fowl (*Grallatores* and *Natatores*)*,* which come to breed in the coast region; but only five land birds—the ptarmigan (*Lagopus alpinus*)*,* the snow-bunting, the Icelandic falcon, the snow-owl, and the raven —are permanent inhabitants of the region. The boreal fauna is of course much richer; but here also the great bulk of species, both of mammals and birds, are common to Europe and Asia. The bear, the badger, the wolverene, the pole-cat, the ermine, the common weasel, the otter, the wolf, the fox, the lynx, the mole, the hedgehog, the common shrew, the water-shrew, and the lesser shrew (*Sorex vulgaris, fodiens,* and *pygmæus*)*,* two bats (the long-eared and the boreal), three species of *Vespertilio* (*V. dau­bentoni, nattereri,* and *mystacinus*)*,* the flying and the common squirrel (*Tamias striatus*)*,* the brown, common, field, and harvest mouse (*Mus decumanus, musculus, sylvaticus, agrarius,* and *minutus*)*,* four voles (*Arvicola amphibius, rufocanus, rutilus,* and *schistocolor*)*,* the beaver, the variable hare, the wild boar, the roebuck, the stag, the reindeer, the elk, and the *Phoca annelata* of Lake Baikal,— all these are common alike to Europe and to Siberia; while the bear, the musk-deer (*Moschus moschiferus*)*,* the ermine and the sable, the ground squirrel (*Spermophilus eversmani*)*, Arvicola ob­scurus,* and *Lagomys hyperboræus,* also spread over Siberia, may be considered as belonging to the arctic fauna. In addition to the above we find in Eastern Siberia *Mustela alpina, Canis alpinus,* the sable antelope (*Ægocerus sibiricus*)*,* several species of mouse (*Mus gregatus, œconomus,* and *saxatilus*)*,* two voles (*Arvicola russatus* and *macrotus*)*, Syphneus aspalax,* and the alpine *Lagomys,* which penetrate from the Central Asian plateaus; while the tiger makes incursions not only in the Amur region but occasionally as far as Lake Baikal. In all, of fifty-seven species of Siberian mammals forty-one are common also to Europe, twenty-seven common to the arctic region, and only sixteen special to Asia. On the lower terrace of the great plateau we find an admixture of Mongolian species, such as *Canis corsae, Felis manul, Spermophilus dauricus,* the jerboa (*Dipus jaculus*)*,* two hamsters (*Cricetus songarus* and *furunculus*)*,* three new voles (*Arvicolæ*)*,* the Tolai hare, the Ogotona hare (*Lagomys ogotona*)*, Ægocerus argali, Antilope gutturosa,* and *Equus hemionus (jighitai*); while the number of species common to Asia and Europe diminishes notably. The same is true with respect to birds. No less than 285 species have been observed in Siberia, but of these forty-five only are absent from Europe. In south-east Siberia we find forty-three new species belonging to the north Man­churian or Amur fauna; and in south-east Transbaikalia, on the borders of the Gobi steppe, only 103 species were found by Radde, among which the most numerous are migratory birds and the birds of prey which pursue them. The rivers and lakes of Siberia abound in fish; but little is known of their relations with the species of neighbouring regions.@@1

The insect fauna is very similar to that of Russia; but a few genera, as the *Tentyria,* do not penetrate into the steppe region of Western Siberia, while the tropical *Colasposoma, Popilia,* and *Lan­guria* are found only in south-eastern Transbaikalia, or are confined to the southern Amur. On the other side, several American genera (*Cephalaon, Ophryastes*) extend into the north-eastern parts of Siberia.@@2 As in all uncultivated countries, the forests and prairies of Siberia become almost uninhabitable in summer on account of the mosquitoes. Eastern Siberia suffers less from this plague than the marshy Baraba; but on the Amur and the Sungari large gnats become an unsupportable plague, and travellers who have had experience of the mosquitoes of the tropics readily admit that they yield to those of Siberia. Burning the prairie is the only expedient for destroying them, and is freely resorted to, with the result that the forest is frequently set on fire.

In Molluscs Siberia is much richer than had been supposed. The dredgings of the “Vega” expedition in the Arctic Ocean dis­closed an unexpected wealth of marine fauna, and those of L. Schrenck in the north of the Japanese Sea have led to the dis­covery of no fewer than 256 species (Gasteropods, Brachiopods, and Conchifers). Even in Lake Baikal Dr Dybowski and Dr Godłewski have discovered no fewer than ninety-three species of Gammarides and twenty-five of Gasteropods.@@3 The Sea of Okhotsk is very inter­esting in this respect, owing to its local species and the general composition of its fauna (70 species of Molluscs and 21 of Gastero­pods). The land Molluscs, notwithstanding the unfavourable con­ditions of climate, number about seventy species,—Siberia in this respect thus being not far behind north Europe.

The Siberian fauna is very unequally distributed. The alpine tracts of Eastern Siberia and the *urmans* of Tobolsk are from the zoologist’s point of view exceedingly poor, owing to the want of grass and of a mouldy soil. It is on the plateau, and especially on the lower plateau, as well as on the high plains, where the graz­ing grounds become numerous, that the fauna appears in its full richness. Much remains to be done in the way of investigating

the distribution of animals over Siberia with reference to the physi­cal conditions of its different parts. Although differing little from the European, the fauna of Siberia possesses great interest for the zoologist and geographer. The increase of many animals in size (becoming twice as large as in Europe); the appearance of white varieties among both mammals and birds, and their great prevalence among domesticated animals (Yakut horses); the migrations of birds and mammals over immense regions, from the Central Asian steppes to the arctic coast, performed not only in connexion with the usual rotation of seasons but also as a result of occasional climacteric con­ditions which are not yet fully known (*e.g.,* the occasional migration of thousands and thousands of roebuck from Manchuria across the Amur to the left bank of the river, or the migration of reindeer so well related by Wrangel) ; the various coloration of many animals according to the composition of the forests they inhabit (the sable and the squirrel are well-known instances) ; the mixture of northern and southern faunas in the Amur region and the remarkable con­sequences of that mixture in the struggle for existence;—all these render the study of the Siberian fauna most attractive. Finally, the laws of distribution of animals over Siberia cannot be made out until the changes undergone by its surface during the Glacial and Lacustrine periods are well established and the Post-Tertiary fauna is better known. The remarkable finds of Quaternary mammals about Omsk and their importance for the history of the *Equideæ* are but a hint of what may be expected in this field.

The great bulk of the population are Russians, whose number has increased with great rapidity during the 19th century: although not exceeding 150,000 in 1709 and 500,000 a century later, they now (1887) number more than 3,000,000, and not far from 4,000,000 if the eastern slopes of the Urals are reckoned to Siberia. At the same time the entire indigenous population does not exceed 700,000 if the Kirghizes of Semipalatinsk are reckoned to Turkestan, and many indigenes are rapidly dying out. The Russians, issuing from the middle Urals, have travelled as a broad stream through south Siberia, sending lateral branches to the Altai, to the Ili river in Turkestan, and to Minusinsk, as well as down the chief rivers which flow to the Arctic Ocean, the banks of which are studded with vill­ages 15 to 20 miles apart. As Lake Baikal is approached the stream of Russian immigration becomes narrower, occupying only the valley of the Angara, with a series of villages up the Irkut; but it widens again in Transbaikalia, sending lateral branches up the Selenga and its tributaries. It follows the course of the Amur, again in a suc­cession of villages some 20 miles apart, and can be traced up the Usuri to Lake Khangka and Vladivostok, with an extension of villages on the plains between the Zeya and the Selimja. Small Russian settlements also occur on a few bays of the North Pacific and the Sea of Okhotsk, as well as on Saghalin (see Saghalin). The Russians have thus occupied all the best agricultural tracts in Western and Eastern Siberia.

As to the indigenous races, the Ugrian stocks which occupy the north-west of Siberia are represented by (1) the Voguls (about 6400), on the eastern slopes of the Urals, in Perm and Tobolsk, extending partly over the western slope; they closely resemble the Ostiaks, in some features approximating the Mongol race, and speak the same language; (2) the Ostiaks *(q.v.);* and (3) the Samoyedes (*q.v.*)*.*

Survivals of Turkish stocks, once much more numerous, are spread all over south Siberia as far as Lake Baikal. Their territories are rapidly being occupied by Russians, and their settlements are cut in two by the Russian stream,—the Baraba Tatars and the Yakuts being to the north of it, and the others having been driven back to the hilly tracts. According to M. Radloff,@@4 they are as follows:— (1) the Karagases in the Yeniseisk and Irkutsk spurs of the Sayan Mountains (about 500); (2) the Abakan Tatars (about 10,000),— driven from the Irtish, they occupied the Abakan steppes after the emigration of the Kalmucks; (3) those of the Tcholym scattered amidst Russians (500); (4) the Tatars of the north and north-east Altai, in all about 20,000,—*(a)* the Kumandintsy, *(b)* the Lebed Tatars, (*c*) the *tcherñ,* or forest Tatars, *(d)* the Shorghintses; (5) those of the Altai proper,—*(a)* Altaians (11,800), (*b*) Dvoedantsy (2000), who until 1865 paid tribute to both Russia and China, and (*c*) the Teleutes (5800), mostly Russified; (6) the Soyotes and Uryankhes of East Sayan, of whom a few families are in Siberian territory; (7) the Baraba Tatars (4650), mostly driven northwards to the forest and marsh region; (8) the Irtish and Tobolsk Tatars (some 7000 to 10,000 on the Tara and 15,700 in the Tobolsk dis­trict). In all they number about 78,000, to whom should be added a number of Kirghiz from Turkestan. The great Turkish stock of the Yakuts (see Yakutsk) in the basin of the Lena num­bers about 200,000. Most of these Turkish stocks live by cattle- breeding and some by agriculture, and are a most laborious and honest population.

The Mongols (about 350,000) extend into Western Siberia from the high plateau,—nearly 20,000 Kalmucks living in the eastern Altai. In Eastern Siberia the Buriats occupy the Selenga and Uda, parts of Nertchinsk, and the steppes between Irkutsk and the upper

@@@1 Czekanowski (*Izυestia Sib. Geοg. Sοc.,* 1877) has described fifty species from the basin of the Amur; he considers that these constitute only two-thirds of the species inhabiting that basin.

@@@2 L. Schrenck, *Reisen und Forschungen im Amurlande,* 1858-80.

@@@3 Mém. *de l'Acad. des Sc. de St Pétersb.,* vol. xxii., 1876.

@@@4 *Aus Sibirien,* 2 vols., Leipsic, 1884 ; also in *Jivopisnaya Rossiya,* vol. xii.