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Systematic Notes on Palearctic Birds. No. 37 Picidae: The Subfamilies Jynginae and Picumninae

By Charles Vaurie

The present paper completes the study of the Picidae. The papers published earlier on this family[1] dealt with the genera *Picus*, *Dryocopus*, *Dendrocopos*, and *Picoides*. This one is concerned with only two species: *Jynx torquilla*, which is discussed in greater detail than were the other members of the family, and *Picumnus innominatus*. A new subspecies is described in *Jynx torquilla*.

This study was based primarily on the collections of the American Museum of Natural History, but, as in the case of the woodpeckers, I have also examined the series in the British Museum (Natural History) and borrowed much material which was combined with the series in New York. My gratitude is due to Mr. J. D. Macdonald for the loan of specimens and for the kind reception that he and his staff extended to me in London, and also to Dr. A. L. Rand and Mr. M. Traylor for the loan of specimens from the collection of the Chicago Natural History Museum. I have been helped also by Drs. H. Johansen and F. Salomonsen. Dr. Johansen has kindly examined for me some of his specimens from Siberia in the Copenhagen Museum, and Dr. Salomonsen has, during his recent visit to the American Museum, discussed a number

[1] Systematic Notes on Palearctic Birds, nos. 34–36 (Amer. Mus. Novitates, nos. 1945, 1946, 1951; all dated 1959. The series of four papers on the Picidae is dedicated with much pleasure to Prof. Erwin Stresemann on the occasion of his seventieth birthday.

of problems concerning the series of the Wryneck that I had assembled. Mme. Tatiana Gidaspova has helped with the Russian literature.

Jynx torquilla

The Wryneck is widely distributed in Eurasia, breeding from Europe eastward through Siberia to the coast of the Sea of Okhotsk north to about the Arka River, south to northern Mongolia, Manchuria, northeastern Korea, Sakhalin, and Hokkaido. In the west, the breeding range extends south, including southern England, to central Portugal, west central Spain, Italy, and Sicily, northern Macedonia, Bulgaria, and Romania, also from northern Turkey eastward to the Caucasus, Transcaucasia, and northern Iran. It breeds also in Sardinia and from there to northern Tunisia to neighboring northeastern Algeria, and probably north to Corsica. In eastern Asia it breeds also in China and the Himalayas, but the range in these regions is not well known. Baker (1934, p. 322), who represents the prevailing opinion, states that it "breeds, apparently, from Japan, through Manchuria and Central Asia, to the North-Western Himalayas," but the range is probably not continuous, because south of Manchuria and Hokkaido breeding records exist only from the mountains of western China and from the northwestern Himalayas. In the mountains of western China it breeds from Kansu south to northern Szechwan and west to southern Tsinghai and Sikang, but, according to Schäfer (1939, p. 198), is absent in the mountains of western Szechwan and eastern Sikang. In the Himalayas, it is known to breed only in Kashmir west to Gilgit, though probably (see below), the breeding range extends farther west to southern Tadzhikistan.

The Wryneck varies geographically in coloration and size, but I found it a difficult species to study as this variation is relatively slight. Measurements vary within a rather narrow range, and most of them overlap, and the discrete mottled and vermiculated plumage does not offer sharp contrasts of coloration or pattern. Furthermore, individual variation is fairly high; the geographical variation is clinal in some parts of the range; and the bird is highly migratory, with a short breeding season, as some individuals are still migrating north in early June, and some begin to return to their winter quarters in Africa and southern Asia towards the end of July. Nevertheless, a number of subspecies can be recognized despite the many complicating factors mentioned, and it is more or less conventional to recognize five, as is done by Peters (1948), namely: nominate *torquilla*, *chinensis*, *japonica*, *tschusii*,

and *mauretanica*. I find, however, that some populations combined under these names are sufficiently distinct to warrant nomenclatural recognition, and I believe the number of subspecies should be increased to seven. The additional ones are *sarudnyi* from western Siberia and a new race described below from the northwestern Himalayas. The seven subspecies are discussed below.

1. *Jynx torquilla torquilla* Linnaeus, 1758, type locality, Sweden. This race is largest, relatively pale above, moderately vermiculated on the throat, and rather sparingly spotted on the rest of the under parts. It inhabits Europe eastward to the Caucasus and northern Iran, with the exceptions of Italy, Sicily, Sardinia, and Corsica where it is replaced by *tschusii*.

Its populations are not all uniform, and the specimens that I have seen, which were collected during the breeding season, strongly suggest that a cline of decreasing color saturation runs eastward through Europe to western Siberia. Specimens from England are slightly darker than birds from Germany, East Prussia, and Sweden, and, though I have seen but three specimens from Russia, one from Pskov in the northwest is very slightly paler than most specimens from Sweden, while two from Orenburg in the southeast in the southern Urals are slightly paler and grayer than the bird from Pskov. In fact, the two specimens from Orenburg are about intermediate in coloration between topotypical nominate *torquilla* and the birds of western Siberia (*sarudnyi*) which represent the end of the cline and are, as emphasized by Johansen (1955, p. 395), distinctly grayer above and much paler below than nominate *torquilla*.

Some of the populations of nominate *torquilla* are not well known, notably those of the Iberian Peninsula and those that range from Turkey to northern Iran. Not many specimens seem to have been collected in the Peninsula and of these very few during the breeding season. The only specimen that I have seen from the Peninsula, which seems to be a local bird, is a male in worn breeding plumage collected at Setubal, just south of Lisbon, on July 12, 1906. It is identical in coloration with birds from Sweden and Germany, has the same wing length, 87+, and, though the tips of the feathers are worn, the same wing formula, the outer primary being subequal with the second and third and longer than the fourth.

I believe, therefore, that the birds of the Iberian Peninsula are nominate *torquilla*, though von Jordans and Steinbacher (1942, p. 233) have complicated matters by identifying as *tschusii* three males collected at Linares in western Spain between May 16 and June 28. How-

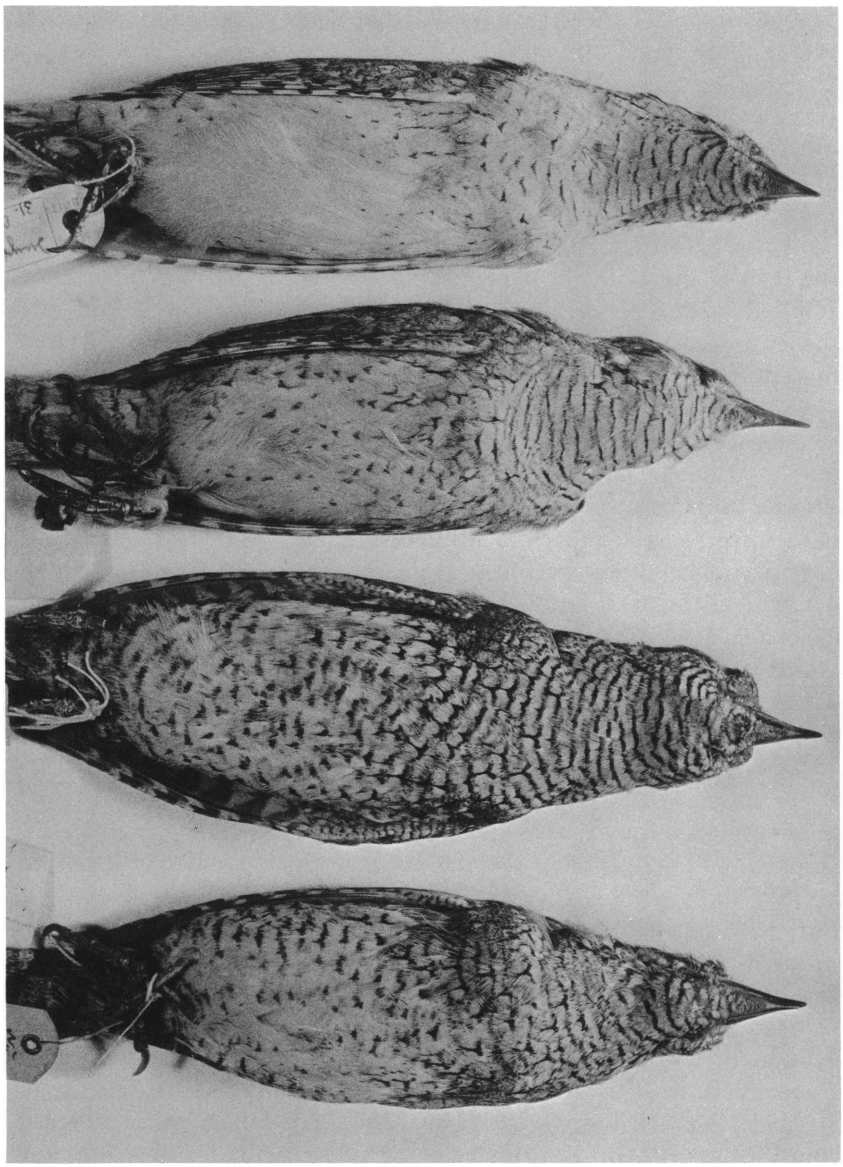

FIG. 1. Pattern of the under parts in *Jynx torquilla* subspecies. From top to bottom: *sarudnyi*, Yeniseisk, Siberia, May 31; nominate *torquilla*, Uppsala, Sweden, May 10; *tschusii*, Ussassai, Sardinia, June 27; and type of *mauretanica*, Hammam Meskoutine, northeastern Algeria , May 17.

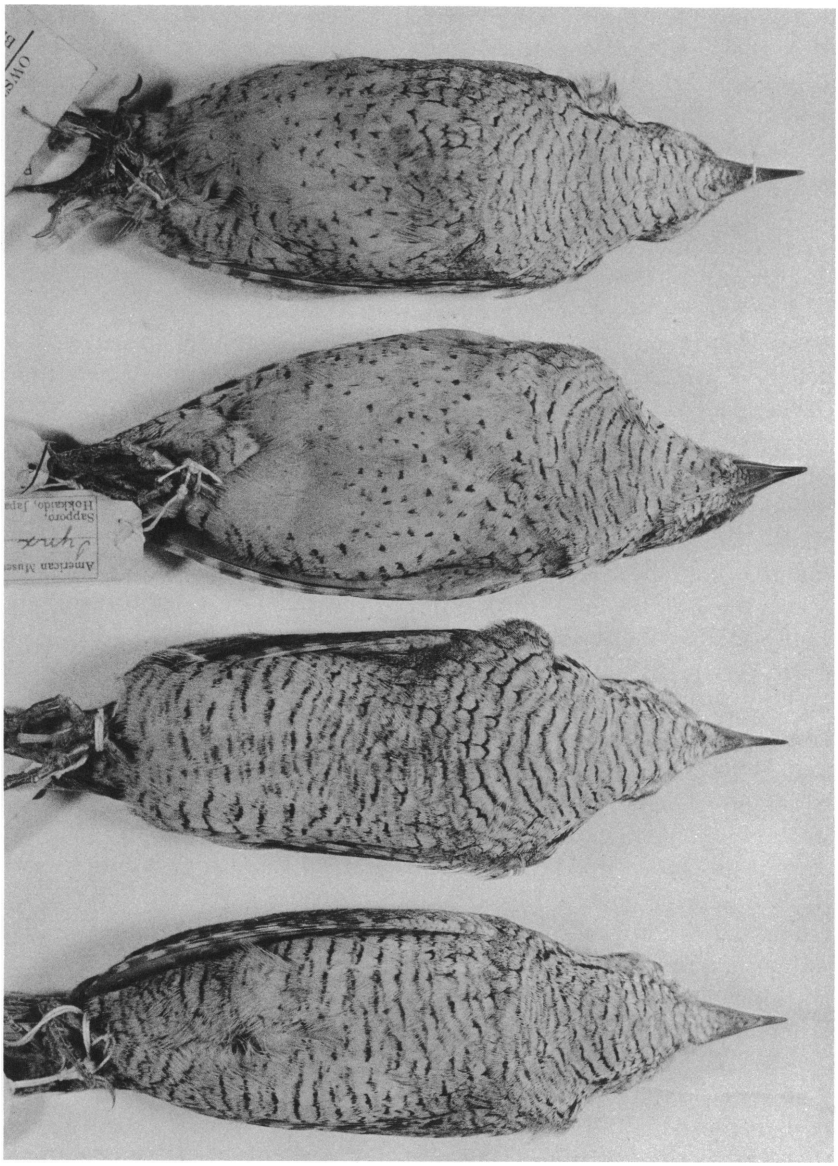

FIG. 2. Pattern of the under parts in *Jynx torquilla* subspecies. From top to bottom: *chinensis*, Little Khingan, northern Manchuria, May 21; *japonica*, Sapporo, Hokkaido, May 4; *himalayana*, Astor, Kashmir, May 19; and type of *himalayana*, Wardwan Valley, June 8.

ever, their identification was offered "with reservations," and it is clear that they had not examined *tschusii*. They merely state that, as no color differences exist (but see below) and their birds have a wing length of 85, 86, 86.5, they are smaller than *torquilla* and more similar to *tschusii*, quoting the measurements given by Hartert (1912) which are, in adults of both sexes, 86–92 for nominate *torquilla* and 82–85 for *tschusii*. Twenty-seven males of nominate *torquilla* that I have measured from England, Germany, Scandinavia, and Russia have a wing length of 85–93 (88.2) as against 81–87 (83.7) in seven of *tschusii*.

The races cannot be identified with certainty on the basis of the wing length, but they are not difficult to distinguish on other characters. *Tschusii* is distinctly darker above than nominate *torquilla*, darker buff on the throat, which is more heavily vermiculated, more coarsely spotted on the rest of the under parts (fig. 1); the rufous spots on the wing average more reddish; and the wing tip is more rounded. *Tschusii* is not highly migratory, and its outer primary is shorter than that of nominate *torquilla* and usually equal to or shorter than the fourth. The specimens of von Jordans and Steinbacher should be reëxamined in the light of the differences that I have mentioned, and I suspect they will be found to be nominate *torquilla*.

No specimens were examined by me from Turkey and the Caucasus and no breeding birds from Iran. Kummerlöwe and Niethammer (1935, p. 47) heard the species calling in early June in northern Turkey and believe it breeds in this region but unfortunately did not collect specimens. Gladkov (1951) included the Caucasus and Transcaucasia in the breeding range of nominate *torquilla,* and Stresemann (1928, p. 398) has included northern Iran. Stresemann based his opinion on two birds that were collected by Heinrich on April 3 and May 9, 1927, in Gilan which Stresemann apparently considers were local birds. He states that they are similar to nominate *torquilla* but adds that the markings on the under parts are more blackish than is usual in the latter and that the two specimens raise the question whether or not *hyrcana* Zarudny described in 1913 from this region is a valid race. The latter was based on a single specimen, and its validity has never been confirmed. If these two specimens are local birds, they suggest that *hyrcana* is not sufficiently well differentiated to warrant nomenclatural recognition. At any rate, it seems best until more material becomes available to call the population of northern Iran by the name nominate *torquilla* as Stresemann has done. All the specimens that I have seen from Iran were collected while on migration on April 8 and September 3–8 and are typical nominate *torquilla*.

The Tian Shan should be omitted from the breeding range. Peters (1948) has included this region in the breeding range of nominate *torquilla*, probably following Hellmayr (1929, p. 124) who stated that Severtzov mentions that the Wryneck breeds in the Tian Shan. Severtzov (1872, p. 68) did list it as breeding in and migrating through the Tian Shan, but his specimens were apparently collected during the period of migration. Gladkov (1951) does not include this region in the breeding range, nor does Ivanov (1940, p. 126), who states the Wryneck does not breed anywhere in central Asia. The specimens that I have seen from the Tian Shan are all indistinguishable from nominate *torquilla* and consist of the specimens reported by Hellmayr which were collected on August 28, some specimens collected by Zarudny on May 2 and 14, and some specimens collected by Severtzov on April 25, June 5, August 14–20, and September 13, or all within the period of migration. The specimen dated June 5 was collected late, but nominate *torquilla* is still moving north on May 31 in eastern Afghanistan, as shown by a specimen collected by W. Koelz, and in England is still migrating along the coast in early June according to Witherby and others (1943, p. 294). According to Ivanov (1940), the first return migrants appear in Tadzkikistan on August 14. We see that it cannot be assumed that the Wryneck breeds in the Tian Shan.

2. *Jynx torquilla sarudnyi* Loudon, 1912, type locality, Transcaspia. This race is not recognized by Hartert and Steinbacher (1935, p. 377), Peters (1948), or Gladkov (1951), all of whom consider that *sarudnyi* is a synonym of nominate *torquilla*, but, as Johansen (1955) states, *sarudnyi* differs quite distinctly from nominate *torquilla* by being paler and more grayish above, and much paler below (fig. 1). The throat is less darkly tinged with ocher, less vermiculated, and the rest of the under parts are more whitish and much less spotted. This race intergrades with nominate *torquilla* in the southern Urals, as stated above, and probably with *chinensis* somewhere east of the Yenisei. Johansen states that some individuals from the region of the Yenisei are darker than the birds of western Siberia, but two specimens that I have seen from Yeniseisk, collected on May 20 and 31, 1897, are very pale. One of these is shown in figure 1. The type locality of *sarudnyi* is Transcaspia, but this race was based on migrants, as the species does not breed in this region. The winter quarters of *sarudnyi* are presumably in India, but I have seen no winter visitors from India or any other region that match or even approach the very pale coloration of the specimens from Yeniseisk.

3. *Jynx torquilla chinensis* Hesse, 1911, type locality, Peking,[1] with the following synonyms: *pallidior* Rensch, 1924, type locality, Sungpan, northern Szechwan; *intermedia* Stegmann, 1927, type locality, Chita, Transbaicalia; and *incognita* Stachanov, 1933, type locality, the basin of the Hwang ho in Tsinghai. *Chinensis* differs from nominate *torquilla*, and of course *sarudnyi*, by being darker. It is distinctly browner above than nominate *torquilla* (but less rufous brown than *japonica*) with more conspicuous and more blackish, less brownish, markings on the nape, back, and scapulars, and is darker ocher on the throat and upper breast, the under parts averaging also a little more coarsely vermiculated and spotted. The wing averages shorter than in nominate *torquilla* and *sarudnyi* but longer than in *japonica*, measuring, in breeding males, 82–87 (84.8) in 12 from Manchuria, Korea, and Ussuriland, as against 85–93 (88.2) in 27 of nominate *torquilla*, 84–89 (86.4) in 11 of *sarudnyi*, and 79–85 (82) in eight of *japonica*.

The breeding range of *chinensis* consists, in my opinion, of Siberia east of the range of *sarudnyi*, south to Manchuria and northeastern Korea, Sakhalin, and the mountains of western China. These populations do not appear to be uniform. Those that inhabit the region around the northern end of Lake Baikal were called nominate *torquilla* by Stegmann (1936, p. 112), while Ivanov (1929, quoted by Johansen, 1955) states that those of Yakutia cannot be distinguished from those of Europe. I have not examined specimens from Lake Baikal and Yakutia, but the statements of Stegmann and Ivanov suggest that these populations are paler than *chinensis* from southeastern Siberia and represent a stage on the cline at which the birds become more or less similar to those of Europe. It seems misleading, however, to call these populations by the same name as the birds of Europe, from which they are very widely separated by the range of the much paler *sarudnyi*. Clinal variation can seldom be reflected satisfactorily in the nomenclature, but I believe it is better to call all the populations of Siberia, east of the range of *sarudnyi*, by the name *chinensis*.

The populations of the mountains of western China require further study but do not appear to be sufficiently well differentiated from *chinensis* to warrant the recognition of *pallidior* and *incognita*. These two forms may average somewhat paler, but Hartert and Steinbacher (1935) stated that they "see no possibility" of separating *pallidior* and

[1] Hartert (1912) states that Hesse wrote to him that the type locality of *chinensis* was Tsingtao, Shantung, but Hesse (1912, pp. 143, 145) states that he selected a specimen from Peking for the type. Peters (1948) has also cited the type locality as Tsingtao, perhaps following Hartert.

incognita from *chinensis*, and Stegmann (1926) considered that his specimens from the mountains of western China and southeastern Siberia were the same form, describing it as *intermedia*. Stegmann stated correctly that *intermedia* is intermediate in coloration between nominate *torquilla* and *japonica*, but unfortunately he had overlooked the existence of *chinensis*, thus creating a synonym. The only breeding specimen that I have seen from the mountains of western China is *incognita*; this matches birds at the paler end in the range of individual variation of a series of *chinensis* collected during the breeding season in Manchuria, northeastern Korea, and Ussuriland or while on migration in Shantung and Hopeh. Meise (1938, p. 175) recognized both *incognita* and *pallidior*, stating that in *incognita* the color of the upper parts did not differ constantly from that of *chinensis*, but that, with one exception, his specimens were paler below. *Pallidior* was known from only two specimens which Meise (*loc. cit.*) states differ from *incognita* by being more extensively marked with black on the secondaries and tail. The two specimens were in the collection of the Dresden Museum, but the type is no longer in existence, as all the types in that museum were destroyed during World War II.

4. *Jynx torquilla japonica* Bonaparte, 1850, type locality, Japan. The breeding range of this race is restricted to Hokkaido. Peters (1948) includes Sakhalin in the range of *japonica*, but Gizenko (1955, p. 207) in his book on the birds of Sakhalin states its population is *chinensis*, and this was stated earlier by Gladkov (1951). *Japonica* differs from *chinensis* by being browner above and on the wing, more rufous, less grayish, and by averaging slightly darker ocher below, and also (see above) by averaging very slightly smaller. It is darker, browner, and smaller than nominate *torquilla* and represents the extreme in the cline of increasing color saturation which started in central Siberia east of the range of *sarudnyi*.

5. **Jynx torquilla himalayana** Vaurie, new subspecies

TYPE: British Museum (Natural History); registry no. 1945, Whistler legacy no. 15,500; original collector's no. 1360; adult male; Inshan at 8300 feet [about latitude 33° 50′ N., longitude 75° 35′ E.], Wardwan Valley, Kashmir; June 8, 1931; Frank Ludlow, collector.

DIAGNOSIS: Differs from all the other races of the species by being more vermiculated, rather than spotted, on the lower breast, abdomen, and flanks. The markings are broader, less sagittate in shape, and tend to coalesce, with the result that the abdomen appears to be barred rather than spotted (see figs. 1 and 2).

MEASUREMENTS: Wing length, adult males, 81 (type), 82, 84, 86; adult females, 80, 83.

DISCUSSION AND DISTRIBUTION: *Himalayana* resembles *chinensis* in coloration above, being grayish as in the latter, less rufous than *japonica*, but is somewhat more boldly marked with black on the nape, back, scapulars, and inner secondaries than *chinensis*. The ground color of the under parts averages slightly darker than in *japonica* and is more uniform than in the latter or in the other races, showing less contrast between the color of the throat and that of the abdomen.

The Wryneck is a common winter visitor to the greater part of India, but the birds that breed in India are very imperfectly known, and breeding records seem to exist only for Kashmir westward to Gilgit and Chitral. It has been reported from other regions bordering Kashmir, namely, Ladak and North West Frontier Province and also from the region of Lhasa in southern Tibet, but it is not clear whether it breeds in these regions, or not. Bates and Lowther (1952, p. 211) merely state, "it occurs, but is rare, in Ladakh," after saying it bred in Kashmir. Stuart Baker (1927, pp. 100–101) said it bred along the Himalayas, Baluchistan, and in North West Frontier Province and that Whitehead collected a nest in this province on June 20 in the Kurram Valley. The statement that the Wryneck bred in Baluchistan was certainly incorrect (see below) and was omitted subsequently by Baker (1934, p. 320) though not the record for North West Frontier Province, although the latter may have been incorrect also. I have been unable to find a reference for this record and note that Whitehead himself (1909, p. 249) made no mention of collecting a nest in his paper on the birds of Kohat and the Kurram Valley, stating only that he collected two birds at Kohat on January 11 and April 18 and observed others near Peiwar in the Kurram Valley on April 23 and near Kohat on April 29. Whistler (1945, p. 289) made no mention of the breeding record in his survey of the birds of Afghanistan, although he lists the records of Whitehead, as these are from a region bordering directly on Afghanistan. Ticehurst (1930, p. 470), commenting on Baker (1927), states: "I agree that this [*japonica*] is the form breeding in Kashmir, but it does not breed or occur in Beluchistan. The race there is the typical one and only as a passage migrant. Does it breed all along the Himalayas? I doubt it. A winter visitor to Sikkim (Stevens). The bird occurring in the Punjab and Sind in winter is the typical race."

To turn to Tibet, Walton (1906, p. 240) and Ludlow (1950, p. 40) report the Wryneck from Lhasa but in terms that suggest that it is

only a migrant. Walton's specimens were collected on August 24 and September 3. He states: "The Wryneck was fairly common in a plantation at Lhasa at the end of August. I saw none at Gyantse, nor, indeed, anywhere else in Tibet. I showed some skins to two Tibetans, who were residents of Lhasa, and who possessed some knowledge of the names and habits of the common species: they both said they had never seen the bird before." Ludlow, who is a keen observer as well as collector, would probably know if the Wryneck breeds in Tibet, where he has lived for several years at Gyantse and Lhasa, but in his paper on the birds of Lhasa (1950) he states: "The Wryneck arrives in Lhasa towards the end of April, and is fairly common in the parks. According to Walton it occurs in small numbers in Lhasa early in September. Curiously enough I have never seen this bird elsewhere in Tibet, though it should occur in the Tsangpo valley." Ludlow collected no specimens, as shooting is forbidden in Lhasa and surroundings. We see from the above that we cannot assume that the Wryneck breeds anywhere in the Himalayas and neighboring regions other than in Kashmir, though (see below) it is possible that the breeding range extends westward from Kashmir to southern Tadzhikistan.

My attention to the possibility that the birds of Kashmir were a distinct race was first called forth by an old specimen in juvenal plumage in the American Museum of Natural History collected in July, 1876, by Biddulph in Gilgit, and a statement made by Ivanov (1940, p. 126). My specimen from Gilgit could not be matched by any other specimen, being very dark below and so heavily vermiculated below the breast that it is striped rather than spotted. It seemed to correspond exactly to the description of two specimens that Ivanov reported from Kulyab, a locality in southern Tadzhikistan, about 32 kilometers north of the Amu Darya, southeast of Stalinabad, at about latitude 37° 55′ N., longitude 69° 45′ E.

These two specimens were collected between August 31 and September 8, 1933, together with a large series of migrant nominate *torquilla*. Ivanov (translation) states the two specimens "differ sharply from all the Wrynecks I have seen by the color of the upper parts of the body and especially that of the under parts which exceeds the range of individual variation normal for the Wryneck; the stripes on the throat are very wide (up to 1 mm.) and contrast sharply with the yellowish ground color of the throat; the dark spots on the belly, even at the center, are developed so strongly that they change the spotting into transverse stripes; as a result the abdomen seems to be covered not by separate spots as is usual in the Wryneck, but with almost uninter-

rupted transverse stripes; it is quite possible that these two specimens represent the local breeding form which is closer to or identical with *japonica* which inhabits Kashmir; unfortunately, I have no material from India and the Japanese specimens that I have seen are much lighter than mine." Ivanov was tempted to describe his two birds as a new subspecies but remarked he "would rather not, not having enough comparative material and especially because these birds were collected during migration."

These two specimens suggest that the range of *himalayana* may extend westward through northeastern Afghanistan (Badakhshan) to southern Tadzhikistan. However, all the specimens of *himalayana* that I have seen were collected only in Kashmir and Gilgit on April 14–21, May 19, June 6–12, and August 25. They include another young bird collected by Biddulph in July, 1876, in Gilgit, identical with the one in New York. According to Bates and Lowther (1952, p. 211), the Wryneck arrives in Kashmir in March.

6. *Jynx torquilla tschusii* Kleinschmidt, 1907, type locality, Sardinia. This race differs distinctly from nominate *torquilla*, to which it is compared above. The breeding range seems to consist of Italy, Sicily, Sardinia, and perhaps Corsica. However, I am not aware of any breeding records for Corsica, and the 13 specimens that I have examined from that island were collected from October 22 to February 26. It is possible that *tschusii* is only a winter visitor in Corsica, because, although it is resident in Italy, a few individuals do migrate, and I have examined three specimens collected in January and March in northern Tunisia and northern Algeria. Hartert (1912) included Dalmatia in the range of *tschusii*, but, although he may have seen specimens, the only specimen in the Rothschild Collection from Dalmatia is a typical specimen of nominate *torquilla*, probably a local bird, collected at Castelnuovo (now Herceg Novi) on May 7, 1907. Makatsch (1950, p. 229) states that the birds of Serbia are nominate *torquilla*.

7. *Jynx torquilla mauretanica* Rothschild, 1909, type locality, Hammam Meskoutine, east of Constantine, northeastern Algeria. This race inhabits northeastern Algeria and neighboring Kroumirie in northwestern Tunisia and does not seem to breed south of the coastal range of the Tellian Atlas. Its breeding range is therefore very restricted, and it is rather poorly differentiated from *tschusii*, but the ground color of the throat and upper breast is paler and more whitish, less ochraceous, than in *tschusii*, the upper parts average somewhat darker, and the wing averages a little shorter, measuring 76–83 (79.2) in 15 adults, as against 78–87 (83.4) in 21 of *tschusii;* 10 males of *mauretanica* meas-

ure 76–83 (78.1), as against 81–87 (83.7) in seven of *tschusii*. The wing tip is rounded as in *tschusii*, and *mauretanica* is not migratory, though it moves altitudinally and wanders to some extent after the breeding season and has been reported in winter from central Tunisia. A specimen was collected also in the oasis of El Oued in the Sahara on April 7, according to Hartert (1912).

WINTER QUARTERS: Nominate *torquilla* winters in western India from the foothills of the Himalayas east to about western Nepal, south to Mysore, and in tropical Africa south to the Gold Coast, Cameroons, Ubangui River, and the northern borders of the Belgian Congo to northern Uganda, being apparently more common in east Africa. *Chinensis* winters from southeastern China south to Hainan, the Indo-Chinese countries, and central and eastern India south to Madras, while *japonica* does not seem to leave Japan, wintering in Hondo south to Shikoku and Kyushu. The winter visitors in southeastern China, the Indo-Chinese countries, and central and eastern India are usually called *japonica*, but, while one cannot identify with certainty all the winter visitors in these regions, it seems to me that all the specimens that I have seen are *chinensis*. The winter quarters of *sarudnyi* and *himalayana* are presumably in northern and western India. A few individuals of nominate *torquilla* winter in the Mediterranean Basin, northern Italy, and southeastern Iran.

Picumnus innominatus

The Speckled Piculet is not a true Palearctic species, but it was included by Hartert (1912) in the Palearctic fauna, as its range ascends fairly high in the Himalayas, to 9000 feet, and extends to regions such as southern Tsinghai and Kansu, where the fauna is very predominantly Palearctic. Its range extends from Murree in northwestern Punjab eastward to Assam and western and central China to Tsinghai, Kansu, Szechwan, and the Yangtze region to southern Kiangsu, then southward through China and the Indo-Chinese countries to the hills of Assam south of the Brahmaputra and the Malay Peninsula to Sumatra and Borneo. It inhabits also peninsular and southern India in the Western Ghats from North Kanara south to the Nilgiris and Travancore, and in eastern India, the state of Bastar, the Vizagapatam district in the Eastern Ghats, and the Khulna Sundarbans in southern Bengal. It has been divided into five subspecies which are recognized by Peters (1948, p. 97), three of which come within the scope of these studies. These are: *simlaensis* Ticehurst, 1933, type locality, Murree; nominate *innominatus* Burton, 1836, type locality, Sikkim; and *chinensis* Hargitt,

1881, type locality, "Moy-chee, China," which may equal the Meiki River in Chekiang as suggested by Peters.

Picumnus innominatus simlaensis differs only slightly from nominate *innominatus*, and Rand and Fleming (1957, p. 90) believe it should be synonymized with the latter. They state that "the tendency for western birds to be larger, as recorded, is too slight to be worthy of nomenclatural recognition. Our material shows no variation in intensity of the yellow under parts correlated with geography. It seems that *simlaensis* should be a synonym of *innominatus*." However, the comparative material from the western Himalayas mentioned by Rand and Fleming consists of only two males from Mussoorie with a wing length of 59 and 60, their males from Assam and Nepal measuring 57–59. The males that I have measured from the western Himalayas (Mussoorie, Simla, Dharmsala, and Murree) are larger than males from Sikkim and Bhutan, and I find also that the western population is slightly paler on the back, less yellowish. The difference in coloration is not shown in old skins which all become darker, more golden yellow. Males from the western Himalayas have a wing length of 58, 59, 59, 59, 60, 60, 61, 61, 61, 61 (59.9), as against 55, 55, 56, 56, 56.5, 57, 57, 57, 57, 58, 58, 58 (56.7) in males from Sikkim and Bhutan. Ticehurst's specimens of *simlaensis* measured 59–62.5 in both sexes. The difference is relatively slight but is not insignificant for such a small bird, and only one male of *simlaensis* has a wing length similar to that of nominate *innominatus*. Taken together with the difference in coloration, it probably warrants the recognition of *simlaensis*.

The birds of Nepal are about intermediate. Rand and Fleming state that their males from western Nepal measure 58, 58, 59, and from central Nepal, 57, 57. The only male that I have measured from Nepal is from central Nepal and has a wing length of 59.

The Chinese race (*chinensis*) differs conspicuously from *simlaensis* and nominate *innominatus*. It is rufous brown on the crown in both sexes, rather than greenish as in the other two races. It has darker and browner ear coverts, a more conspicuous malar stripe, and is much more heavily spotted with black on the breast and abdomen, the ground color of which is more yellow. The little black spots with their orange borders are much less well indicated on the fore crown of the male; the back is darker also, more olive, less yellowish; the bill is distinctly heavier; and the wing length averages longer. Sixteen males from China measure: 59, 59, 60, 60, 60, 60, 60, 61, 61, 61, 61, 62, 62, 62, 63, 63 (60.9).

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