of about half a dozen from the British Museum (Natural History). The additional ones were seen in the natural history museums of Berlin, Bonn, Copenhagen, Leningrad, London, Moscow, Paris, and Stockholm, and I want to express my gratitude to all my colleagues at these institutions for their cordial reception and help. I am especially indebted to Dr. V. S. Zaletaev of the Zoological Museum of the University, Moscow, for much assistance in studying the collection of *Bubo bubo* and for discussing the forms of Kazakhstan. Dr. Zaletaev studied this owl in Kazakhstan during four seasons, from 1952 to 1959. The photograph of the young bird was taken by him.

I list below all the valid subspecies, with only a brief outline of their

TABLE 1  
WING LENGTH OF ADULT *Bubo bubo*

Subspecies	N	Measurements
<i>hispanus</i>	7 ♂	420–450 (430) <sup>a</sup>
	8 ♀	445–475 (453)
<i>bubob</i>	8 ♂	435–460 (447)
	16 ♀	460–490 (471.5)
<i>buboc</i>	15 ♂	440–480 (448)
	13 ♀	455–500 (474)
<i>ruthenus</i>	7 ♂	440–468 (453)
	6 ♀	476–490 (482)
<i>interpositus</i>	16 ♂	425–475 (451) <sup>d</sup>
	15 ♀	440–485 (466)
<i>sibiricus</i>	9 ♂	435–480 (456) <sup>e</sup>
	8 ♀	472–515 (491)
<i>yenisseensis</i>	6 ♂	435–470 (458.6)
	13 ♀	475–510 (491.4)
<i>jakutensis</i>	3 ♂	455–490 (468)
	4 ♀	480–503 (493)
<i>ussuriensis</i>	12 ♂	430–475 (447.5)
	6 ♀	460–478 (470.5)
<i>borissowi</i>	1 ♂	465 <sup>f</sup>
	1 ♀	470
<i>kiautschensis</i> <sup>g, h</sup>	15 ♂	410–448 (428.8)
	20 ♀	440–485 (455.5)
<i>tibetanus</i>	13 ♂	450–485 (461)
	9 ♀	490–505 (498.8)

TABLE 1—(Continued)

Subspecies	N	Measurements
<i>hemachalana</i> <sup>a</sup>	3 ♂	450–472 (462)
	7 ♀	470–505 (492.3)
<i>auspicabilis</i>	13 ♂	415–482 (450.5)
	22 ♀	455–508 (483.8) <sup>i</sup>
<i>tarimensis</i>	2 ♂	450, 455 <sup>k</sup>
	4 ♀	465–475 (471.2)
<i>turcomanus</i>	12 ♂	440–470 (449.7)
	21 ♀	445–512 (482.4)
<i>gladkovi</i>	1 ♂	440
<i>omissus</i>	5 ♂	420–450 (438) <sup>l</sup>
	9 ♀	445–460 (455)
<i>nikolskii</i>	9 ♂	405–430 (419)
	9 ♀	410–465 (437.8)
<i>bengalensis</i>	10 ♂	358–391 (370)
	12 ♀	376–403 (387)
<i>ascalaphus</i> <sup>m</sup>	20 ♂	325–368 (346.5)
	20 ♀	340–390 (367)

<sup>a</sup>The type of *hispanus* measures 425.  
<sup>b</sup>Specimens from Sweden only.  
<sup>c</sup>Specimens from Europe other than Sweden.  
<sup>d</sup>The type of *interpositus* measures 465.  
<sup>e</sup>The type of *sibiricus* measures 480.  
<sup>f</sup>Type of *borissowi*.  
<sup>g</sup>Specimens other than from the lowlands of Szechwan or from southern China.  
<sup>h</sup>The type of *kiautschensis*, an unsexed adult, measures 450.  
<sup>i</sup>The type of *hemachalana*, an unsexed adult, measures 505.  
<sup>j</sup>The type of *auspicabilis* measures 480.  
<sup>k</sup>Type of *tarimensis*.  
<sup>l</sup>The type of *omissus* measures 420.  
<sup>m</sup>Specimens from Africa only.

ranges when the subspecies requires no additional comment, and I furnish new measurements which supersede those published in 1960. Table 1 supplies many more measurements and invalidates those of some forms that were given in 1960. In these forms from the Himalayas, Tian Shan, Turkestan, Transcaspia, and the Iranian region I had combined the measurements of some populations which turned out to be distinct subspecies. The distribution is most complex in these and neighboring regions and is illustrated in figure 1, but with the reservation that it remains unknown in many instances.

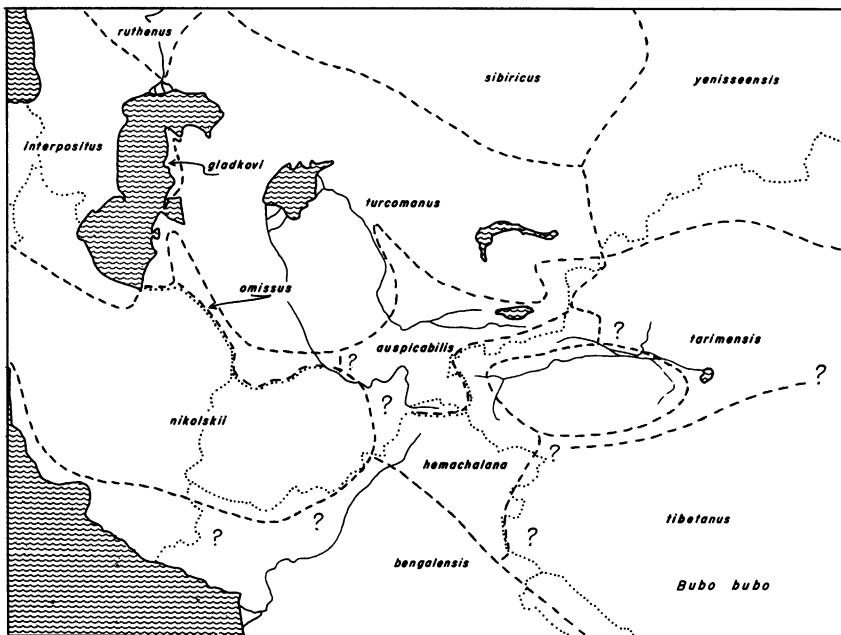


FIG. 1. Distribution of *Bubo bubo* during the breeding season in some parts of western and central Asia. The approximate boundaries of the subspecies are indicated by broken lines.

### SUBSPECIES

1. *Bubo bubo ascalaphus* Savigny, 1809, type locality, Upper Egypt. Range: Africa from Morocco east to the Near East and Arabia, south to the Sahara and Kordofan.

2. *Bubo bubo hispanus* Rothschild and Hartert, 1910, type locality, Spain. Range: Iberian Peninsula but apparently formerly northwestern Africa also.

3. *Bubo bubo bubo* Linnaeus, 1758, type locality, Sweden. Range: Continental Europe from Scandinavia east to western and central Russia and south to France, Italy, Sicily, and Greece.

A new synonym of nominate *bubo* has come to my attention, namely, *ognevi*, described by Dementiev (1952) from Albania. This name had escaped notice, as it was published in an obscure publication unknown outside Russia. The material on which *ognevi* is based was seen by me in Moscow.

4. *Bubo bubo ruthenus* Zhitkov and Buturlin, 1906, type locality, Prom-

zino, Ulyanovsk, eastern Russia. Range: Eastern Russia east to the foothills of the Urals and south to the upper Don and lower Volga.

5. *Bubo bubo interpositus* Rothschild and Hartert, 1910, type locality, Eregli, southern Turkey. Range: Southern Russia from Bessarabia and the steppes of the Ukraine to the Caucasus, northwestern and northern Iran, Turkey, Syria, and Iraq.

6. *Bubo bubo sibiricus* Gloger, 1833, type locality, Urals. Range: Urals and western Siberia east to about the Ob.

7. *Bubo bubo yenisseeensis* Buturlin, 1911, type locality, Krasnoyarsk, central Siberia. Range: Central Siberia from about the Ob east to Lake Baikal and south to the Altai, Tarbagatai, and northern Mongolia.

8. *Bubo bubo jakutensis* Buturlin, 1908, type locality, Yakutsk. Range: Northeastern Siberia from the basin of the Vilyui east to the coast of the Sea of Okhotsk, north to Magadan and south to the basin of the Olekma and the Gulf of Uda.

9. *Bubo bubo ussuriensis* Poliakov, 1915, type locality, Nikolsk-Ussuriysk, southern Ussuriland. Range: Southeastern Siberia from Transbaikalia east to Amurland, south to northeastern Mongolia, Manchuria, Ussuriland, and northern China (northern parts of Hopeh, Shansi, and Shensi).

10. *Bubo bubo borissowii* Hesse, 1915, type locality, Tymn River, eastern Sakhalin. Range: Sakhalin and probably the islands of Uruppu, Etorofu, and Kunashiri in the southern Kuriles.

I made an error when I synonymized *borissowii* with *ussuriensis* in 1960. I stated that I had seen no specimens from Sakhalin and was following Dementiev (1951), but he was wrong in synonymizing *borissowii* with *ussuriensis*, because the type and paratype of *borissowii*, which I saw in Berlin, are clearly distinct from *ussuriensis*. They resemble the latter somewhat in general coloration, but they are distinctly darker, browner, and more tawny throughout than typical *ussuriensis* from Ussuriland. Their pattern is also more uniform above, and they are also much more heavily streaked and vermiculated below. The affinities of *borissowii* appear to be with *kiautschensis* rather than *ussuriensis*.

Gizenko (1955) assigned the birds of Sakhalin and of the southern Kuriles to *ussuriensis*, but, in view of the fact that I find that his opinion is certainly incorrect as far as Sakhalin is concerned, I refer provisionally the birds of the southern Kuriles (which I have not seen) to *borissowii* also.

The few specimens of this species that have straggled to Japan should be reexamined if they are still in existence. One of these was named *yamashinai* by Momiyama, 1930, a name that has been synonymized with *tenuipes* Clark, 1907, by the Japanese ornithologists but that I consider (1960) to be a synonym of *kiautschensis*. Possibly the type of *yamashinai*, as

well as other vagrants to Japan, represents *borissowi* from Sakhalin or the southern Kuriles.

11. *Bubo bubo kiautschensis* Reichenow, 1903, type locality, Kiaochow, Shantung. Range: Korea and China (south of the range of *ussuriensis*), south to Kwangtung and Yunnan and west to Szechwan and southern Kansu.

12. *Bubo bubo tibetanus* Bianchi, 1906, type locality, southern Tsinghai. Range: Central Tibet east to central Kansu, south to Sikang and extreme northwestern Yunnan.

13. *Bubo bubo hemachalana* Hume, 1873, type locality, Kotgarh, northern Punjab. Range: Western Tibet and western Himalayas, west to Gilgit (and perhaps Badakhshan in eastern Afghanistan), north to the western Kun Lun and the western Tian Shan in Chinese Turkestan.

The status of this subspecies had been badly misunderstood, as I discussed in 1960, virtually everyone confusing *hemachalana* with *turcomanus*, but unfortunately I then added a new source of confusion by synonymizing *auspicabilis* Dementiev with *hemachalana*. It is true that Dementiev himself had synonymized (1951) *auspicabilis* with *hemachalana*, but the two forms had not been compared directly prior to 1961.

They are not sharply differentiated, but *auspicabilis* averages darker, and is more grayish, less tawny, than *hemachalana*.

The material of *hemachalana* on which I based my former opinion was insufficient, consisting of only two specimens, one of them a migrant. Since 1960 I have examined the types of the two subspecies, nine other specimens of *hemachalana*, and a large series of *auspicabilis*, including all the paratypes.

14. *Bubo bubo auspicabilis* Dementiev, 1931, type locality, Kirghiz Range, Tian Shan, Russian Turkestan. Range: Pamirs, Ferghana, and the Tian Shan system in Russian Turkestan, west to the Kara Tau, and north to the Dzungarian Ala Tau.

15. *Bubo bubo tarimensis* Buturlin, 1928, type locality, Lop Nor, Tarim Basin, Sinkiang. Range: Southwestern Mongolia and the Tarim Basin, west in the Tian Shan to at least the region of Hami, and along the Astin Tagh to the region of Niya.

No specimens of this little-known subspecies were available to me in 1960, but I have since examined the type and five other specimens. They show that *tarimensis* is well differentiated. It is very pale and yellowish and resembles *nikolskii* and *omissus* in general coloration but differs from them by being distinctly paler, more yellowish or tawny, and less darkly streaked and vermiculated with brown. The pattern of the plumage is duller in *tarimensis*, less contrasting, and it is also somewhat larger than *omissus* and

distinctly larger than *nikolskii* (table 1).

The two young birds that I mentioned in 1960 from Tsagan Nor, Mongolia, are probably *tarimensis*, or an unnamed form similar to it, but unfortunately they are not fully grown, and I could not compare them to the specimens of *tarimensis* that I saw in Russia.

16. *Bubo bubo turcomanus* Eversmann, 1835, type locality, Ust Urt Plateau, western Kazakhstan. Range: Kazakhstan, from the region between the lower Volga and lower Ural rivers, east across the southern Kirghiz Steppes to the regions of Semipalatinsk and Lake Balkhash, and south to Transcaspia and the basin of the Chu River, but replaced in the mountainous south by *omissus*, in the Kara Tau by *auspicabilis*, and in the coastal region of the Mangyshlak Peninsula by *gladkovi*. *Turcomanus* inhabits low hills, plateaus, lowlands, steppes, and semideserts and is not a montane form.

This subspecies is virtually unrepresented in collections other than the Russian ones and, probably for this reason, has been confused repeatedly with several other races. In fact, one must ignore the literature prior to the study of Dementiev (1931). I saw only two specimens of *turcomanus* in 1960, but recently have seen more than 30 that are typical. Fortunately they confirm the diagnosis I gave in 1960, namely, that *turcomanus* resembles *hemachalana* in general coloration but is duller, less variegated, and not so distinctly patterned. *Turcomanus* is less "bright" than *hemachalana* and is quite a pale subspecies, certainly less yellowish than is generally believed. The color plate of *turcomanus* furnished by Menzbier [1894 (1888–1894), pl. 8a] is misleading; it shows a very yellowish bird.

17. *Bubo bubo gladkovi* Zaletaev, 1962, type locality, capes Melovoy and Skalistoy, west coast of the Mangyshlak Peninsula, eastern Caspian Sea. This subspecies, so recently described (May 3, 1962), was shown to me by Zaletaev in Moscow. It is well differentiated, differing from *turcomanus* by being darker, more ochre, and more heavily streaked, and from *interpositus*, to which it shows some resemblance, by being paler, less heavily streaked, and more ochre, especially on the nape.

The range of *gladkovi* consists of the coastal region of the northern and western Mangyshlak Peninsula, on the east coast of the Caspian Sea. It breeds in this region in the cliffs along the coast and in the stony and rocky gorges of the coastal plain and escarpment (or *chink* as it is called on the maps of this region), but not on the top of the plateau where it is replaced by *turcomanus*.

This range appears to be quite restricted, particularly when we consider the large ranges of the other subspecies, but is not negligible as it extends, according to Zaletaev (1962), from Sarytash on the north coast,

west to Cape Tyub Karagan, and south along the west coast from this cape to Bekdash, or a distance of about 500 kilometers. The width of the coastal plain varies, but at its greatest width from Cape Peschany to the foot of the plateau it stretches for about 200 kilometers. The vegetation is



FIG. 2. Young of *Bubo bubo gladkovi* on the nest.

very poorly developed or lacking, and *gladkovi* nests on the ground among boulders or in the crevices of the cliffs and gorges. A young bird, nearly fully grown, is shown on the nest in figure 2. It was photographed by Zaletaev near the coast on June 30, 1955.

This subspecies appears to be chiefly sedentary, but Zaletaev (1962) mentions two specimens that he believes are migrant *gladkovi*, one taken near Astrakhan on August 31, 1883, and the other at Kara Bogaz Bay on January 29, 1895. Possibly the range of *gladkovi* is more extensive than



is mentioned above, for the birds that breed on the west coast of the Aral Sea are rather dark and may be more similar to *gladkovi* than to *turcomanus*, and Zaletaev suggests that the form breeding on the northeastern coast of the Caspian may also be *gladkovi*.

18. *Bubo bubo omissus* Dementiev, 1933, type locality, Ashkhabad, southern Transcaspia. Range: Southern Transcaspia in the mountains, from the Balkhan Massif east through the northern Kopet Dagh to the Kuh i Tang Range in southwestern Tadzhikistan.

I made another error in 1960 by synonymizing *omissus* with *nikolskii*. I had seen no specimens of *omissus* but considered that it was invalid because one bird that I had seen from the Iranian side of the Kopet Dagh was identical in size and coloration with virtual topotypes of *nikolskii*. This specimen had been collected at Iman Quli only 60 kilometers south of Ashkhabad, the type locality of *omissus*, but the Kopet Dagh evidently forms the boundary between the two races.

The much larger series that I saw recently shows beyond a doubt that the population (*omissus*) that inhabits the northern slopes of this range differs distinctly from that (*nikolskii*) of the southern slopes and districts to the south, by being darker, less yellowish, and more heavily streaked, and by averaging distinctly larger (table 1). The material seen included the type and paratypes of *omissus*.

The differences in coloration and size between the two races are presumably correlated with climatic factors (as in the case of *gladkovi* and *turcomanus* and other races), but the meteorology of the Kopet Dagh is unknown to me. One would expect that the northern slopes would receive a greater precipitation or more clouds and that they would be colder on an annual average.

19. *Bubo bubo nikolskii* Zarudny, 1905, type locality, Bakhtiari, southwestern Iran. Range: Iran (with the exception of the northwest and southern Caspian districts where the population is more similar to *interpositus*), Afghanistan, and Baluchistan south to about latitude 29° N. The subspecific status of the population of northeastern Afghanistan (Badakhshan) is unknown, however, and this region may be inhabited by either *hemachalana* or *auspabilis*. The regions in which *nikolskii* meets *bengalensis* are unknown also, and the two subspecies are perhaps isolated by a gap in distribution in northwestern India.

20. *Bubo bubo bengalensis* Franklin, 1831, type locality, India, on the "Ganges between Calcutta and Benares." Range: India, west to North-west Frontier Province and Sind, and south to Madras and Travancore.

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