trees,’ and even new genera, such as the cork-tree *(Phellodendron amurense,* walnut *(Juglans manchurica),* acacia *(Maackia amurensis),* the graceful climber *Maximowiczia amurensis,* the Japanese *Trocho- stigma* and many others—all unknown to Siberia proper—are met with.

On the high plateau the larch predominates over all other species of conifers or deciduous trees; the wide, open valleys are thickly planted with *Betula nana* and *B. fruticosa* in the north and with thick grasses (poor in species) in the southern and drier parts. The Siberian larch predominates also in the alpine tracts fringing the plateau on the north, intermingled with the fir, stone-pine, aspen and birch. In the drier parts the Scotch fir *(Pinus sylvestris)* makes its appearance. In the alpine tracts of the north the narrowness of the valleys and the steep stony slopes strewn with debris, on which only lichens and mosses are able to grow, make every plot of green grass (even if it be only of *Carex)* valuable. For days consecutively the horse of the explorer can get no other food than the dwarf birch. But even in these districts the botanist and the geographer can easily distinguish between the *cherñ* or thick forest of the Altai and the *taiga* of East Siberia. The lower plateau exhibits, of course, new characteristics. Its open spaces are lovely prairies, on which the Daurian flora flourishes in full beauty. In spring the traveller crosses a sea of grass above which the flowers of the paeony, aconite, *Orobus, Carallia, Saussurea* and the like wave 4 or 5 ft. high. As the Gobi desert is approached the forests disappear, the ground becomes covered chiefly with dry Gramineae, and Salsolaceae make their appearance. The high plains of the west slope of the plateau are also rich prairies diversified with woods. Nearly all the species of plants which grow on these prairies are common to Europe (paeonies, *Hemerocallis,* asters, pinks, gentians, violets, *Cypripedium, Aquilegia, Delphinium,* aconites, irises and soon); but here the plants attain a much greater size; a man standing erect is. often hidden by the grasses. The flora of Minusinsk—the Italy of Siberia—is well known ; the prairies on the Ishim and of the Baraba steppe are adorned with the same rich vegetation, so graphically described by Middendorff and O. Finsch. Farther north we come to the *urmans* of West Siberia, dense thickets of trees often rising from a treacherous carpet of thickly interlaced grasses, which conceals deep marshes, where even the bear has learnt to tread circumspectly.

*Fauna.—*The fauna of Siberia is closely akin to that of central Europe; and the Ural Mountains, although the habitat of a few species which warrant the naturalist in regarding the southern Urals as a separate region, are not so important a boundary zoologically as they are botanically. As in European Russia, so in Siberia, three principal zones—the arctic, the boreal and the middle—may be distinguished, and these may be subdivided into several sub-regions. The Amur region shares the characteristics of. the north Chinese fauna. On the whole, we may say that the arctic and boreal faunas of Europe extend over Siberia, with a few additional species in the Ural and Baraba region—a number of new species also appearing in East Siberia, some spreading along the high plateau and others along the lower plateau from the steppes of the Gobi. The arctic fauna is very poor. According to Nordenskjöld@@1 it numbers only twenty-nine species of mammals, of which seven are marine and seventeen or eighteen may be safely considered as living beyond the forest limit. Of these, again, four are characteristic of the land of the Chukchis. The reindeer, arctic fox *(Canis lagopus),* hare, wolf, lemming *(Myodes obensis),* collar lemming *(Cuniculus torquatus)* and two species of voles *(Arvicolaé)* are the most common on land. The avifauna is very rich in migratory water and marsh fowl *(Grallatores* and *Natatores),* which come to breed in the coast region; but only five land birds—the ptarmigan *(Lagopus alpinus),* snow-bunting, Iceland falcon, snow-owl and raven—are permanent inhabitants of the region. The boreal fauna is, of course, much more abundant; but here also the great bulk of the species, both mammals and birds, are common to Europe and Asia. The bear, badger, wolverine, pole­cat, ermine, common weasel, otter, wolf, fox, lynx, mole, hedgehog, common shrew, water-shrew and lesser shrew *(Sorex vulgaris, S. fodiens* and *S. pygmæus) ,* two bats (the long-eared and the boreal), three species of *Vespertilio* (*V*. *daubentoni,* *V.* *nattereri* and V. *mystacinus),* the flying and the common squirrel *(Tamias striatus),* the brown, common, field and harvest mouse *(Mus decumanus, Μ. musculus, Μ. sylvaticus, Μ. agrarius* and *Μ. minutus),* four voles *(Arvicola amphibius, A. rufocanus, A. rutilus* and *A. schistocolor),* the beaver, variable hare, wild boar, roebuck, stag, reindeer, elk and *Phoca annelata* of Lake Baikal—all these are common alike to Europe and to Siberia ; while the bear, musk-deer *(Moschus moschiferus),* ermine, sable, pouched marmot or souslik *(Spermophilus eversmani), Arvicola obscurus* and *Lagomys hyperboraeus,* distributed over Siberia, may be considered as belonging to the arctic fauna. In addition to the above we find in East Siberia *Mustela alpina, Cams alpinus,* the sable antelope *(Aegocerus Sibiricus),* several species of mouse *(Mus gregatus, Μ. oeconomus* and *Μ. saxatilus),* two voles *(Arvicola russatus* and *A. macrotus), Syphneus aspalax* and the alpine *Lagomys* from the Central Asian plateaus; while the tiger makes incursions not only into the Amur region but occasionally as far as Lake Baikal. On the lower terrace of the great plateau we find an

admixture of Mongolian species, such as *Cams corsac, Felis manul, Spermophilus dauricus,* the jerboa *(Dipus jaculus),* two hamsters *(Cricetus songarus* and *C. furunculus),* three new voles *(Arvicolae),* the Tolai hare, Ogotona hare *(Lagomys ogotona), Aegocerus argali, Antilope gutturosa* and *Equus hemionus (jtghitai).* Of 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 there are 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 G. F. R. 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.@@2

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 West 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 hand, several American genera *(Cephalaon, Ophryastes)* extend into the north-eastern parts of Siberia.@@3 As in all uncultivated countries, the forests and prairies of Siberia become almost uninhabitable in summer because of the mosquitoes. East Siberia suffers less from this plague than the marshy Baraba steppe ; but on the Amur and the Sungari large gnats are an intolerable plague. 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 led to the discovery of no fewer than 256 species (Gasteropods, Brachiopods and Conchifers). Even in Lake Baikal Dybowski and Godlewski discovered no fewer than ninety-three species of. Gammarides and twenty-five of Gasteropods.@@4 The Sea of Okhotsk is very interesting, 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 being not far behind north Europe. 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, not only in the usual rotation of the seasons but also as a result of occasional climacteric conditions are not yet fully understood *(e.g.* the migration of thousands and thousands of roe­buck from Manchuria across the Amur to the left bank of the river, or the migration of reindeer related by Baron F. von 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 intermingling northern and southern faunas in the Amur region and the remarkable consequences of that intermixture in the struggle for existence;—all these render the study of the Siberian fauna most interesting. 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 *Equidae* are merely a slight indi­cation of what may be expected in this field.

*Population.—*In 1906 the estimated population was 6,740,600. In 1897 the distribution was as follows. Geographically, though not administratively, the steppe provinces of Akmolinsk and Semipalatinsk belong to Siberia. They are described under Steppes.

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| Governments and Provinces. | | Area in  sq. m. | Population in 1897. | Density  per  sq. m. |
|  | Tobolsk | 535,739 | 1,444,470 | 2.7 |
|  | Tomsk. | 327373 | 1,947,021 | 5·1 |
| Irkutsk | Yeniseisk . | 981,607 | 572,847 | 0∙6 |
| (general- | Irkutsk | 280,429 | 515,132 | 1∙8 |
| government) | Yakutsk | 1,530,253 | 271,830 | 0∙2 |
|  | Transbaikalia | 229,520 | 676,407 | 3∙0 |
| Far East | Amur.. | 172,826 | 119,909 | 0∙6 |
| (viceroyalty) | Maritime . | 712,585 | 209,516 | 0∙7 |
|  | Sakhalin | 14,700 | 27,250 | 1∙9 |
|  |  | 4,784,832 | 5,784,382 | Av. 1∙2 |

@@@1 In Vega *Exped. Vetensk. Iakttagelser.,* vol. ii.

@@@2 Czekanowski *(Izvestia Sib. Geog. Soc.,* 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.

@@@3 See L. Schrenck, *Reisen und Forschungen im Amurlande* (1858- 1891).

@@@4 See *Mém. de l'académie des sciences de St-Pétersbourg,* vol. xxii. (1876).