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**The Birds of the Middle Yenisei  
(Central Siberia):  
an annotated Species List**

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**Key words: Abundance, Avifauna, Habitat, Population trends, Taiga**

**Summary**

The Yenisei (4,092 km) marks the border between the Western Siberian lowland and the Central Siberian highlands, as well as the demarcation line between the west- and east palaeartic zoogeographic regions. An annotated species list of birds of the middle Yenisei region is lacking so far. Based on a long-term study of the area around the Mirnoye field-station, the present paper fills this gap.

The climatic conditions in Central Siberia are continental, the average temperatures in January reach  $-24^{\circ}\text{C}$  (minimum  $-61^{\circ}\text{C}$ ) and rise to  $+16^{\circ}\text{C}$  in July (maximum  $+36^{\circ}\text{C}$ ). An annual average of 500 mm precipitation falls mainly in winter time. A snow layer of about 90 cm covers the ground from the end of October till the beginning of May. Three major habitat types characterise this area: (1) dark coniferous taiga, (2) burned forests and (3) floodplains.

In total, 270 species were recorded (147 nonpasserines and 123 passerines), 165 of which breed at least irregularly; 38 migrants are passing by more or less regularly without breeding, while 51 species have been recorded as accidental visitors. Due to the severe climatic conditions, not more than 36 species can be found in wintertime. The species list includes information about species abundance, habitat choice and time of presence.

## Introduction

The Yenisei, with its length of about 4,092 km among the mightiest of the Eurasian rivers, marks not only the border between the Western Siberian lowland and the Central Siberian highlands, but is as well considered as the demarcation line between the west- and east palaeartic zoogeographic region (JOHANSEN 1955). The ornithological literature available in the western countries about this interesting region is very limited. MATTES & LIENAU (1994) compile the main geographical facts and even provide a tentative species list of the middle Yenisei region. The work of BOURSKI (1995) gives a detailed description of the breeding bird communities of different habitat types. ROGACHEVA (1992) compiles most of the observation before 1990 from the two Russian papers by ROGACHEVA et al. (1988 & 1991) in English, and gives an overview over the bird species of the whole Central Siberian area. However, statements about species abundance do not clearly point out the distinction between how abundant a species is within a certain habitat, and how widespread this habitat type is in the overall area. In addition, the intensive observations and bird ringing programs over the past decade have greatly increased our knowledge, demanding an update of the literature which is mainly based on observations from the 1980s. An annotated species list of the middle Yenisei region, which provides useful estimates of species abundances is lacking. This paper is meant to cover this gap by listing and commenting all species ever recorded in a surrounding of approximately 100 km around the biological station of Mirnoye.

## Description of the area

The biological station is situated partly in the Mirnoye village (62°20'N, 89°00'E) on the right bank of the Yenisei river, and partly in the floodplain belt on the left bank, just opposite the village (fig. 1). As shown in fig. 2, the location is characterised by the overlaps of west-eastern and north-southern biogeographic gradients.

The climatic conditions are continental, the average temperatures in January reach  $-24^{\circ}\text{C}$  (minimum  $-61^{\circ}\text{C}$ ) and rise in July to  $+16^{\circ}\text{C}$  (maximum  $+36^{\circ}\text{C}$ ), with daily fluctuations of up to  $30^{\circ}\text{C}$ . An annual average of 500 mm precipitation falls mainly in winter time. A snow layer of about 90 cm covers the ground from mid October to mid May.

The central part of the river Yenisei crosses the middle taiga, a subzone of the vast Russian boreal forest. In the vicinity of Mirnoye three major habitat types are of importance (see Bourski 1995): (1) Dark coniferous taiga (fig. 3). This consists mainly of mature Siberian cedar pines (*Pinus sibirica*) with an admixture of Siberian spruce (*Picea obovata*), and an uninterrupted cover of moss. This is a widespread but unproductive forest type. (2) Burned forest (fig. 4, 5). This term is used for a successional series of habitat types that are derived from coniferous taiga after forest fires. It comprises semi-open habitat, composed of dead woods, partially standing, but mostly fallen down, overgrowing with a dense layer of young birches and covered by grass instead of moss. Successively, it forms a forest, which is dominated by deciduous trees, mainly birch (*Betula pubescens*) with aspen (*Populus tremula*) and Siberian larch (*Larix sibirica*). In many cases, burned forests are represented by a mosaic of the remnants of old stands and patches of more or less burned parts of different ages. In Central Siberia fires occur naturally, and approximately half of the area is affected regularly, e.g. about once per century. (3) Floodplain (fig. 6). Most of this habitat is located along the west side of the Yenisei river. It is much less widespread than taiga and burned forest, but it is extremely productive in terms of primary production of plants, arthropod abundance and bird densities (Bourski 1995, Forstmeier et al. 2001). Floodplain is characterised by two main vegetation types: at lower places there are willow thickets (mostly *Salix dasyclados*; fig. 7) while higher places are characterised by a mixed deciduous forest of alder (*Alnus hirsuta*), with Siberian spruce (*Picea obovata*), Siberian fir (*Abies sibirica*), and a dense understory of alder bush (*Alnaster fruticosa*) (fig. 8). Among these shrub and forest habitats, there is a variety of open patches with natural long-grass meadows (fig. 9) and lakes (fig. 10).

Far away from the Yenisei, the first two habitat types, taiga and burned forest, predominate. Small rivers, crossing these widespread upland habitats, hold a variety of habitats that cannot be

compared to the floodplains found along the Yenisei. These include a narrow band of meadow or bushes along an edge of slightly enriched riparian taiga consisting of tall spruces and larches. Small mesotrophic bogs or lakes can be found in the wider parts of such valleys. Extensive watersheds are covered by less productive kinds of taiga and burned forest transiting into bogs on flat plains (fig. 11). These habitats become more abundant 50 km away from the Yenisei river, where oligotrophic habitats usually prevail. Moraine hills of the West Siberian side, that are generally more affected by fires, support light forests, with a greater admixture of larch and deciduous trees. Basins of Yelogui to the north-west and Dubches to the south-west, made up of fluvioglacial sands, are mostly covered with pine forests (*Pinus sylvestris*; fig. 12). The east side of the Yenisei is built up of ancient alluvial terraces occupied by dark coniferous, cedar-dominated taiga interspersed with patches of bogs. The border of the Middle Siberian plateau changes the landscape to more drained forests with fir on warmer slopes, larch and alder bushes on soils with permafrost development. Rocks come up near rivers.

The breeding bird communities of the widespread upland habitats of coniferous and deciduous forests are characterised by rather low species diversity and abundance. In contrast to this, the floodplain habitats hold an extremely dense and diverse breeding community (see BOURSKI 1996). During spring and autumn migration, the habitats along the Yenisei river additionally hold high numbers of migrating birds, as the Yenisei valley forms a natural guideline for migrating species, breeding in the Russian arctic (see ZIICKLER et al. 1997). Manmade habitats (settlements, meadows, pastures), found in very limited amount along the riverside, are especially attractive for open-habitat species including many vagrants and accidentals.

### **Material and Methods**

In 1970, the Russian Academy of Sciences established a biological field station in Mirnoye, that is situated in the buffer zone of the Central Siberian Zapovednik (entirely protected nature reserve). In order to study the breeding bird communities, several long-term study plots in different kinds of habitats were established, in which the territories of the breeding birds were mapped year after year (see BOURSKI & FORSTMEIER 2000, FORSTMEIER et al. 2001). In addition, the migrating species were recorded in spring and to a lower extend in autumn. A few observations in winter were carried out to complete the picture of the occurring bird species.

In the 1990s, the constant survey was restricted to the floodplain plot, situated opposite the village of Mirnoye at the western bank of the Yenisei. The plot with its 50 ha covers both, the lower willow thickets and the upper deciduous forest and includes some small forest lakes as well as long-grass meadows. Migrating and breeding birds were caught in mist nets and marked individually in June and July every year (see MATTES & PAGENKOPF 1999). During the snow melting period in May, many (if not the most) valuable spring findings were made every year at the east side, on just melted man-made meadows around the village and along the riverside.

Additional avifaunistic studies were carried out in adjacent regions of the Western Siberian Lowland along the Bolshoj Dubches river and of the Central Siberian Highland along the rivers Varlamovka and Stolbovaya. Intensive observations on birds during spring migration were made in Lebed in 1995 and 1996.

### **Results**

In total, 270 species were recorded (147 nonpasserines and 123 passerines), 165 of which breed at least irregularly; 38 migrants are passing by more or less regularly without breeding, while 51 species have been recorded as accidental visitors. Due to the severe climatic conditions, not more than 36 species can be found in wintertime, 17 of which are resident and 19 more species are true winter visitors. The status of 15 further species is largely unknown so far. The recorded species belong to 19 orders and 48 families (table 1).

Within the nonpasserines, 28 species of ducks and relatives (Anatidae) and 51 species of waders and gulls (Charidriiformes) outnumber the other taxonomic groups. Among the passeriformes,

warblers (Sylviidae) and thrushes (Turdidae) are the most numerous taxa with 22 species each. Remarkable is the great number of 13 species of buntings (Emberizidae).

There are 22 species or subspecies (including three uncertain records) which have not been observed since 1990, and 21 species or subspecies (including one uncertain record) which have not been recorded before 1990 (table 2). Among them, only *Anas formosa* is considered to be a really declining, apparently former breeding species. And only *Motacilla alba personata* appears to be really a new form for the region. All the others most likely were missed as a result of their rarity. Besides of these, only few other species appear to be changing in their numbers, and all of them are increasing. *Botaurus stellaris*, *Ardea cinerea*, *Porzana porzana*, *Columba oenas* and *Garrulus glandarius* became more frequent, although they are still irregular. *Asio otus*, *Dendrocopos leucotos*, *Erithacus rubecula* and *Sylvia communis* are now known to be sometimes breeding in the region. *Fringilla coelebs* known as a regular breeding species has become more common and widespread. Other species that were thought to show directional trends (see Bourski 1992), now appear to have been rather fluctuating than really increasing or decreasing. Perhaps, this is also the case for *Porzana porzana*, *Asio otus* and *Dendrocopos leucotos*. Also the majority of waterfowl appears to be less numerous on spring migration as they were in former times. However, this might be the result of warmer spring conditions in recent years which allows the birds to proceed their migration to the north without stopping in the Mirnoye region.

All bird species ever recorded in the Mirnoye region are listed below. We list status, frequency and breeding habitat. To describe abundances within habitats we use the following terms:

- numerous: predominant species of a given habitat, found in very high density compared to what can be regarded as typical for members of a given bird order (see below)
- common: found in high density in appropriate habitat
- fairly common: a moderate density in appropriate habitat
- uncommon: a low density in appropriate habitat
- rare: a very low density in species habitat, very low probability of being observed
- very rare: not expected to be observed
- accidental: outstanding irregular or far away from its usual range

Although status estimates are based on long term studies and corroborated by a large amount of both, catching and observation data, they remain somewhat subjective. We regard those terms as an indicator for the frequency of a species in its preferred habitat. However, the total number of individuals of a species classified as "numerous" in floodplain habitat, which is restricted to a narrow belt along the Yenisei, can be much lower than the total number of a species, which is classified as "rare" in widespread taiga habitats. Table 3 clarifies these circumstances. All regular and possibly breeding species are grouped in a crosstable by (1) frequency of a species in an appropriate habitat as described above, and (2) extension of habitat types, ascending from very restricted or local habitats, like floodplain or settlements, to the most widespread habitats, that are taiga and burned forests. Ubiquistic species, that occur in nearly all types of habitat, are mentioned in a separate row.

Species frequencies do not reflect absolute densities, but take into account the density that a species of a given bird order can typically reach. Raptors will always be less numerous than their prey, but both may be judged equally common. For example the sparrowhawk and the willow tit are both estimated as common in most types of habitat (see table 3), but willow tits will largely outnumber sparrowhawks. Comparisons across different bird orders should therefore be avoided.

Species occurring in strongly fluctuating numbers (almost absent in some years) are marked as being irregular. In addition, we give some notes on times of migration. These should be taken as a clue, as the dates of arrival differ considerably between years, depending on weather conditions and especially on the melting of ice, that is covering the Yenisei in wintertime. As a rule, the ice is breaking around the 10th of May; along with it, most of the migrating waders and ducks arrive in the region.

## **Annotated species list of the birds of the middle Yenisei**

1. Red throated diver – Sterntaucher - *Gavia stellata*

Rare breeding species of watershed lakes.

2. Black-throated diver – Prachttaucher - *Gavia arctica*

Fairly common breeding species of big forest lakes, commonly seen on big rivers in spring and late summer / autumn; arrives in early May.

3. Slavonian Grebe – Ohrentaucher - *Podiceps auritus*

Accidental, 3 records before 1990s, 1 in September 1997.

4. Dalmatian Pelican - Krauskopfpelikan - *Pelecanus crispus*

Accidental, 1 record before 1990s.

5. Bittern - Rohrdommel - *Botaurus stellaris*

Rare visitor, almost every year in spring.

6. Grey Heron – Graureiher - *Ardea cinerea*

Rare visitor, 1 record before 1990s: 19.06.1982, recently almost every year.

7. Black Stork – Schwarzstorch - *Ciconia nigra*

Very rare visitor, about 10 records.

8. Whooper Swan – Singschwan - *Cygnus cygnus*

Common breeding species of floodplain lakes, arrives in late April.

9. Bewick's Swan – Zwergschwan - *Cygnus bewickii*

Status unknown, 1 record mentioned by a local hunter, misidentification possible.

10. White-fronted Goose – ВлДЯгans - *Anser albifrons*

Rare passage migrant in May and September.

11. Lesser White-fronted Goose – Zwerggans - *Anser erythropus*

Very rare passage migrant.

12. Bean Goose – Saatgans - *Anser fabalis*

*Anser f. fabalis*: common passage migrant (May and September).

*A. f. middendorffii*: local but fairly common breeding species of tributary rivers, April to October.

13. Brent Goose - Ringelgans - *Branta bernicla*

Very rare passage migrant.

14. Red-breasted Goose – Rothalsgans - *Branta ruficollis*

Very rare passage migrant in May.

15. Ruddy Shelduck - Rostgans - *Tadorna ferruginea*

Accidental, 1 record.

16. Mallard – Stockente - *Anas platyrhynchos*

Uncommon breeding species of floodplain, rare far from the Yenisei. Fairly common on migration, arrives in early May.

17. Spot-billed Duck – Fleckschnabelente - *Anas poecilorhyncha*

Irregular and very rare visitor, probably very rare breeding species, most records in 1980s; one juvenile in September 1979 on Varalmovka river.

18. Teal – Krickente - *crecca*

Common breeding species of any water basin. Numerous on migration, arrives in early May.

19. Baikal Teal – Gluckente - *Anas formosa*

Very rare, possibly breeding species of forest lakes; has strongly declined, no records in 1990s.

20. Falcated Duck - Sichelente - *Anas falcata*

Status unknown, 3 records (1976, 1984, 1999) in May.

21. Gadwall - Schnatterente - *Anas strepera*

Status unknown, very rare, but regular observations during the summer, possibly a rare breeding species.

22. Wigeon - Pfeifente - *Anas penelope*

Common breeding species of floodplain, less common along smaller lowland rivers. Numerous on migration, arrives in early May.

23. Pintail – Spießente - *Anas acuta*

Common breeding species of floodplain and swamps. Numerous on migration, arrives in early May.

24. Garganey – Knickente - *Anas querquedula*

Uncommon breeding species of open grassy swamps. Fairly common on migration, arrives in the middle of May.

25. Shoveler - Löffelente - *Anas clypeata*

Fairly common breeding species of different, rather deep eutrophic water bodies. Fairly common on migration, arrives in the middle of May.

26. Pochard - Tafelente - *Aythya ferina*

Uncommon breeding species of floodplain, rare on migration.

27. Tufted Duck – Reiherente - *Aythya fuligula*

Common breeding species of forest lakes, common on migration, arrives in the middle of May.

28. Scaup – Bergente - *Aythya marila*

Rare passage migrant.

29. Long-tailed Duck – Eisente - *Clangula hyemalis*

Uncommon passage migrant.

30. Goldeneye – Schellente - *Bucephala clangula*

Common breeding species of most lakes and rivers, common on migration, arrives in early May

31. Common Scoter - Trauerente - *Melanitta nigra*  
Uncommon migrant (mid June and October); the species is a very rare breeder at Yelogui mouth, 120 km north of Mirnoye.
32. Velvet Scoter - Samtente - *Melanitta fusca*  
Rare breeding species of watershed lakes, rare on migration.
33. Smew – Zwergsдger - *Mergus albellus*  
Fairly common breeding species of different types of lakes, fairly common on migration, arrives in the middle of May.
34. Red-breasted Merganser - Mittelsдger - *Mergus serrator*  
Uncommon breeding species of the Yenisei, common along small tributary rivers; fairly common on migration, arrives in the middle of May.
35. Goosander – Гднsesдger - *Mergus merganser*  
Common breeding species of different kinds of rivers. Common on migration, arrives in the middle of May.
36. Crested Honey Buzzard - Schopfwespenbussard - *Pernis ptilorhynchus*  
Accidental, 3 records in Mirnoye in the end of May 1994 and 2000, one bird observed 29.07.1999 along Stolbovaja river.
37. Black Kite – Schwarzmilan - *Milvus migrans*  
Common breeding species of forest edges, especially near floodplain. Arrives in late April.
38. Hen Harrier – Kornweihe - *Circus cyaneus*  
Uncommon breeding species of meadows along the Yenisei, fairly common along the tributary rivers and on open bogs. Common during spring and autumn migration; arrives in the middle of May.
39. Pallid Harrier – Steppenweihe - *Circus macrourus*  
Accidental, 5 records (e.g. 07.05.1995 in Lebed).
40. Goshawk – Habicht - *Accipiter gentilis*  
Uncommon breeding species of most forest types. Arrives in late April.
41. Sparrowhawk – Sperber - *Accipiter nisus*  
Common breeding species of all forest types, arrives in May.
42. Japanese Sparrowhawk – Trillersperber - *Accipiter gularis sibiricus*  
Uncommon breeding species of valley forests, arrives in the end of May.
43. Rough-legged Buzzard - Rauhfußbussard - *Buteo lagopus*  
Very rare breeding species of rarefied taiga, approximately 70 km up the Bachta river and further north and east; common during migration.
44. Common Buzzard – Мдusebussard - *Buteo buteo*  
Rare breeding species of semi-open places in taiga, fairly common on migration.



45. Golden Eagle – Steinadler - *Aquila chrysaetos*  
Rare breeding species of extensive bogs and rocks.
46. White-tailed Eagle – Seeadler - *Haliaeetus albicilla*  
Common breeding species along rivers and big water bodies, arrives in late April.
47. Osprey – Fischadler - *Pandion haliaetus*  
Fairly common breeding species along clear, mostly eastern small rivers, arrives in late May.
48. Gyr Falcon – Gerfalke - *Falco rusticolus*  
Rare passage migrant, rare winter visitor.
49. Peregrine – Wanderfalke - *Falco peregrinus*  
Rare breeding species of bogs and water bodies with rocks, arrives in late April.
50. Hobby – Baumfalke - *Falco subbuteo*  
Numerous breeding species of floodplain lakes and meadows, riverine forest edges; arrives in late May, departs late August / early September.
51. Merlin – Merlin - *Falco columbarius*  
Uncommon breeding species of riversides. Fairly common on migration, arrives in early May.
52. Red-footed Falcon – Rotfußfalke - *Falco vespertinus*  
Uncommon breeding species of Yenisey riverside meadows and clear-cuts in the south of region. Uncommon to rare on migration.
53. Kestrel – Turmfalke - *Falco tinnunculus*  
Rare breeding species of arable land around bigger settlements.
54. Willow Grouse – Moorschneehuhn - *Lagopus lagopus*  
Rare but locally common breeding species of extensive bogs. Common winter visitor up to the end of April.
55. Black Grouse – Birkhuhn - *Tetrao tetrix*  
Resident, local but fairly common breeding species of bogs and heavily burned areas.
56. Capercaillie – Auerhuhn - *Tetrao urogallus*  
Resident, common breeding species of taiga with patchy bogs and fire tracks.
57. Hazel Grouse – Haselhuhn - *Bonasia bonasia*  
Resident, common breeding species of all forest types.
58. Quail – Wachtel - *Coturnix coturnix*  
Rare breeding species of man-made meadows.
59. Spotted Crake - Тьрфелсумпфхuhn - *Porzana porzana*  
Status unknown, records of calling males almost every year (late June), increasing, probably breeding on small floodplain lakes with floating grass in 2000.
60. Baillon's Crake – Zwergsumpfhuhn - *Porzana pusilla*  
Accidental, 1 record 18.06.1982.

61. Corncrake – Wachtelkönig - *Crex crex*  
Very rare visitor, few records almost every year, probably breeding on long-grass meadows.
62. Coot – ВдЯhuhn - *Fulica atra*  
Accidental, 7 records before 1990s, some more in the 1990s.
63. Common Crane – Kranich - *Grus grus*  
Rare breeding species of scarcely represented open bogs.
64. Little Bustard – Zwergtrappe - *Tetrax tetrax*  
Accidental, first record for Central Siberia: 19.05.1997 on the meadow of Mirnoye village.
65. Oystercatcher - Austernfischer - *Haematopus ostralegus*  
Accidental, 1 record 10.06.1985, about 5 records in the 90s.
66. Grey Plover – Kiebitzregenpfeifer - *Pluvialis squatarola*  
Passage migrant, rare in spring, fairly common in autumn.
67. Ringed Plover – Sandregenpfeifer - *Charadrius hiaticula*  
Uncommon breeding species of flat Yenisei islands (southern limit of breeding range), fairly common on migration.
68. Little Ringed Plover - FluЯregenpfeifer - *Charadrius dubius*  
Fairly common breeding species of Yenisei banks, arrives in the middle of May.
69. Lesser Sand Plover - Mongolenregenpfeifer - *Charadrius mongolus*  
Accidental, 1 record early May 1975.
70. Dotterel - Mornellregenpfeifer - *Charadrius morinellus*  
Rare passage migrant.
71. Pacific Golden Plover - Pazifischer Goldregenpfeifer - *Pluvialis fulva*  
Common passage migrant in the end of May / early June and early September.
72. Golden Plover – Goldregenpfeifer - *Pluvialis apricaria*  
Fairly common passage migrant in the end of May / early June; uncommon in early September.
73. Sociable Plover – Steppenkiebitz - *Vanellus gregaria*  
Accidental, 1 record near Vorogovo (РОРНАМ 1898).
74. Lapwing – Kiebitz - *Vanellus vanellus*  
Fairly common spring visitor during May; 4 records during late June to August.
75. Turnstone - Steinwlzer - *Arenaria interpres*  
Rare passage migrant.
76. Little Stint – Zwergstrandlufer - *Calidris minuta*  
Fairly common passage migrant.
77. Red-necked Stint – Rotkehlstrandlufer - *Calidris ruficollis*

Accidental, 3 records in August of the 1990s.

78. Long-toed Stint – Langzehenstrandlдуfer - *Calidris subminuta*

Rare breeding species of open bogs, fairly common on spring migration in late May, but in small numbers.

79. Temminck's Stint – Temminckstrandlдуfer - *Calidris temminckii*

Common passage migrant.

80. Curlew Sandpiper – Sichelstrandlдуfer - *Calidris ferruginea*

Passage migrant, rare in spring (early June), uncommon in autumn (late July to September).

81. Dunlin – Alpenstrandlдуfer - *Calidris alpina*

Uncommon or rare passage migrant in spring (end of May / beginning of June) and autumn (end of August / beginning of September).

82. Pectoral Sandpiper – Graubruststrandlдуfer - *Calidris melanotos*

Accidental, 2 records before 1990s.

83. Sanderling – Sanderling - *Calidris alba*

Very rare passage migrant (e.g. late May of 1990 and 1993, 31.08.1994).

84. Green Sandpiper – Waldwasserlдуfer - *Tringa ochropus*

Common breeding species of floodplain forest, small taiga lakes and streams; fairly common on migration, arrives in the middle of May.

85. Wood Sandpiper - Bruchwasserlдуfer - *Tringa glareola*

Fairly common breeding species of oligotrophic bogs. Common on migration since the middle of May.

86. Greenshank - Grünschenkel - *Tringa nebularia*

Fairly common breeding species of bogs, fairly common on migration, arrives early in May.

87. Redshank – Rotschenkel - *Tringa totanus*

Accidental, 2 records in late May 1990 and 1997.

88. Spotted Redshank - Dunkler Wasserlдуfer - *Tringa erythropus*

Rare passage migrant (late May to beginning of June; late August to early September).

89. Marsh Sandpiper - Teichwasserlдуfer - *Tringa stagnatilis*

Accidental, 4 records: late May 1990 in Mirnoye, 25.05.1996 in Lebed, late May and August 1997 in Mirnoye.

90. Common Sandpiper – FluЯuferlдуfer - *Actitis hypoleucos*

Common breeding species of river banks. Common on migration, arrives in the middle of May.

91. Grey Tattler – Graubьrzelwasserlдуfer - *Heteroscelus brevipes*

Very rare passage migrant, a few records, e.g. 08.06.1996 in Mirnoye.

92. Terek Sandpiper – Terekwasserlдуfer - *Xenus cinereus*

Common breeding species of floodplain river banks, common migrant, arrives in late May.

93. Ruff – Кампфлдуфер - *Philomachus pugnax*  
Common passage migrant, often in large numbers.
94. Jack Snipe - Zwerschneepfe - *Lymnocyptes minimus*  
Uncommon breeding species of open bogs and floodplain meadows, uncommon on migration.
95. Common Snipe – Bekassine - *Gallinago gallinago*  
Common breeding species of any grassy wetlands. Common migrant, arrives in the middle of May.
96. Swinhoe's Snipe – Waldbekassine - *Gallinago megala*  
Accidental, 3 records before 1990s.
97. Pintail Snipe – Spießbekassine - *Gallinago stenura*  
Common breeding species of floodplain forest, upland bogs and grassy burned areas, common migrant, arrives in late May.
98. Solitary Snipe – Einsiedlerbekassine - *Gallinago solitaria*  
Very rare passage migrant.
99. Great Snipe - Doppelschnepfe - *Gallinago media*  
Fairly common breeding species of Yenisei floodplain meadows and man-made upland meadows, fairly common on migration, arrives in the end of May.
100. Woodcock – Waldschnepfe - *Scolopax rusticola*  
Common breeding species of floodplain forest and taiga stream valleys, arriving in the middle of May.
101. Little Curlew - Zwergbrachvogel - *Numenius minutus*  
Accidental, 1 record 24.05.1996 passing Lebed.
102. Curlew - Großer Brachvogel - *Numenius arquata*  
Probably rare breeding species of bogs, uncommon spring migrant (early May to early June), very rare in autumn.
103. Whimbrel – Regenbrachvogel - *Numenius phaeopus*  
Probably very rare breeding species of bogs in the north-east of the region. Uncommon spring migrant (end of May, beginning of June), not recorded in autumn.
104. Black-tailed Godwit – Uferschnepfe - *Limosa limosa melanuroides*  
Accidental, 3-5 records in the 1990s.
105. Bar-tailed Godwit – Pfuhschnepfe - *Limosa lapponica lapponica/menzbieri*  
Accidental, 01.06.1981 and several in early June 1991 (both subspecies; the only record of *menzbieri*); 8 individuals 28.05.1996 in Lebed, 20 individuals 05.06.1996 in Mirnoye.
106. Red-necked Phalarope – Odinhöhnenchen - *Phalaropus lobatus*  
Uncommon passage migrant, in the middle of June and mid-end of August.
107. Pomarine Skua – Spatelraubmüwe - *Stercorarius pomarinus*  
Accidental, 2 spring records before 1990s, one first-year bird on 03.09.1994.

108. Arctic Skua – Schmarotzerraubmüwe - *Stercorarius parasiticus*

Accidental, 8 records before 1990s, 3-4 records in summer in the 1990s.

109. Little Gull – Zwergmüwe - *Larus minutus*

Possible local and very rare breeding species of unforested lakes. Arrives in the beginning of June, always common on the Yenisei in July; sometimes seen in large numbers.

110. Black-headed Gull - Lachmüwe - *Larus ridibundus*

Status unknown, several records (mid May to end of July).

111. Tundra Gull – Tundramüwe – *Larus heuglini heuglini/antelius*

Common passage migrant (up to 1,000 birds passing in one day; 24.05.1996), possible breeding.

112. Glaucous Gull – Eismüwe - *Larus hyperboreus*

Accidental, 2 records before 1990s.

113. Common Gull – Sturmmüwe - *Larus canus*

Fairly common breeding species of floodplain lakes and river banks. Numerous migrant, arrives in mid May.

114. Sabine's Gull - Schwalbenmüwe - *Xema sabini*

Accidental, 20.07.1977 in Vorogovo.

115. Ivory Gull – Elfenbeinmüwe - *Pagophila eburnea*

Accidental.

116. Caspian Tern – Raubseeschwalbe - *Sterna caspia*

Accidental.

117. Common Tern – Flußseeschwalbe - *Sterna hirundo*

Common breeding species of the Yenisei banks. Common migrant, arrives in the end of May.

118. Arctic Tern - Къстenseeschwalbe - *Sterna paradisaea*

Status unknown; uncommon migrant in early June.

119. Black Tern – Trauerseeschwalbe - *Chlidonias niger*

Accidental, 2 records before 1990s, 1-2 records in the 1990s in August, among common terns.

120. Whiskered Tern – Weißbartseeschwalbe - *Chlidonias hybridus*

Accidental, 1 individual 4.06.1979 along the Yenisei.

121. Woodpigeon – Ringeltaube - *Columba palumbus*

Accidental, 5 records before 1990s, 5 records in the 1990s.

122. Stock Dove – Hohltaube - *Columba oenas*

Rare visitor, numbers increasing, virtually absent in the 1970s, now regularly seen: e.g. early autumn 1994 (42 individuals) and May 1995 and 1996 (16 observations in total).

123. Rufous Turtle Dove – Orientturteltaube - *Streptopelia orientalis*

Fairly common breeding species of riparian forests and old burned forests. Arrives in the end of May.

124. Cuckoo - Kuckuck - *Cuculus canorus*

Common breeding species of different, especially floodplain forests, arrives in the end of May.

125. Oriental Cuckoo – Hopfkuckuck - *Cuculus saturatus horsfieldii*

Common breeding species of different, especially floodplain forests, arrives in the end of May.

126. Snowy Owl – Schneeeule - *Nyctea scandiaca*

Irregular and rare passage migrant in April, May and October, invasions in late summer in some years (e.g. 1989), regular winter visitor.

127. Eagle Owl – Uhu - *Bubo bubo*

Resident, rare breeding species of enriched riparian taiga. Recent records: July 1995, June 1998, May 1999, May-June 2000.

128. Long-eared Owl – Waldohreule - *Asio otus*

Very rare breeding species of floodplain forest. The northern border of its range.

129. Short-eared Owl – Sumpfohreule - *Asio flammeus*

Common breeding species of rather open wetlands. Arrives in the middle of May, common on migration.

130. Tengmalm's Owl - Rauhfußkauz - *Aegolius funereus*

Resident, fairly common breeding species of dark valley taiga.

131. Pygmy Owl – Sperlingskauz - *Glaucidium passerinum*

Uncommon breeding species of taiga, most records from September, nearly 1 trapping per year and acoustic records each September; in floodplain as well as apparently in taiga.

132. Hawk Owl – Sperbereule - *Surnia ulula*

Resident, fairly common breeding species of burned forests, numbers depending on abundance of mice.

133. Ural Owl – Habichtskauz - *Strix uralensis*

Resident, uncommon breeding species of valley taiga.

134. Great Grey Owl – Bartkauz - *Strix nebulosa*

Resident, fairly common breeding species of watershed taiga.

135. Nightjar – Ziegenmelker - *Caprimulgus europaeus*

Accidental, 5 records before 1990s; 1-2 more records since then.

136. Needle-tailed Swift – Stachelschwanzsegler - *Hirundapus caudacutus*

Status unknown, rare visitor during summer, earliest record: 11.06.1996; regular postbreeding movements.

137. Swift – Mauersegler - *Apus apus*

Status unknown, rare visitor (June and July), earliest record: one found fresh dead on 25.05.1995.

138. Pacific Swift – Pazifiksegler - *Apus pacificus*  
Uncommon breeding species of rocks or clear burned places in the Central Siberian Highland (Stolbovaya, lower Yelogui and Bachta river).
139. Kingfisher – Eisvogel - *Alcedo atthis*  
Status unknown, apparently breeding at Vorogovo (islands, channels), possibly elsewhere in tributary mouths. 3 records in Mirnoye 1978, 1996 and 2000.
140. Hoopoe - Wiedehopf - *Upupa epops*  
Accidental, overall 8 records; 1 juvenile in Bakhta village in September 2000.
141. Wryneck - Wendehals - *Jynx torquilla*  
Regular but uncommon breeding species of floodplain forest and dead woods on burned forests. Arrives in the middle of May.
142. Grey-headed Woodpecker – Grauspecht - *Picus canus*  
Status unknown, one record near Osinovo cheeks in September 1957 (ROGACHEVA 1992).
143. Black Woodpecker – Schwarzspecht - *Dryocopus martius*  
Resident, fairly common breeding species, mostly in old burned forests.
144. Great Spotted Woodpecker – Buntspecht - *Dendrocopos major*  
Resident, common breeding species of floodplain, tall taiga and burned forests.
145. White-backed Woodpecker – Weißrückenspecht - *Dendrocopos leucotos*  
Rare breeding species; in 1970s and 1980s only three late autumn records; between 1993 and 1997 annually recorded in floodplain forests in Mirnoye and Lebed, certainly breeding at both sites.
146. Lesser Spotted Woodpecker – Kleinspecht - *Dendrocopos minor*  
Fairly common breeding species of floodplain and valley forests.
147. Three-toed Woodpecker - Dreizehenspecht - *Picooides tridactylus*  
Resident, common breeding species of fault (containing dead wood) taiga and burned forests.
148. Red-capped Lark – Rotkappenlerche - *Calandrella cinerea*  
Accidental, 1 record in early June 1990 on the field of Mirnoye village.
149. Shore Lark – Ohrenlerche - *Eremophila alpestris*  
Common passage migrant; in large flocks on the fields of Lebed and Mirnoye (mostly late May and September).
150. Skylark – Feldlerche - *Alauda arvensis*  
Rare apparently breeding species of settlement surroundings. Arrives early in May.
151. Sand Martin – Uferschwalbe - *Riparia riparia*  
Common breeding species of steep river banks, arrives in the end of May.
152. Barn Swallow – Rauchschwalbe - *Hirundo rustica*  
Status unknown, annual records between early May and early June (earliest 08.05.1995, latest 18.09.1995).

153. House Martin – Mehlschwalbe - *Delichon urbica*

Rather uncommon breeding species in Osinovo "cheeks", in villages Podkamenaya Tunguska, Bakhta, Verkhne-Imbatskoye, Alinskoye. Small colonies may exist for few successive years, then disappear for a long time.

154. Richard's Pipit – Spornpieper - *Anthus richardi*

Irregular and uncommon breeding species of man-made short-grass meadows, appears every year in Mirnoye in late May / early June, latest record 06.10.1993.

155. Tree Pipit - Baumpieper - *Anthus trivialis*

Fairly common breeding species of meadows around settlements, riversides, heavily burned forests and bogs. Arrives early in May.

156. Olive-backed Pipit – Waldpieper - *Anthus hodgsoni*

Numerous breeding species of taiga. Arrives in the middle of May.

157. Petchora Pipit – Petschorapieper - *Anthus gustavi*

Rare passage migrant in early June and September.

158. Meadow Pipit – Wiesenpieper - *Anthus pratensis*

Rare visitor (several birds recorded: e.g. 03.-04.09.1994 and 09.-17.05.1995).

159. Red-throated Pipit – Rotkehlpieper - *Anthus cervinus*

Fairly common passage migrant in mid and late May and again common early in September.

160. Buff-bellied Pipit - Pazifischer Wasserpieper - *Anthus rubescens*

Fairly common passage migrant in mid May and mid September, breeds in the Putorana range.

161. Citrine Wagtail – Zitronenstelze - *Motacilla citreola*

Common passage migrant (mid May, late August / early September), rather often seen in quite large flocks. Rare breeding species on moss bogs apart from the Yenisei river.

162. Yellow Wagtail – Schafstelze - *Motacilla flava thunbergi*

Uncommon, local breeding species of bogs and possibly some low grasslands. Arrives in the end of May, disappears from the Yenisei for breeding; gets common again just after breeding in August.

163. Grey Wagtail – Gebirgsstelze - *Motacilla cinerea*

Fairly common breeding species of stony river banks, arrives in the middle of May.

164. White Wagtail - Bachstelze - *Motacilla alba*

*M. a. dukhunensis*: common breeding species of any banks, arrives in the beginning of May.

*M. a. ocularis*: fairly common passage migrant.

*M. a. baicalensis*: rare migrant.

*M. a. personata*: status unknown, not recorded before 1995, since 1996 several observations each year, possibly breeding, at least 1 individual spent all the summer 1999 in Mirnoye.

165. Waxwing – Seidenschwanz - *Bombycilla garrulus*

Fairly common breeding, wintering and migrating species of rarefied taiga, floodplain and burned forests.

166. Siberian Accentor – Bergbraunelle - *Prunella montanella*



Fairly common passage migrant (mid May to early June and September).

167. Whinchat – Braunkehlchen - *Saxicola rubetra*

Very rare breeding species of man-made meadows near settlements.

168. Stonechat – Schwarzkehlchen - *Saxicola torquata maura*

Common breeding species of short-grass meadows and bogs. Arrives in the beginning of May.

169. Northern Wheater – Steinschmdtzer - *Oenanthe oenanthe*

Rare breeding species of settlements, wood storages on clear-cuts and stony tops of the Middle Siberian plateau; common on migration.

170. Pied Wheater – Nonnensteinschmdtzer - *Oenanthe pleschanka*

Accidental, 4 records before 1990s, 2 records in the 1990s.

171. Redstart – Gartenrotschwanz - *Phoenicurus phoenicurus*

Common breeding species of burned forests with dry woods. Arrives in mid May.

172. Robin – Rotkehlchen - *Erithacus rubecula*

Accidental before 1990s, 1 record 27.05.1980; now very rare migrating and breeding species of rich faulty (with dead and fallen woods) riparian and floodplain forests. 1993 several records, incl. 3 singing males from one point; later 1-3 traps almost every year; 1 juv. trapped 1998; 2 broods seen in rear floodplain in 2000.

173. Nightingale – Nachtigall - *Luscinia megarhynchos*

Accidental, trapped two times: 29.06.1992 and 02.07.1994.

174. Thrush Nightingale - Sprosser - *Luscinia luscinia*

Accidental, 2-3 acoustic records between 1987 and 1997, maybe misidentified.

175. Siberian Rubythroat – Rubinkehlchen - *Luscinia calliope*

Common, sometimes numerous breeding species of floodplain forest, fairly common along all small streams; arrives in the end of May.

176. Bluethroat – Blaukehlchen - *Luscinia svecica svecica*

Common breeding species of floodplain willow thickets, rare out of the Yenisei valley. Arrives in the middle of May.

177. Siberian Blue Robin – Blaunachtigall - *Luscinia cyane cyane*

Rare breeding species of floodplain forest. Arrives in the beginning of June.

178. Rufous-tailed Nightingale – Schwirrnachtigall - *Luscinia sibilans*

Fairly common breeding species of floodplain forest, arrives end of May / early June.

179. Red-flanked Bluetail - Blauschwanz - *Tarsiger cyanurus cyanurus*

Common breeding species of old burned places and immature taiga. Arrives in the end of April.

180. Eye-browed Thrush – WeiЯbrauendrossel - *Turdus obscurus*

Fairly common breeding species of enriched taiga, arrives in the end of May.

181. Dark-throated Thrush – Bechsteindrossel - *Turdus ruficollis*

"Black-throated Thrush" - "Schwarzkehldrossel" - *Turdus r. atrogularis*: numerous breeding species of any burned forest, common in floodplain. Arrives in mid May.

"Red-throated Thrush" – "Rotkehldrossel" - *T.r.ruficollis*: very rare breeding (sometimes in mixed pairs), rare migrating. Hybrids are fairly common during late summer movements to the north.

182. Dusky Thrush - Naumanndrossel - *Turdus naumanni*

"Dusky Thrush" - "Rostflügeldrossel" - *T. n. eunomus*: rare migrating species, breeds further north. Every year seen in small numbers on migration (late May / beginning of June and late September).

"Naumann's Thrush" - "Rostschwanzdrossel" - *T. n. naumanni*: very rare and irregular migrant in late May; rare breeder of rarefied taiga at the very east of region (Stolbovaya basin).

183. Fieldfare – Wacholderdrossel - *Turdus pilaris*

Common breeding species of Yenisei willow forest, numerous in some places. Arrives in mid May.

184. Redwing – Rotdrossel - *Turdus iliacus*

Common breeding species of floodplain and some other rich forests. Arrives in the beginning of May.

185. Song Thrush – Singdrossel - *Turdus philomelos*

Uncommon breeding species of valley forests. Arrives in mid May.

186. Mistle Thrush – Misteldrossel - *Turdus viscivorus*

Status unknown: annual records, possible very rare breeding in the Yenisei valley. Certainly breeds in pine stands in Dubches basin, apparently breeds in such stands elsewhere nearby (e.g. in Yelogui basin). Very rare, but annual pre- and postbreeding records, floaters during breeding season.

187. Siberian Thrush - Schieferdrossel - *Zoothera sibirica sibirica*

Numerous breeding species of Yenisei floodplain forest. Arrives in the end of May / early June.

188. White's Thrush – Erddrossel - *Zoothera dauma varia*

Uncommon breeding species of taiga, arrives in the end of May.

189. Gray's Grasshopper Warbler – Riesenschwirl - *Locustella fasciolata*

Accidental, 1 male singing in Mirnoye floodplain 03.07.-09.07.1995.

190. Pallas's Grasshopper Warbler – Streifenschwirl - *Locustella certhiola*

Numerous breeding species of the Yenisei floodplain meadows and small similar spots elsewhere. Arrives mid June.

191. Grasshopper Warbler – Feldschwirl - *Locustella naevia*

Accidental, 1 record 25.06.1988.

192. Lanceolated Warbler – Strichelschwirl - *Locustella lanceolata*

Fairly common breeding species of wet meadows and mesotrophic bogs. Arrives in the beginning of June.

193. Blyth's Reed Warbler – Buschrohrsänger - *Acrocephalus dumetorum*

Numerous breeding species of forest edges and meadows (with herbs with hard stems, e.g. Umbrelliflorae) near rivers and villages. Arrives in the beginning of June.

194. Sedge Warbler – Schilfrohrsänger - *Acrocephalus schoenobaenus*

Fairly common breeding species of willow floodplain and floodplain meadows. Arrives in early June.

195. Black-browed Reed Warbler – Streifenrohrsänger - *Acrocephalus bistrigiceps*  
Accidental. Three records: one individual caught in Mirnoye floodplain 26.06.1997, second - 14.07.1997, third - observed about 3 days establishing territory in willows in mid June 1999.

196. Paddyfield Warbler – Feldrohrsänger - *Acrocephalus agricola*  
Accidental, Totally 6 records: 4 individuals trapped in Mirnoye on both, the right and the left bank, 1 individual in Lebed in 1990, and 1 more in 1992.

197. Booted Warbler – Buschspötter - *Hippolais caligata*  
Status unknown. Probably misidentified.

198. Garden Warbler - Gartengrasmücke - *Sylvia borin pallida*  
Rare breeding species of willow floodplain forest. Arrives in the beginning of June.

199. Whitethroat - Dorngrasmücke - *Sylvia communis*  
In contrast to the estimation of Rogacheva (1992), who just mentions three records from 1979 and 1980, a very rare breeding species. Recently single traps in June almost every year since the beginning of the trapping program at the left side; 1-3 juv. in 1989-1998; breeding pair in willow bushes in 1999.

200. Lesser Whitethroat – Klappergrasmücke - *Sylvia curruca*  
Numerous breeding species of floodplain forest, fairly common elsewhere; arrives in the end of May.

201. Wood Warbler – Waldlaubsänger - *Phylloscopus sibilatrix*  
Accidental, 1 record 05.07.1987.

202. Willow Warbler – Fitis - *Phylloscopus trochilus*  
*Phylloscopus t. acredula*: Uncommon breeding species of willow floodplains and somewhere in swampy bushes of uplands, arrives in mid May, common or numerous after breeding and on spring and autumn migration.  
*P.t. yakutensis*: common migrant in the end of August.

203. Chiffchaff - Zilpzalp - *Phylloscopus collybita tristis*  
Common breeding species of floodplain forest and elsewhere along riversides; arrives in the beginning of May.

204. Arctic Warbler – Wanderlaubsänger - *Phylloscopus borealis*  
Numerous breeding species of floodplain forest, arrives in the beginning of June.

205. Greenish Warbler - Grünlaubsänger - *Phylloscopus trochiloides*  
*Phylloscopus t. viridanus*: fairly common breeding species of floodplain and riparian forests. Arrives in the end of May.  
"Two-barred Greenish Warbler" - "Middendorfflaubsänger" - *Phylloscopus t. plumbeitarsus*:  
Accidental: 1 record 05.07.1987 on the steep slope to the Yenisei.

206. Yellow-browed Warbler – Gelbbrauenlaubsänger - *Phylloscopus inornatus inornatus*

Numerous breeding species of burned forests, the most abundant breeding species of the area. Arrives in late May.

207. Pallas's Warbler - Goldhhnchenlaubsnger - *Phylloscopus proregulus*  
Common breeding species of taiga, arrives in the early June.

208. Dusky Warbler – Dunkellaubsnger - *Phylloscopus fuscatus*  
Fairly common breeding species in locally distributed open shrub habitats. Arrives in the beginning of June, departs in September.

209. Radde's Warbler – Bartlaubsnger - *Phylloscopus schwarzi*  
Accidental, 1 record 13.06.1980.

210. Goldcrest – Wintergoldhhnchen - *Regulus regulus*  
Irregular and very rare breeding species of rich spruce forests. Possibly wintering.

211. Pied Flycatcher – Trauerschnrper - *Ficedula hypoleuca*  
Accidental, 4 records 1977-81, recently 1 record: 08.08.1995 juv. starting moult trapped in floodplain.

212. Mugimaki Flycatcher – Mugimakischnrper - *Ficedula mugimaki*  
Uncommon breeding species of rich taiga along valley slopes. Arrives in the beginning of June.

213. Red-breasted Flycatcher – Zwergschnrper - *Ficedula parva albicilla*  
Common breeding species of burned forests and some other forest types. Arrives in the beginning of June, numerous in August.

214. Dark-sided Flycatcher - RuЯschnrper - *Muscicapa sibirica sibirica*  
Common breeding species of old burned forests and tall taiga. Arrives in the end of May.

215. Spotted Flycatcher - Grauschnrper - *Muscicapa striata neumanni*  
Very rare breeding species of floodplain forests, apparently breeds as more common in pine stands of Bor's surrounding, Dubches and Yelogui basins (which remain poorly explored).

216. Brown Flycatcher – Braunschnrper - *Muscicapa dauurica latirostris*  
Rare breeding species of the Yenisei floodplain forest. Arrives in the beginning of June.

217. Long-tailed Tit – Schwanzmeise - *Aegithalos caudatus caudatus*  
Uncommon breeding species of floodplain forest; irregularly in winter. Some years numerous in autumn (September-October).

218. Willow Tit – Weidenmeise - *Parus montanus*  
Resident, common breeding species of any forest.

219. Siberian Tit – Lapplandmeise - *Parus cinctus cinctus*  
Fairly common on passage only in some years (May and September). Very rare in Mirnoye, breeding not proved. Apparently rare breeding species 50 km east and further sharply increasing (common in late July 90 km and 200 km east). Apparently wintering in some years (at least recorded 19.03.1982).

220. Crested Tit – Haubenmeise - *Parus cristatus*

Accidental, 1 record near Lebed, August 1986.

221. Coal Tit - Tannenmeise - *Parus ater*

Uncommon breeding species of taiga. Some years numerous on movements to the north in September and apparently winters.

222. Great Tit - Kohlmeise - *Parus major major*

Rare breeding species in the settlement of Bor, fairly common in winter, almost every year wintering in the settlement of Bakhta. Never breeds in Mirnoye, but can be accidentally found all the year round.

223. Nuthatch – Kleiber - *Sitta europaea asiatica*

Resident, common breeding species of any forest, sharply fluctuating in numbers.

224. Treecreeper – Waldbaumldufer - *Certhia familiaris daurica*

Irregular and uncommon breeding species of floodplain and some taiga forests. Probably winters in some years, at least seen in March.

225. Golden Oriole – Pirol - *Oriolus oriolus*

Accidental, 1 record 08.06.1971, recently 3 records: 1 male 10.06.1995 in Lebed; another male singing in Mirnoye floodplain 15.-16.06.1995, 1 male in Mirnoye in the end of May 1999.

226. Brown Shrike – Rotschwanzwürger - *Lanius cristatus*

Uncommon breeding species of riverine and bog forest edges. Arrives early in June.

227. Red-backed Shrike – Neuntöter - *Lanius collurio*

Rare, sporadically breeding species of forest edges. Arrives in the very end of May.

228. Lesser Grey Shrike – Schwarzstirnwürger - *Lanius minor*

Accidental, 1 record in mid June 1979.

229. Great Grey Shrike – Raubwürger - *Lanius excubitor*

Very rare breeding species of bogs. Arrives in early May, leaves in September. Not breeding in Mirnoye, though probably a rare breeding species on extensive bogs both sides far from the Yenisey.

230. Siberian Jay – Unglückshdher - *Perisoreus infaustus*

Resident, fairly common breeding species of taiga.

231. Jay – Eichelhdher - *Garrulus glandarius brandtii*

Accidental before 1990s. 2 winter records and 1 summer record (24.06.1980); Recently more common in late summer: 02.09. and 06.09.1994 in Mirnoye floodplain; 01.05.1996 in Lebed. Between 1998 and 2000 1-2 records of fledged broods. Now very rare breeding in floodplain. Occasionally caught in sable traps in winter.

232. Magpie – Elster - *Pica pica*

Resident, uncommon breeding species of settlements, uncommon in floodplain, rare along tributary rivers.

233. Nutcracker – Tannenhdher - *Nucifraga caryocatactes macrorhynchos*

Resident, common breeding species of taiga. Often passes in large flocks during July.

234. Jackdaw – Dohle - *Corvus monedula*

Status unknown, some records in spring, e.g. 25.05.1995 in Lebed and 05.06.1996 in Mirnoye. Possibly very rare breeding anywhere at cut-grass meadows, which are widespread around Bakhta village.

235. Rook – Saatkrdhe - *Corvus frugilegus*

Accidental. Several records every year in May. Sometimes in flocks: rarely up to 50 birds.

236. Carrion Crow – Aaskrdhe - *Corvus corone*

*Corvus corone corone*: Fairly common breeding species of settlements and river banks. Very common on migration, arrives early in April, departs in late October.

*Corvus corone cornix*: Rare breeder (more common to the west); fairly common on migration. Hybrids are typically more common than pure *cornix*.

237. Raven - Kolkrabe - *Corvus corax*

Resident, fairly common breeding species of any place.

238. Rose-coloured Starling - Rosenstar - *Sturnus roseus*

Accidental, 3 records in June 1983-85; recently 2 records: 2 individuals 10.06.1995 in Lebed and 1 in late May 1997.

239. Starling – Star - *Sturnus vulgaris poltaratskyi*

Uncommon breeding species of settlements. Arrives in late April.

240. House Sparrow – Haussperling - *Passer domesticus domesticus*

Common breeding species of settlements, normally appears in May, leaves in October. Some individuals stay longer in special places at settlements but usually do not survive.

241. Tree Sparrow – Feldsperling - *Passer montanus montanus*

Fairly common breeding species of settlements, normally appears in May, passes in the last decade of May, leaves in October. Individuals staying longer usually do not survive.

242. Chaffinch – Buchfink - *Fringilla coelebs coelebs*

Uncommon breeding species of floodplain and riparian forests, increasing (accidental in 1970s, irregular breeding in 1980s, uncommon breeding in 1990s). Arrives in the beginning of May.

243. Brambling – Bergfink - *Fringilla montifringilla*

Numerous breeding species in rich kinds of forests, common in the poorer types. Arrives in the beginning of May.

244. Greenfinch – Grnfink - *Carduelis chloris*

Accidental. First record for Central Siberia 16.05.1996 in Lebed and second 10.05.1997 in Mirnoye.

245. Siskin – Erlenzeisig - *Carduelis spinus*

Uncommon breeding species of rich spruce forests. In some years fairly common, in others lacking. Occurred early in spring and possibly over-winters in some years.

246. Goldfinch – Stieglitz - *Carduelis carduelis*

Rare breeding species in weeds around Vorogovo, accidentally moving further north during the non-breeding period. Several winter and spring records.

247. Linnet – Bluthnfling - *Carduelis cannabina*

Accidental. 2 records: 1 in May 1990, and 1 more in recent years.

248. Redpoll – Birkenzeisig - *Carduelis flammea flammea*

Common breeding species of scarce taiga, burned forests and willow bushes. Common in winter, passes in May.

249. Arctic Redpoll – Polarbirkenzeisig - *Carduelis hornemanni exilipes*

Status unknown, annual records of passage migrants in much smaller numbers than Redpoll, possible breeding. Among migrants, all intermediate variations are more common than "true" *exilipes* individuals.

250. Pallas's Rosefinch – Rosengimpel - *Carpodacus roseus*

Fairly common breeding species of burned forests and taiga forests. Present at least from April to November, though passage in the beginning of May is clearly expressed.

251. Scarlet Rosefinch – Karvingimpel - *Carpodacus erythrinus erythrinus*

Common breeding species of semi-open habitats in floodplain, riversides and some rich burned forests. Arrives in the end of May.

252. Long-tailed Rosefinch - Meisengimpel - *Uragus sibiricus*

Accidental. 2 records before 1990s: July 1976 and 1986, recently 1 record 09.05.1996 and 2-3 more records in floodplain willows.

253. Pine Grosbeak - Hakengimpel - *Pinicola enucleator*

Rare breeding species of taiga, more common to the north. Some years fairly common in winter.

254. Common Crossbill – Fichtenkreuzschnabel - *Loxia curvirostra*

Common breeding and wintering species of taiga, with fluctuating numbers.

255. Two-barred Crossbill – Bindenkreuzschnabel - *Loxia leucoptera*

Fairly common breeding species of taiga, with fluctuating numbers. Sometimes passes in large numbers during summer. Most years rare in winter.

256. Bullfinch – Dompfaff – *Pyrrhula pyrrhula*

*Pyrrhula pyrrhula pyrrhula*: fairly common breeding and rare wintering species of different kinds of forests.

*Pyrrhula pyrrhula cineracea*: uncommon breeding species of floodplain and valley taiga forests; much less abundant than the nominate subspecies; however, recorded in pure *cineracea* flocks of up to 50 individuals at departure in late September.

257. Hawfinch – Kernbeißer - *Coccothraustes coccothraustes coccothraustes*

Fairly common breeding species of floodplain forest.

258. Rustic Bunting – Waldammer - *Emberiza rustica*

Common breeding species of wet taiga and floodplain forests. Arrives in the beginning of May, migrating in large numbers.

259. Yellowhammer – Goldammer - *Emberiza citrinella erythrogenys*

Uncommon breeding species of dry meadows surrounding settlements and in floodplain, fairly common on migration (May) in settlements.

260. Pine Bunting – Fichtenammer - *Emberiza leucocephalos*

Very rare breeding species of bogs covered with pine, typically seen in settlements during May. More common along dry forest edges, e.g. near Bor, Komsa and along Podkamennaya Tunguska. Rather often hybrids with *E. citrinella* occur.

261. Reed Bunting – Rohrammer - *Emberiza schoeniclus*

Common breeding species of lower floodplain habitats. Arrives in the beginning of May.

262. Pallas's Reed Bunting – Pallasammer - *Emberiza pallasi*

Fairly common passage migrant in variable numbers (late May and late August).

263. Yellow-browed Bunting – Gelbbrauenammer - *Emberiza chrysophrys*

Fairly common but local breeding species of taiga stream valleys and burned forests.

264. Little Bunting - Zwergammer - *Emberiza pusilla*

Fairly common and widespread breeding species of rarefied forests around bogs, in stream valleys and floodplain. Some years rare. Migrates in large numbers (mid May, early September).

265. Black-faced Bunting – Maskenammer - *Emberiza spodocephala*

Accidental, 2 records: 28.06.1988, 1 caught 16.07.1994 in floodplain willows.

266. Chestnut Bunting – Rüttelammer - *Emberiza rutila*

Accidental, first record: one male caught 18.07.1996 in Mirnoye floodplain.

267. Yellow-breasted Bunting – Weidenammer - *Emberiza aureola*

Common breeding species of floodplain or man-made meadows and some bogs. Arrives in the last days of May.

268. Ortolan Bunting – Ortolan - *Emberiza hortulana*

Accidental, 1 record 25.05.1980.

269. Lapland Bunting – Spornammer - *Calcarius lapponicus*

Common passage migrant, seen in large flocks (late May and mid September).

270. Snow Bunting – Schneeammer - *Plectrophenax nivalis*

Common passage migrant (April and October) and winter visitor along the riverbanks.

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### **Zusammenfassung**

Der Yenisei, mit einer Länge von 4.092 km einer der mächtigsten eurasischen Flüsse, bildet sowohl die Grenze zwischen dem Westsibirischen Tiefland und dem Zentralsibirischen Hochland als auch zwischen der West- und Ostpaläarktis. Trotz der herausragenden biogeographischen Bedeutung hat die Region im westeuropäischen Schrifttum bislang wenig Beachtung gefunden. MATTES &



LIENAU (1994), ROGACHEVA (1992) sowie BOURSKI (1995) geben einen Überblick über die Geographie bzw. die Avifauna Zentralsibiriens, dennoch fehlt eine kommentierte, aktuelle Artenliste, die auf Grundlage des Langzeitprogrammes der Biologischen Station Mirnoye (62°20'N, 89°00'E) unter der Leitung von O.V. Bourski mit dieser Arbeit vorgelegt werden soll.

Das Klima Zentralsibiriens ist kontinental mit entsprechenden Temperaturamplituden zwischen Sommer (Julidurchschnitt +16°C) und Winter (Januardurchschnitt -24°C). Durchschnittliche Jahresniederschlagsmengen von 500 mm fallen meist im Winter, eine Schneedecke von etwa 90 cm liegt von Ende Oktober bis Anfang Mai.

Der Mittellauf des Yeniseis passiert die mittlere Taiga, die in der Region um Mirnoye durch drei Habitattypen charakterisiert ist: (1) Die dunkle Taiga mit Sibirischer Arve (*Pinus sibirica*) und Sibirischer Fichte (*Picea obovata*) ist weit verbreitet aber unproduktiv. (2) Natürliche Brandflächen mit Moorbirke (*Betula pubescens*), Zitterpappel (*Populus tremula*) und Sibirischer Lärche (*Larix sibirica*), die etwa die Hälfte der Fläche des Bearbeitungsgebietes einnehmen. (3) Produktive und deutlich zonierte Auwälder entlang des Westufers des Yeniseis. Weitere Habitattypen sind u.a. Moore, Kiefernwälder und durch die Tätigkeit des Menschen entstandene Wiesen, Weiden und Siedlungsflächen.

Insgesamt konnten 270 Vogelarten nachgewiesen werden, von denen 147 zu den Nichtsingvögeln und 123 zu den Singvögeln zählen. 165 Arten brüten mehr oder weniger regelmäßig in der Region, 38 Arten sind Durchzügler und 51 weitere müssen als Irrgäste angesehen werden. Die Strenge des Klimas erlaubt nur einer kleinen Zahl von 36 Vogelarten die Anwesenheit im Winter, von denen 17 Arten Standvögel sind, die übrigen 19 sind Wintergäste. Der Status von 15 weiteren Arten ist bislang ungeklärt.

Die Liste führt alle in der Mirnoyeregion nachgewiesenen Arten auf und benennt Status, Habitatwahl und Häufigkeit. Zusätzlich werden Angaben zum zeitlichen Auftreten der Arten gemacht.

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Table 1: Recorded species grouped by orders and families

<b>Order</b>	<b>Family</b>	<b>Species</b>
Gaviiformes	Gaviidae	2
Podicipediformes	Podicipedidae	1
Pelecaniformes	Pelecanidae	1
Ciconiiformes	Ardeidae	2
	Ciconiidae	1
Anseriformes	Anatidae	28
Falconiformes	Pandionidae	1
Accipitriformes	Accipitridae	11
Falconiformes	Falconidae	6
Galliformes	Tetraonidae	4
	Phasianidae	1
Gruiformes	Gruidae	1
	Rallidae	4
	Otididae	1
Charadriiformes	Charadriidae	9
	Scolopacidae	31
	Phalaropodidae	1
	Haematopodidae	1
	Stercorariidae	2
	Laridae	7
	Sternidae	5
Columbiformes	Columbidae	3
Cuculiformes	Cuculidae	2
Strigiformes	Strigidae	9
Caprimulgiformes	Caprimulgidae	1
Apodiformes	Apodidae	3
Coraciiformes	Alcedinidae	1
	Upupidae	1
Piciformes	Picidae	7
Passeriformes	Alaudidae	3
	Motacillidae	11
	Hirundinidae	3
	Laniidae	4
	Bombycillidae	1
	Prunellidae	1
	Sylviidae	22
	Muscicapidae	6
	Turdidae	22
	Aegithalidae	1
	Paridae	5
	Sittidae	1
	Certhiidae	1
	Sturnidae	2
	Oriolidae	1
	Corvidae	8
	Passeridae	2
	Fringillidae	16
	Emberizidae	13
<b>19</b>	<b>48</b>	<b>270</b>

Table 2. List of species that were not recorded since 1990 and species that are new to the area since then.

**Recorded before 1990 only**

*\*Cygnus bewickii*  
*Tadorna ferruginea*  
*Anas poecilorhyncha*  
*Anas formosa*  
*Porzana pusilla*  
*Charadrius mongolus*  
*\*Vanellus gregaria*  
*Calidris melanotos*  
*Gallinago megal*  
*Gallinago solitaria*  
*Larus hyperboreus*  
*Xema sabini*  
*Pagophila eburnea*  
*Chlidonias hybridus*  
*Picus canus*  
*Locustella naevia*  
*\*Hippolais caligata*  
*Phylloscopus sibilatrix*  
*Phylloscopus trochiloides plumbeitarsus*  
*Phylloscopus schwarzi*  
*Parus cristatus*  
*Lanius minor*  
*Emberiza hortulana*

**Recorded since 1990 only**

*Pernis ptilorhynchus*  
*Circus macrourus*  
*Tetrax tetrax*  
*Calidris ruficollis*  
*Calidris alba*  
*Tringa totanus*  
*Tringa stagnatilis*  
*Numenius minutus*  
*Limosa limosa*  
*Limosa lapponica menzbieri*  
*Sterna caspia*  
*Sterna paradisaea*  
*Calandrella cinerea*  
*Motacilla alba personata*  
*Luscinia megarhynchos*  
*\*Luscinia luscinia*  
*Locustella fasciolata*  
*Acrocephalus bistrigiceps*  
*Acrocephalus agricola*  
*Carduelis chloris*  
*Carduelis cannabina*  
*Emberiza rutila*

*\*Species with doubtful identification.*

Table 3. Breeding and possibly breeding species grouped by habitat extension and relative abundance. Note that these data exclude birds on migration.

Extension of habitats	Frequency of species in appropriate habitats					
	very rare	rare	uncommon	fairly common	common	numerous
<b>Very restricted and locally distributed habitats</b> (e.g., settlements, rocks)	<i>Anas formosa</i> <i>Anas strepera</i> <i>Alcedo atthis</i> <i>Saxicola rubetra</i> <i>Turdus viscivorus</i> <i>Corvus monedula</i>	<i>Falco tinnunculus</i> <i>Coturnix coturnix</i> <i>Alauda arvensis</i> <i>Oenanthe oenanthe</i> <i>Parus major</i> <i>Card. carduelis</i>	<i>Apus pacificus</i> <i>Delichon urbica</i> <i>Anthus richardi</i> <i>Sturnus vulgaris</i> <i>Emberiza citrinella</i>	<i>Passer montanus</i>	<i>Passer domesticus</i>	
<b>Restricted and linearly distributed habitats</b> (e.g. floodplain, big river banks)	<i>Anas poecilorhyncha</i> <i>Porzana porzana</i> <i>Crex crex</i> <i>Larus heuglini</i> <i>Asio otus</i> <i>Erithacus rubecula</i> <i>Sylvia communis</i> <i>Muscicapa striata</i> <i>Gar. glandarius</i> <i>Em. leucocephalos</i>	<i>Gavia stellata</i> <i>Falco peregrinus</i> <i>Numenius arquata</i> <i>Dendr. leucotos</i> <i>Luscinia cyane</i> <i>Sylvia borin</i> <i>Mus. dauurica</i> <i>Lanius collurio</i>	<i>Aythya ferina</i> <i>Falco vespertinus</i> <i>Char. hiaticula</i> <i>Motacilla flava</i> <i>Aegith. caudatus</i> <i>Certhia familiaris</i> <i>Pica pica</i> <i>Fringilla coelebs</i>	<i>Charadrius dubius</i> <i>Gallinago media</i> <i>Larus canus</i> <i>Anthus trivialis</i> <i>Luscinia sibilans</i> <i>Acr.schoenobaenus</i> <i>Phy. trochiloides</i> <i>C. coccothraustes</i>	<i>Cygnus cygnus</i> <i>Mergus serrator</i> <i>Hal. albicilla</i> <i>Xenus cinereus</i> <i>Sterna hirundo</i> <i>Riparia riparia</i> <i>Motacilla alba</i> <i>Saxicola torquata</i> <i>Luscinia svecica</i> <i>Turdus pilaris</i> <i>Em. schoeniclus</i>	<i>Zoothera sibirica</i> <i>Loc. certhiola</i> <i>Acr. dumetorum</i> <i>Phy. borealis</i>
<b>Patchy, more or less extended habitats</b> (e.g. lakes, mesotrophic bogs, forest edges, river valleys)	<i>Melanitta nigra</i> <i>Buteo lagopus</i> <i>Num. phaeopus</i> <i>Larus minutus</i> <i>Regulus regulus</i> <i>Lanius excubitor</i>	<i>Melanitta fusca</i> <i>Buteo buteo</i> <i>Aquila chrysaetos</i> <i>Grus grus</i> <i>Calidris subminuta</i> <i>Motacilla citreola</i>	<i>A. platyrhynchos</i> <i>Anas querquedula</i> <i>Falco columbarius</i> <i>Lagopus lagopus</i> <i>Lymnocr. minimus</i> <i>Jynx torquilla</i> <i>Phy. trochilus</i> <i>Ficedula mugimaki</i> <i>Lanius cristatus</i>	<i>Gavia arctica</i> <i>Anser fabalis</i> <i>Anas clypeata</i> <i>Mergus albellus</i> <i>Circus cyaneus</i> <i>Pandion haliaetus</i> <i>Tringa glareola</i> <i>Tringa nebularia</i> <i>Motacilla cinerea</i> <i>Phy. fuscatus</i> <i>Corvus corone</i>	<i>Anas penelope</i> <i>Anas acuta</i> <i>Aythya fuligula</i> <i>Mergus merganser</i> <i>Milvus migrans</i> <i>Gal. gallinago</i> <i>Scolopax rusticola</i> <i>Asio flammeus</i> <i>Turdus iliacus</i> <i>Phy. collybita</i> <i>Emberiza aureola</i>	<i>Sylvia curruca</i> <i>Falco subbuteo</i>
<b>Fairly widespread habitats</b> (e.g. extensive oligotrophic bogs, stream valleys, rich taiga)		<i>Bubo bubo</i> <i>Turdus naumanni</i>	<i>Accipiter gularis</i> <i>Strix uralensis</i> <i>Turdus philomelos</i> <i>Carduelis spinus</i>	<i>Tetrao tetrix</i> <i>Strep. orientalis</i> <i>Dendr. minor</i> <i>Turdus obscurus</i> <i>Loc. lanceolata</i> <i>Carpodacus roseus</i> <i>Em. chrysophrys</i>	<i>Anas crecca</i> <i>Buc. clangula</i> <i>Actitis hypoleucos</i> <i>Gallinago stenura</i> <i>Luscinia calliope</i> <i>Phoe. phoenicurus</i> <i>Tarsiger cyanurus</i> <i>Muscicapa sibirica</i> <i>Carp. erythrinus</i> <i>Emberiza rustica</i>	
<b>Widespread habitats</b> (e.g. rather poor taiga, burned forests)		<i>Parus cinctus</i> <i>Pin. enucleator</i>	<i>Glau. passerinum</i> <i>Zoothera dauma</i> <i>Parus ater</i>	<i>Aegolius funereus</i> <i>Surnia ulula</i> <i>Strix nebulosa</i> <i>Dryocopus martius</i> <i>Bomb. garrulus</i> <i>Peri. infaustus</i> <i>Loxia leucoptera</i> <i>Emberiza pusilla</i>	<i>Tetrao urogallus</i> <i>Tringa ochropus</i> <i>Cuculus canorus</i> <i>Cuculus saturatus</i> <i>Dendr. major</i> <i>Pic. tridactylus</i> <i>Phy. proregulus</i> <i>Ficedula parva</i> <i>Sitta europaea</i> <i>N. caryocatactes</i> <i>Carduelis flammea</i> <i>Loxia curvirostra</i>	<i>Anthus hodgsoni</i> <i>Turdus ruficollis</i> <i>Phy. inornatus</i> <i>Fr. montifringilla</i>
<b>Most types of habitats, ubiquitous</b>			<i>Accipiter gentilis</i>	<i>Corvus corax</i> <i>Pyrrhula pyrrhula</i>	<i>Accipiter nisus</i> <i>Bonasia bonasia</i> <i>Parus montanus</i>	

Figure 1: Map of the Mirnoye region

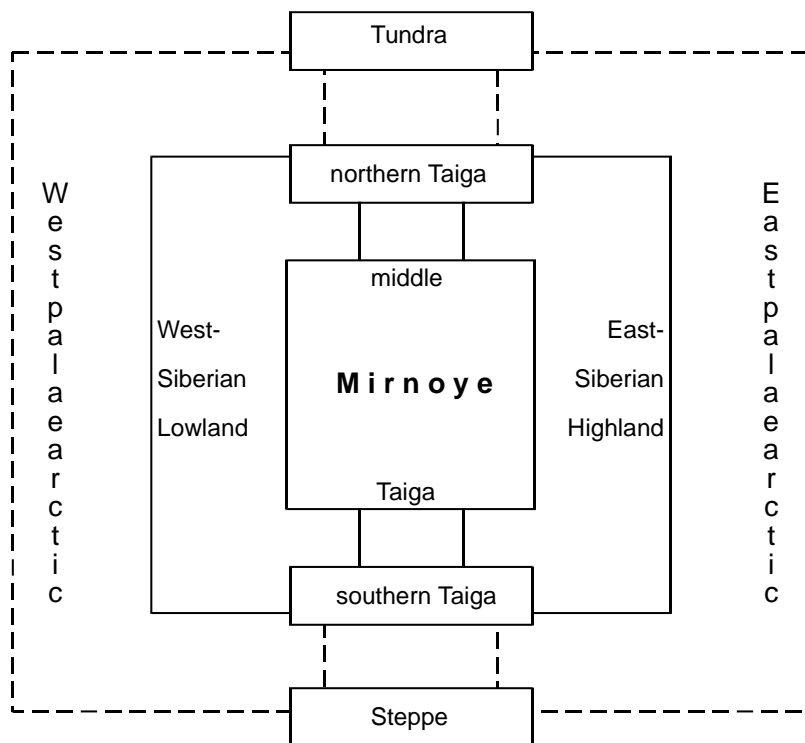


Figure 2: The geographical location of Mirnoye in the overlaps of the most important biogeographical zones in central Eurasia