

# An annotated checklist of the birds of Turkmenistan

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Turkmenistan is located in the southwest of Central (Middle) Asia and covers more than 491 200 km<sup>2</sup> and extends 1100 km from west to east and 650 km from north to south. Turkmenistan includes the coast of the Caspian sea in the west, the cliff faces of the Ustyurt plateau in the north, the Amudar'ya river valley in the east and the Kopetdag mountains in the south. Turkmenistan borders Kazakhstan in the northwest, Uzbekistan in the northeast and east, Afghanistan in the southeast and Iran in the southwest. More than 75% of the country is lowland, including river valleys, and c25% is mountains and foothills. See Figure 1 which also shows the main locations mentioned in the text. Altitudes range from -81 m up to 3139 m asl. Apart from the major rivers—Amudar'ya, Karakumdar'ya, Murgab, Tejen and Etrek—natural waterbodies are scarce, therefore discharge lakes, either of agricultural or domestic waste water, and water storage reservoirs provide important habitat for many species either breeding, wintering or on migration. Up to 2014, a total of 433 species has been recorded in Turkmenistan.

The study of avifauna in Turkmenistan covers more than 200 years. Many works on Turkmenistan birds were published mainly in the 20th century in Russian. The most notable and comprehensive are 'Ornithological fauna of the Transcaspian' NA Zarudny (1896), 'Guide to the vertebrates of Turkmenskaya SSR. Birds' EL Shestoperov (1937), 'Birds of Turkmenistan, Volume 1' GP Dement'ev (1952), 'Birds of the Karakum desert' and 'Birds of Turkmenistan, Volume 2' AK Rustamov (1954, 1958), 'Birds of Middle Asia' edited by AK Rustamov & AF Kovshar' (2007), 'Important Bird Areas in Turkmenistan' edited by E

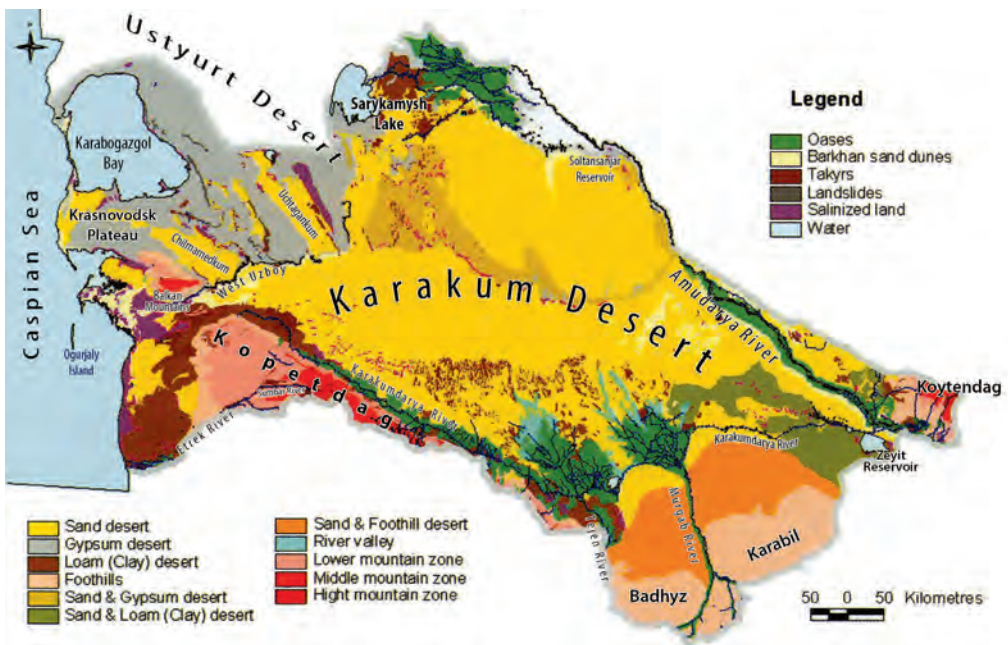


Figure 1. Physiographic features and regions of Turkmenistan.

Rustamov, G Welch & M Brombacher (2010) and 'Birds of Turkmenistan: Illustrated Field Guide' edited by EA Rustamov (2013).

The checklist species accounts are based on a comprehensive analysis of the available information, primarily: Isakov (1940), Dement'ev (1952), Rustamov (1954, 1958, 1994), Geptner (1956), Shukurov (1962), Sukhinin (1971), Mischenko (1986), Karavaev (1991a), Bukreev (1997) and Vasil'ev *et al* (2009). The author's own data from 1970–2012 were also used (*ie* materials which were received during the implementation of the RSPB/ BirdLife International Important Bird Area programme, see Rustamov *et al* 2010) together with the author's experience gained during preparation of Rustamov (2013) and the List of Birds in the appendix of AK Rustamov (2011). The other sources quoted provide specific information *eg* for vagrants. I follow the nomenclature and taxonomy used in Birdlife International (2012). Exceptions were made for some Passeriformes following LS Stepanyan (2003): Lesser Citrine Wagtail *Motacilla verae*, Common Black-backed Wagtail *Motacilla calcarata*, Turkestan Shrike *Lanius phoenicuroides*, Indian House Sparrow *Passer indicus*, Grey-headed Goldfinch *Carduelis caniceps*, Mongolian Finch *Bucanetes mongolicus* and Great-billed Reed Bunting *Emberiza pyrrhuloides*.

Where included the threat status of species are those given in the IUCN Red List ([www.iucnredlist.org](http://www.iucnredlist.org)) and/or the Red Data Book of Turkmenistan (2011). With the exception of RDBT category IV "Rare species (subspecies) to indicate endemic populations of national or regional importance or relict species whose loss would lead to the depletion of the biodiversity gene pool", the RDBT criteria match those of IUCN. The following status definitions are used: vagrant, recorded on three or less occasions; rare, recorded on four to ten occasions; uncommon, only recorded occasionally in the appropriate habitat and/or season; local, primarily used for breeding species to indicate either a scattered or restricted distribution. Also to avoid unnecessary repetition, the inshore and offshore regions of the Caspian sea are simply referred to as the Caspian and the littoral, intertidal and coastal plain regions as the Caspian shore.

## SPECIES ACCOUNTS

**Caspian Snowcock** *Tetrao gallus caspius*. Resident. Occurs in upper mountain belt (above 2000 m asl) of central Kopetdag. Threatened and very rare with a limited range. RDBT category II (EN).

**Chukar** *Alectoris chukar*. Resident but undertakes altitudinal movements during cold weather. Widespread in mountains and foothills and along Amudar'ya, Karakumdar'ya, Murgab, Tejen valleys, eastern Uzboy, the Caspian region and south Ustyurt. Uncommon in central Karakum. A common species but decreasing due to hunting pressure.

**See-see Partridge** *Ammoperdix griseogularis*. Resident and widely distributed *eg* Kubadag, Bolshoy and Maly Balkhans, Badkhyz, Karabil' and Koytendag. As Chukar, the population is decreasing due to hunting pressure.

**Black Francolin** *Francolinus francolinus*. Resident and only found southwestern Turkmenistan being locally distributed in lower reaches of the Etrek, Sumbar and Chandyr. Scarce and decreasing. RDBT category II (EN).

**Common Quail** *Coturnix coturnix*. Widely distributed passage migrant and breeding summer visitor to river valleys, fields and steppe/grassland zones of Kopetdag, Koytendag, Badkhyz and Karabil'. Spring migration April and early May, autumn September–end October.

**Common Pheasant** *Phasianus colchicus*. Resident. There are four subspecies differing in morphology and distribution: *persicus* inhabits Sumbar and Chandyr river valleys, *principalis* is found in oases of the foothills of Kopetdag and the Tejen and Murgab river valleys, *zarudny* is found in the middle part of the Amudar'ya, and *chrysomelas* is restricted

to Amudar'ya delta and Sarykamysh lake. Populations fluctuate and the species is under hunting pressure.

**Swan Goose** *Anser cygnoides*. Vagrant, with one seen Amudar'ya valley September 2005 (Marochkina & Rustamov 2008).

**Bean Goose** *Anser fabalis*. Irregular winter visitor (November–March) in small numbers to the Amudar'ya and wetlands in eastern Turkmenistan.

**Greater White-fronted Goose** *Anser albifrons*. Generally scarce passage migrant and winter visitor (October–February) to many wetlands, especially those close to winter cereals. Can be common in some years.

**Lesser White-fronted Goose** *Anser erythropus*. Very scarce passage migrant and winter visitor to wetlands throughout Turkmenistan, usually found in the company of other geese. Included in IUCN Red List and RDBT category III (VU).

**Greylag Goose** *Anser anser*. Common and numerous passage migrant and winter visitor (October–March) to natural and artificial inland wetlands, river valleys, fallow fields, winter cereals and, in smaller numbers, the Caspian shore. Commonest wintering goose.

**Red-breasted Goose** *Branta ruficollis*. Very scarce passage migrant and irregular winter visitor mainly to southeastern Caspian. Included in IUCN Red List and RDBT category II (EN).

**Mute Swan** *Cygnus olor*. Passage migrant, winter visitor and local summer breeding visitor (single pairs) mainly to Caspian and inland wetlands. During breeding season species prefers algae-rich desert waterbodies such as Sarykamysh and Jarsai lakes. Scarce spring and summer, common autumn and winter.

**Whooper Swan** *Cygnus cygnus*. Regular though not numerous passage migrant and winter visitor (October–March) to Caspian and inland wetlands.

**Tundra Swan** *Cygnus columbianus*. Uncommon, usually recorded as single birds along Caspian shore and on inland wetlands during winter but precise status uncertain. Recommended for inclusion in RDBT.

**Ruddy Shelduck** *Tadorna ferruginea*. Passage migrant and common, locally numerous, winter visitor to river valleys and large wetlands. Uncommon breeding summer visitor to salt lakes, less frequently on freshwater and discharge lakes.

**Common Shelduck** *Tadorna tadorna*. Widespread passage migrant in varying numbers, even occurring in mountains during migration. Also breeding summer visitor to plains.

**Gadwall** *Anas strepera*. Widespread passage migrant and winter visitor in small numbers. Also breeding summer visitor to the lakes and river flood areas, especially deltas, of the plains of Turkmenistan, and Sarykamysh lake.

**Falcated Duck** *Anas falcata*. Vagrant with one record from Tejen valley, near Turkmenistan/Iran border, December 1908 (Zarudny 1910).

**Eurasian Wigeon** *Anas penelope*. Widespread passage migrant and winter visitor, usually in small numbers though can be locally common in winter, to wetlands, mainly on plains. Spring migration March–April, with some birds remaining until June, autumn September–November.

**Mallard** *Anas platyrhynchos*. Numerous to very numerous passage migrant and winter visitor to Caspian, lakes, reservoirs, discharge areas and lowland wetlands including flooded autumn cereals. Uncommon breeding species, some resident.

**Northern Shoveler** *Anas clypeata*. Passage migrant, winter visitor and breeding summer visitor in small numbers. Occurs on both freshwater and brackish wetlands including flood plain lakes along river valleys and discharge areas in deserts. Spring migration March–April, autumn migration mid September–mid November.

**Northern Pintail** *Anas acuta*. Common passage migrant and winter visitor to discharge areas and shallow wetlands on plains. Spring migration mid February–end April, autumn mid September–mid November.

- Garganey** *Anas querquedula*. Common passage migrant and scarce in winter and summer mostly along river valleys and Caspian shore. Occurs at a variety of wetlands, most often shallow lakes and flooded grasslands. Spring migration mid March–early May, autumn mid August–end October.
- Common Teal** *Anas crecca*. Numerous to very numerous passage migrant, with small numbers wintering on lakes, river valley wetlands and desert discharge areas. Spring migration mid February–end March, autumn September–October.
- Marbled Teal** *Marmaronetta angustirostris*. Scarce and threatened breeding summer visitor, with small numbers winter. Found primarily in lower reaches of Etrek, Karakumdar'ya, Amudar'ya, Murgab and Tejen rivers, preferring shallow freshwater lakes with muddy shores and bottoms. Spring arrival from end April, autumn departure November. Included in IUCN Red List and RDBT category III (VU).
- Red-crested Pochard** *Netta rufina*. Numerous to very numerous passage migrant and winter visitor, and scarce breeding species. Occurs mainly inland wetlands, river valley flood areas and Caspian. Spring migration end February–early April, autumn September–October.
- Common Pochard** *Aythya ferina*. Common to locally very common passage migrant and winter visitor to all large wetlands. Probably breeds lower reaches of the Amudar'ya and Sarykamysh lake. Spring migration second half February–March, autumn September–November.
- Ferruginous Duck** *Aythya nyroca*. Scarce and threatened passage migrant and breeding summer visitor, with some birds wintering. Scattered distribution throughout river valleys of the plains. Spring migration end February–mid April, autumn September–October. Included in IUCN Red List and RDBT category III (VU).
- Tufted Duck** *Aythya fuligula*. Common to locally very common passage migrant and winter visitor to Caspian and inland wetlands, usually with Common Pochard. Spring migration end of March–April, autumn October–November.
- Greater Scaup** *Aythya marila*. Uncommon winter visitor to Caspian and large wetlands arriving October and departing March. Usually occurs singly or in small groups in flocks of Tufted Duck and Common Pochard.
- Common Scoter** *Melanitta nigra*. Vagrant, Caspian and large inland wetlands (Dement'ev 1952).
- Velvet Scoter** *Melanitta fusca*. Uncommon, in some winters very uncommon, visitor to Caspian October–March.
- Long-tailed Duck** *Clangula hyemalis*. Uncommon and irregular winter visitor to Caspian, occasionally inland wetlands. Included in IUCN Red List (VU).
- Common Goldeneye** *Bucephala clangula*. Uncommon passage migrant and winter visitor to inland wetlands and Caspian. Spring migration end February–mid April, autumn October–November.
- Smew** *Mergellus albellus*. Uncommon to locally common passage migrant and winter visitor to scattered wetlands throughout. Spring migration mid February–March, autumn mid October–November.
- Red-breasted Merganser** *Mergus serrator*. Uncommon passage migrant and winter visitor to inland wetlands and Caspian. Spring migration second part March–April, autumn October–early November.
- Common Merganser** *Mergus merganser*. Uncommon to locally common passage migrant and winter visitor to inland wetlands, especially those with high fish populations. Spring migration late February and March, autumn end October–November.
- White-headed Duck** *Oxyura leucocephala*. Uncommon and threatened passage migrant and winter visitor, and probable though as yet unconfirmed breeding summer visitor to northern and eastern Turkmenistan. Scattered distribution in Etrek, Karakumdar'ya, Tejen, Murgab and Amudar'ya valleys. Spring migration from end of February and March,



autumn migration October–November. Included in IUCN Red Data List and RDBT category III (VU).

**Red-throated Loon** *Gavia stellata*. Uncommon and irregular passage migrant and winter visitor to Caspian and inland wetlands recorded end October–mid March. More regular in extremely cold winters (Dement'ev 1952, Karavaev 1991a, Khokhlov 1995).

**Arctic Loon** *Gavia arctica*. Uncommon passage migrant and irregular winter visitor, especially in extremely cold winters; also recorded occasionally in summer. Autumn migration from end November and spring migration end February–mid May.

**Little Grebe** *Tachybaptus ruficollis*. Passage migrant and winter visitor in varying numbers to Amudar'ya, Karakumdar'ya, Murgab and Tejen valleys, lower reaches of the Etrek, Caspian, Sarykamysk lake, agricultural discharge lakes in deserts; also a breeding summer visitor. Spring migration March–April, autumn September–October. The most common grebe.

**Red-necked Grebe** *Podiceps grisegena*. Uncommon passage migrant and winter visitor to a range of wetlands eg Sarykamysk lake, Amudar'ya, Karakumdar'ya, Murgab and Tejen valleys, the lower reaches of the Etrek and the Caspian. May possibly breed Sarykamysk lake.

**Great Crested Grebe** *Podiceps cristatus*. Common and widely distributed passage migrant and winter visitor to the Caspian and lower reaches of the Etrek; also a breeding summer visitor. Spring migration March–April, autumn October–November.

**Horned Grebe** *Podiceps auritus*. Uncommon passage migrant and winter visitor to river valleys and wetlands eg the Amudar'ya, Karakumdar'ya, Murgab and Tejen, Sarykamysk lake, the lower reaches of the Etrek, the Caspian and agricultural discharge lakes in deserts.

**Black-necked Grebe** *Podiceps nigricollis*. Common, locally numerous, passage migrant and winter visitor to Amudar'ya, Karakumdar'ya, Murgab, Tejen and Etrek rivers, Sarykamysk lake, agricultural discharge lakes in central Karakum desert and the Caspian; also a rare breeding summer visitor. Spring migration April–May, autumn September–October.

**Greater Flamingo** *Phoenicopterus roseus*. Uncommon but occasionally numerous passage migrant and winter visitor, and irregular summer visitor, mainly found in shallow bays along Caspian shore and very rarely inland wetlands. Spring migration March–May, autumn September–November. In irregular extremely cold winters migrates south to Iranian Caspian returning when temperatures rise. RDBT category IV.

**Black Stork** *Ciconia nigra*. Scarce but widespread passage migrant along river valleys and foothills, winter visitor and breeding summer visitor to Kopetdag and Koytendag, occasionally Badkhyz. RDBT category III (VU).

**White Stork** *Ciconia ciconia*. Very rare and threatened and possibly extinct as a Turkmenistan species with no records during the last few decades. Occasional birds may occur in Amudar'ya or other river valleys. There were failed breeding attempts on lower reaches of the Etrek 1980–1982 (Belousov 1990). Recommended for inclusion in RDBT.

**Glossy Ibis** *Plegadis falcinellus*. Uncommon to locally common passage migrant and breeding summer visitor to large river valleys and Caspian shore. Spring migration March–May, autumn migration September.

**Eurasian Spoonbill** *Platalea leucorodia*. Uncommon passage migrant to river valleys and Caspian shore, preferring large lakes and flooded areas. Possibly breeds. Spring migration extends from February/March–May, autumn September–October. RDBT category IV.

**Great Bittern** *Botaurus stellaris*. Common passage migrant and rare breeding summer visitor and winter visitor to Sarykamysk lake and Amudar'ya, Karakumdar'ya, Murgab, Tejen and Etrek valleys. Part of population is possibly resident.

**Little Bittern** *Ixobrychus minutus*. Common passage migrant and winter visitor to river valleys, including suitable areas in the mountains, and Sarykamysk lake. Spring migration March–April, autumn September–October.

- Black-crowned Night-heron** *Nycticorax nycticorax*. Common passage migrant and breeding summer visitor to large rivers eg Amudar'ya, Karakumdar'ya, Murgab, Tejen and Etrek. Spring migration from mid April and May, autumn in September–October.
- Squacco Heron** *Ardeola ralloides*. Uncommon passage migrant and breeding summer visitor, patchily distributed along Etrek, Sumbar, Murgab, Tejen and Amudar'ya rivers and Sarykamysk lake. Spring migration April, autumn September.
- Cattle Egret** *Bubulcus ibis*. Very uncommon and irregular breeding summer visitor to Etrek and Tejen valleys and foothills of central Kopetdag. Occasionally seen Caspian shore.
- Grey Heron** *Ardea cinerea*. Common passage migrant, uncommon winter visitor and scarce breeding summer visitor to river valleys and other wetlands. Spring migration March, autumn migration September–October.
- Purple Heron** *Ardea purpurea*. Common passage migrant and scarce breeding summer visitor to large wetlands, winters irregularly in southern Turkmenistan. Spring migration March, autumn October–November. Less numerous than Great Egret and Grey Heron.
- Great Egret** *Casmerodius albus*. Common passage migrant and winter visitor Sarykamysk lake, Amudar'ya and other large wetlands. Also breeds. Spring migration March, autumn October–November.
- Little Egret** *Egretta garzetta*. Uncommon passage migrant and breeding summer visitor. Also winters along river valleys and foothills of Kopetdag. Spring migration mid March–end April, autumn October–November.
- Great White Pelican** *Pelecanus onocrotalus*. Uncommon and threatened passage migrant and winter visitor to large river valleys, inland wetlands and Caspian shore. Also local breeding summer visitor with colonies on islands of Sarykamysk lake. Spring migration end February–early May, autumn end September–end November. RDBT category III (VU).
- Dalmatian Pelican** *Pelecanus crispus*. Status similar to Great White Pelican though much scarcer. Breeds on islands of Sarykamysk lake and probably Soltansanjar reservoir. Spring migration second half February–early May, autumn second half August–early December. Included IUCN Red List (VU) and RDBT category II (EN).
- Pygmy Cormorant** *Phalacrocorax pygmeus*. Passage migrant, breeding summer and winter visitor, most common in south and east, uncommon in west but numbers fluctuate from year to year. Occurs mainly Sarykamysk lake and the Amudar'ya but more recently along the Karakumdar'ya, Murgab and Tejen and in Kopetdag foothills, with smaller numbers along the Etrek and Caspian shore. Spring migration end March–April, autumn September–November.
- Great Cormorant** *Phalacrocorax carbo*. Common locally numerous passage migrant, breeding summer visitor and winter visitor to wetlands of large river valleys, oases, deserts and Caspian shore. Spring migration mid February–early April, autumn end August–end October.
- Lesser Kestrel** *Falco naumanni*. Uncommon and threatened breeding summer visitor and passage migrant, with occasional winter records. Occurs widely along river valleys and foothills from the Caspian and lower reaches of the Etrek to Amudar'ya valley and Koytendag. Spring migration end March–first half April, autumn September–October. RDBT category III (VU).
- Common Kestrel** *Falco tinnunculus*. Widespread and common passage migrant, breeding summer visitor and winter visitor, some individuals resident. Spring migration March–April, autumn September–October. Most numerous kestrel.
- Red-footed Falcon** *Falco vespertinus*. Vagrant with two records—near Karabogazgol bay, Caspian, 1938 (Isakov 1940) and central Kopetdag (Gurykhovdan) 1986 (Efimenko 1989).
- Merlin** *Falco columbarius*. Uncommon passage migrant and winter visitor, east at least as far as Tejen valley. Arrives October and departs March–April.

- Eurasian Hobby** *Falco subbuteo*. Uncommon breeding summer visitor and passage migrant to river valleys, foothills and mountains. Spring migration April, autumn September–October, occasionally until mid November.
- Laggar Falcon** *Falco jugger*. Vagrant, with two records from foothills of eastern Kopetdag, 1946 and 1955 (Dement'ev & Rustamov 1957).
- Saker Falcon** *Falco cherrug*. Two subspecies occur. *F. c. coatsi* is resident, nominate *cherrug* is a passage migrant and winter visitor. Occurs widely in mountains and deserts, also along river valleys during migration. *F. c. coatsi* migrates altitudinally in autumn and winter, also dispersing along valleys. *F. c. cherrug* departs February–early March and returns October. Included in IUCN Red List (EN) and RDBT category III (VU).
- Peregrine Falcon** *Falco peregrinus*. Uncommon and threatened passage migrant and winter visitor, with some birds resident. Occurs in Bolshoy Balkhan, Kopetdag and Koytendag mountains, and during migration and in winter may also be seen along eastern shore of Caspian, in Kopetdag foothills and along river valleys. Arrives second half October and stays until end March. RDBT category III (VU) and population is decreasing.
- Barbary Falcon** *Falco pelegrinoides*. Nationally endangered and decreasing breeding summer visitor, passage migrant and scarce winter visitor. Distributed irregularly in mountains and foothills eg Kopetdag, Badkhyz, Koytendag and along river valleys during migration. Spring migration March, autumn end October–November. RDBT category II (EN).
- Osprey** *Pandion haliaetus*. Uncommon and threatened passage migrant, though in recent years becoming uncommon winter visitor to southern Turkmenistan. Occurs all large wetlands from Caspian to Amudar'ya. Spring migration March–April, autumn September–October. RDBT category III (VU).
- European Honey-buzzard** *Pernis apivorus*. Status unclear but extremely uncommon being either a rare migrant or vagrant.
- Black Kite** *Milvus migrans*. Uncommon though very widespread passage migrant and breeding summer visitor, with some birds wintering. Can be locally common on migration. Migration periods extended, spring end February–early May, autumn end August–end October.
- Pallas's Fish-eagle** *Haliaeetus leucoryphus*. Very uncommon and threatened passage migrant and winter visitor. Breeding unconfirmed though there are summer records. Wintering birds depart from second half February, with first autumn arrivals end September–October. Included in IUCN Red List and RDBT category III (VU).
- White-tailed Eagle** *Haliaeetus albicilla*. Uncommon passage migrant and winter visitor, occasional in summer, mainly to coastal areas and inland wetlands including valleys of large rivers. Spring migration March–end April, autumn November. Numbers fluctuate during winter.
- Lammergeier** *Gypaetus barbatus*. Very uncommon, threatened and decreasing resident in mountainous areas including Bolshoy and Maliy Balkhan, Kopetdag, Badkhyz and Koytendag, also probably on Karabil' and Kubadag. RDBT category III (VU).
- Egyptian Vulture** *Neophron percnopterus*. Uncommon passage migrant and localised breeding summer visitor. Widespread during migration though avoids oases and barkan sands, and nests mostly in the mountainous regions and cliffs of north and northwest Turkmenistan. Arrives March and departs October. Population appears stable. Included in IUCN Red List and RDBT category II (EN).
- Griffon Vulture** *Gyps fulvus*. Uncommon breeding summer visitor, though some birds are resident but undertake nomadic movements. Occurs mainly in mountainous region from Bolshoy Balkhan east to Kopetdag, Badkhyz, Karabil' and Koytendag. Also recorded irregularly in Murgab and Amudar'ya valleys and sporadically from Karakum desert to Karabogazgol bay and surrounding areas. The majority of the population migrates south between November and May though in recent years, when winters have tended to be milder, some birds have remained on the breeding grounds. Potentially threatened by decreasing food supplies due to declines in populations of wild ungulates.

- Himalayan Vulture** *Gyps himalayensis*. Vagrant with two records, Koytendag May 2013 and May 2014.
- Cinereous Vulture** *Aegypius monachus*. Uncommon, threatened and decreasing breeding summer visitor, though some birds are resident. Occurs in Bolshoy and Maliy Balkhan, Kopetdag, Koytendag, Badkhyz and Karabil', dispersing to other areas such as the Karakum. Arrives February and departs end October–November. Potentially threatened by decreasing food supplies due to declines in populations of wild ungulates. Included in IUCN Red List (NT) and RDBT category III (VU).
- Short-toed Snake-eagle** *Circaetus gallicus*. Widespread but decreasing passage migrant and breeding summer visitor found from the Karakum to mountainous regions, foothills and river valleys, though the species does not breed in the last of these. Arrives end of March and departs mid August–September. RDBT category IV.
- Western Marsh-harrier** *Circus aeruginosus*. Common breeding summer visitor, passage migrant and winter visitor occurring all types of wetlands from Caspian shore to the Amudar'ya and Sarykamysh lake. Spring migration second half of February and March, autumn September–October. Numbers increase during migration and in winter.
- Northern Harrier** *Circus cyaneus*. Widespread passage migrant and winter visitor, locally common. Although not proven, breeding possible. Spring migration March–April, autumn October–November. More often recorded than Montagu's and Pallid Harriers.
- Pallid Harrier** *Circus macrourus*. Uncommon, threatened but widespread passage migrant with some birds wintering, and found from lower reaches of the Etrek to the Amudar'ya. Spring migration end March–mid/late April, autumn end September–end November. Included in IUCN Red List (NT) and RDBT category III (VU).
- Montagu's Harrier** *Circus pygargus*. Uncommon but widespread passage migrant and winter visitor, and irregular breeding summer visitor, first confirmed 1989 (Karavaev 1991b). Recorded from lower reaches of the Etrek, Kopetdag foothills and Tejen, Murgab, Karakumdar'ya and Amudar'ya valleys. Spring migration April, autumn end August–early November. More regularly recorded than Pallid Harrier but rarer than Northern Harrier.
- Shikra** *Accipiter badius*. Common breeding summer visitor and passage migrant, with some birds wintering. Widely distributed apart from the upper mountain belt and treeless zones of deserts, preferring oases and valleys. Spring migration April, autumn migration September.
- Levant Sparrowhawk** *Accipiter brevipes*. Vagrant with two records, from lower reaches of the Etrek in the west, May, and Amudar'ya valley in the east, September (Dement'ev 1952).
- Eurasian Sparrowhawk** *Accipiter nisus*. Common and widespread passage migrant and winter visitor and uncommon breeding summer visitor to Kopetdag, Bolshoy Balkhan and Koytendag. Spring migration March–April, autumn end September–November.
- Northern Goshawk** *Accipiter gentilis*. Uncommon passage migrant and winter visitor mainly south and southwestern Turkmenistan.
- Common Buzzard** *Buteo buteo*. Widespread but uncommon passage migrant and winter visitor, and scarce breeding summer visitor to Kopetdag. Spring migration March–April, autumn September–October.
- Long-legged Buzzard** *Buteo rufinus*. Resident, with some birds dispersing during the winter to oases or the south. Commonest large raptor.
- Rough-legged Hawk** *Buteo lagopus*. Very scarce autumn and winter visitor mainly to river valleys and oases.
- Greater Spotted Eagle** *Aquila clanga*. Very uncommon passage migrant, possibly wintering and even breeding. Occurs widely from Caspian shore to the Amudar'ya. Spring migration late March–April, autumn October–November. Included in IUCN Red List (VU) and RDBT category II (EN).



- Steppe Eagle** *Aquila nipalensis*. Widespread passage migrant and winter visitor to southern Turkmenistan. Generally uncommon though can occur in flocks on migration. Spring migration March–early April, autumn September–October, occasionally early November. Numbers fluctuate in relation to rodent population. RDBT category IV.
- Eastern Imperial Eagle** *Aquila heliaca*. Widespread but threatened and decreasing passage migrant and winter visitor, possibly breeding irregularly in Tejen, Murgab and Amudar'ya tugays (riverine forests). Spring migration March–April, autumn October–November, mainly in southwestern Turkmenistan. Included in IUCN Red List and RDBT category III (VU).
- Golden Eagle** *Aquila chrysaetos*. Uncommon but widespread resident from Karabogazgol bay, Bolshoy and Maliy Balkhan in west to Kopetdag, Badkhyz, Karabil' and Koytendag in the east, north to Ustyurt and irregularly in the Karakum. Some birds descend to the foothills during cold weather. RDBT category IV.
- Bonelli's Eagle** *Aquila fasciatus*. Uncommon and threatened resident in Kopetdag, Badkhyz and Koytendag. A few birds disperse outside breeding season. RDBT category III (VU).
- Booted Eagle** *Hieraaetus pennatus*. Uncommon passage migrant and breeding summer visitor, though some birds are resident. Occurs in mountains of Bolshoy Balkhan, Kopetdag, western Badkhyz, Koytendag and tugay areas of the Murgab and Tejen valleys. Arrives April, occasionally March, and departs, and occurs as a migrant, September–October.
- Great Bustard** *Otis tarda*. Uncommon to very uncommon passage migrant and winter visitor from Caspian shore and lower reaches of Etrek to Kopetdag foothills and large river valleys. Spring migration March and early April, autumn October and November. Included IUCN Red List (VU) and RDBT category I (CR).
- Houbara Bustard** *Chlamydotis undulata*. Breeding summer visitor and passage migrant, with small numbers wintering in southern Turkmenistan. The species has an irregular distribution throughout the plains. Autumn migration October–early November, spring from February. The population has decreased dramatically due to hunting pressure during the last 20 years. Included IUCN Red List and RDBT category III (VU).
- Little Bustard** *Tetrax tetrax*. Uncommon passage migrant, mainly to oases, foothills, river valleys and the coast, and winter visitor to agricultural areas, especially in southern Turkmenistan. The species bred in Kopetdag until mid 20th century. Spring migration second half February–end of March, autumn end September–November. Included IUCN Red List (NT) and RDBT category IV. Population has been increasing since early 2000.
- Water Rail** *Rallus aquaticus*. Common to locally numerous passage migrant, breeding summer visitor and winter visitor, with some birds probably resident. Occurs widely at wetlands throughout the country. Spring migration March–April, autumn September–October.
- Corncrake** *Crex crex*. Widely distributed passage migrant from eastern Caspian shore to the Amudar'ya, though uncommon, especially in the east. Also an irregular and very rare summer visitor. Spring migration April–May, occasionally early June, autumn mid August–October.
- Little Crane** *Porzana parva*. Uncommon passage migrant, breeding summer and winter visitor. Occurs along river valleys eg Amudar'ya, Karakumdar'ya, Murgab, Tejen and Etrek, eastern Caspian shore and other wetlands. Spring migration March–May, autumn September–first half November.
- Baillon's Crane** *Porzana pusilla*. Widely distributed passage migrant and breeding summer visitor, with some birds wintering. Occurs in the valleys of the Amudar'ya, Kakakumdar'ya, Murgab and Tejen, and the foothills of Kopetdag. Spring migration April–May, autumn September–October. Population size is unknown but probably higher than Little Crane.
- Spotted Crane** *Porzana porzana*. Uncommon passage migrant, probably with small numbers wintering. Occurs at wetlands from the Caspian shore to the Amudar'ya. Spring migration mid March–end April, autumn September–October.

- Swamphen** *Porphyrio porphyrio*. Scarce resident in Etrek valley, eastern Caspian shore and wetlands such as channels and discharge lakes in southern part of central Karakum desert. Also observed irregularly along the Murgab, Gushka and Amudar'ya rivers. The population has large fluctuations, especially after abnormally cold winters. RDBT category IV.
- Common Moorhen** *Gallinula chloropus*. Common, locally numerous, and widespread breeding summer visitor, passage migrant and winter visitor, with some birds resident. Occurs from eastern Caspian shore to the Amudar'ya. Spring migration March–April, autumn September–November.
- Common Coot** *Fulica atra*. Common to very common breeding summer visitor and passage migrant, with some birds resident. Widespread along large river valleys during breeding season, at other times can be found on Caspian shore, inland lakes and reservoirs.
- Siberian Crane** *Leucogeranus leucogeranus*. Eleven records during the last 150 years (Rustamov & Saparmuradov 2010). Spring records March–early April, autumn end October–end November. Recorded from Tejen, Murgab, Karakumdar'ya and Amudar'ya valleys, and Kopetdag foothills, but could occur elsewhere. The species is near extinction and is included in IUCN Red Data List and RDBT category I (CR).
- Demoiselle Crane** *Anthropoides virgo*. Uncommon and irregular passage migrant to Amudar'ya, Murgab and Tejen valleys, Kopetdag foothills and possibly Caspian shore. Spring migration occurs later than Common Crane while autumn migration is earlier, though sometimes the species occur in mixed flocks. RDBT category IV.
- Common Crane** *Grus grus*. Common, locally numerous, passage migrant and winter visitor to Amudar'ya and Karakumdar'ya valleys in southeastern Turkmenistan and foothills of eastern Kopetdag. Spring migration February–May, autumn migration end August–November.
- Eurasian Thick-knee** *Burhinus oedicephalus*. Uncommon passage migrant and breeding summer visitor to plains and foothills. Spring migration end March–April, autumn migration end August–early November.
- Eurasian Oystercatcher** *Haematopus ostralegus*. Uncommon to locally common passage migrant, patchily distributed breeding summer visitor and irregular winter visitor to southern Turkmenistan. Occurs at inland wetlands and Caspian shore. Spring migration end March–early May, autumn August–November.
- Black-winged Stilt** *Himantopus himantopus*. Common passage migrant and breeding summer visitor to inland wetlands and Caspian shore. Spring migration end March–early May, autumn end August–November.
- Pied Avocet** *Recurvirostra avocetta*. Uncommon passage migrant, irregular breeding summer visitor and, in mild winters, irregular winter visitor. Occurs at inland wetlands and Caspian shore. Spring migration second half March–early May, summer visitors present June–July, autumn migration second half August–November.
- Northern Lapwing** *Vanellus vanellus*. Uncommon to common passage migrant and irregular summer and winter visitor to inland wetlands, oases and Caspian shore. Spring migration second half March–May, summer visitors June, autumn migration second half August–November.
- Red-wattled Lapwing** *Vanellus indicus*. Uncommon breeding summer visitor to Tejen, Murgab and Gushka valleys from the Amudar'ya valley west to the Caspian. Arrives mid March–April, departs August.
- Sociable Lapwing** *Vanellus gregarius*. Precise status unknown but considered to be a patchily distributed, uncommon and irregular passage migrant and summer visitor. Spring migration March–April, in summer it may occur irregularly July–August, autumn migration September–October. The species is under threat of extinction and is included in IUCN Red List and RDBT category I (CR).

- White-tailed Lapwing** *Vanellus leucurus*. Uncommon passage migrant, breeding summer visitor and irregular winter visitor to inland wetlands and Caspian shore. Spring migration March, autumn September.
- Eurasian Golden Plover** *Pluvialis apricaria*. Uncommon passage migrant to Caspian shore and inland wetlands. Spring migration end March–May, autumn September–October.
- Pacific Golden Plover** *Pluvialis fulva*. Very scarce passage migrant, irregular recorded from Caspian shore and inland wetlands.
- Grey Plover** *Pluvialis squatarola*. Uncommon passage migrant and irregular winter and summer visitor to Caspian shore and inland wetlands. Spring migration March–early May, autumn end August–November.
- Common Ringed Plover** *Charadrius hiaticula*. Uncommon but widely distributed passage migrant to inland wetlands and Caspian shore. Some winter. Spring migration March–April, autumn end August–November.
- Little Ringed Plover** *Charadrius dubius*. Common to locally numerous passage migrant and breeding summer visitor to Caspian shore and inland wetlands. Spring migration end March–early May, autumn migration mid August–October.
- Kentish Plover** *Charadrius alexandrinus*. Common to locally numerous passage migrant and breeding summer visitor, with some birds wintering. Occurs along Caspian shore and at other wetlands. Spring migration March–April, autumn end August–November.
- Lesser Sand Plover** *Charadrius mongolus*. Vagrant, with two records from Caspian shore, 1975 and 1977 (Karavaev & Belousov 1982).
- Greater Sand Plover** *Charadrius leschenaultii*. Uncommon to locally common passage migrant, breeding summer and winter visitor. Widespread but most numerous on Caspian shore and in foothills of western Turkmenistan. Spring migration March–April, autumn August–November.
- Caspian Plover** *Charadrius asiaticus*. Uncommon passage migrant and breeding summer visitor Caspian shore and other wetlands. Spring migration April–early May, autumn end August–November.
- Eurasian Dotterel** *Eudromias morinellus*. Uncommon passage migrant Caspian shore and inland wetlands.
- Eurasian Woodcock** *Scolopax rusticola*. Uncommon passage migrant and winter visitor to forest-scrub habitats on Caspian shore, river valleys, oases and along mountain rivers. Spring migration end March–May, autumn September–November.
- Jack Snipe** *Lymnocyptes minimus*. Uncommon passage migrant and irregular winter visitor, with singles recorded December–February in mild winters. Occurs inland wetlands and Caspian shore. Spring migration mid March–mid May, autumn September–October with late migrants November.
- Solitary Snipe** *Gallinago solitaria*. Very scarce and irregular winter visitor to mountain springs (Shestoperov 1937), especially in Kopetdag (Dement'ev 1952) and possibly Koytendag.
- Great Snipe** *Gallinago media*. Very scarce passage migrant to inland wetlands and Caspian shore, with occasional records winter. Spring migration end March–mid May, autumn August–October.
- Common Snipe** *Gallinago gallinago*. Uncommon passage migrant and irregular winter visitor, with single birds or small flocks recorded December–February in mild winters. Occurs at inland wetlands and Caspian shore. Spring migration March–May, irregular records June–August, autumn migration end August–November.
- Black-tailed Godwit** *Limosa limosa*. Uncommon passage migrant and irregular winter and summer visitor to inland wetlands and Caspian shore. Spring migration March–May, irregular June–August, with wintering birds during mild winters December–February.

- Bar-tailed Godwit** *Limosa lapponica*. Uncommon passage migrant and irregular summer visitor to inland wetlands and Caspian shore. Spring migration end March–May, irregular June–August, autumn migration September–November.
- Whimbrel** *Numenius phaeopus*. Uncommon passage migrant and summer visitor to inland wetlands and Caspian shore. Spring migration April–early June, summer visitors present July, autumn migration August–October with late birds November.
- Slender-billed Curlew** *Numenius tenuirostris*. Not included in avifauna check list (Dement'ev 1952) and no confirmed records though vagrants possible (Rustamov 2013). Included in IUCN Red List (CR) but possibly now extinct.
- Eurasian Curlew** *Numenius arquata*. Passage migrant, summer visitor and irregular winter visitor during mild winters to inland wetlands and Caspian shore. Spring migration mid March–May, summer visitors June–early August, autumn migration end August–November.
- Spotted Redshank** *Tringa erythropus*. Uncommon passage migrant, summer visitor and irregular winter visitor in mild winters to inland wetlands and Caspian shore. Spring migration mid March–May, summer visitors June–August, autumn migration end August–November.
- Cream-coloured Courser** *Cursorius cursor*. Uncommon breeding summer visitor distributed from Badkhyz and Murgab valley west to the Kopetdag foothills, Krasnovodsk plateau and Karabogazgol bay. Arrives end March–April, departs mid September–October. RDBT category IV.
- Common Redshank** *Tringa totanus*. Uncommon to locally common passage migrant and summer and winter visitor to inland wetlands and Caspian shore. Possibly breeds. Spring migration end February–early June, summering birds June–early August, autumn migration mid August–November.
- Marsh Sandpiper** *Tringa stagnatilis*. Uncommon passage migrant and summer visitor, and irregular winter visitor during mild winters to inland wetlands and Caspian shore. Spring migration March–May, summering birds June–early August, autumn migration end August–November.
- Common Greenshank** *Tringa nebularia*. Uncommon passage migrant and irregular summer and winter visitor during mild winters to inland wetlands and Caspian shore. Spring migration mid March–May, summering birds June–early August, autumn migration end August–September with late migrants into November.
- Green Sandpiper** *Tringa ochropus*. Uncommon to locally common passage migrant and summer visitor, and irregular winter visitor during mild winters to inland wetlands and Caspian shore. Potentially occasional breeder. Spring migration second half March–May, summer June–early August, autumn migration end August–November.
- Wood Sandpiper** *Tringa glareola*. Uncommon to locally common passage migrant and summer visitor to inland wetlands and Caspian shore. Main spring migration April–early May, occasionally March–early June, summer end June–early July, autumn migration end June–September occasionally October or even November.
- Terek Sandpiper** *Xenus cinereus*. Very scarce passage migrant to Caspian shore and sporadically to inland wetlands. Spring migration end March–May, autumn end August–November.
- Common Sandpiper** *Actitis hypoleucos*. Uncommon passage migrant and breeding summer visitor to inland wetlands and Caspian shore. Spring migration mid March–end May, autumn migration end August–November.
- Ruddy Turnstone** *Arenaria interpres*. Uncommon passage migrant and summer visitor mostly to Caspian shore and inland wetlands. Spring migration mid April and May, summer June–July, autumn migration early August–November
- Red Knot** *Calidris canutus*. Very rare passage migrant and summer visitor to Caspian shore (first record 1976, Karavaev & Belousov 1982) and possibly occurs at other large wetlands.



- Sanderling** *Calidris alba*. Uncommon passage migrant and irregular winter visitor patchily distributed at inland wetlands and Caspian shore. Spring migration April–May, late migrants to June, autumn migration September–November. Single birds and small flocks can occur December–February during mild winters.
- Little Stint** *Calidris minuta*. Uncommon passage migrant, summer visitor and irregular winter visitor during mild winters, mostly at inland wetlands, rarely along Caspian shore though can be locally numerous. Spring migration mid March–early June, occasionally July, autumn migration August–November.
- Temminck's Stint** *Calidris temminckii*. Scarce passage migrant to inland wetlands and Caspian shore. Spring migration, when more numerous, end March–May, autumn end July–October.
- Purple Sandpiper** *Calidris maritima*. Vagrant, particularly Caspian shore, first recorded 1971/1972 (Scherbina 2013).
- Dunlin** *Calidris alpina*. Common passage migrant, especially Caspian shore, and summer and winter visitor. Wintering birds depart and spring migration commences mid March–end May, summer birds June–July, autumn migration August–November.
- Curlew Sandpiper** *Calidris ferruginea*. Uncommon passage migrant and summer visitor Caspian shore and scattered inland wetlands. Spring migration March–May, autumn August–early October.
- Broad-billed Sandpiper** *Limicola falcinellus*. Uncommon passage migrant Caspian shore and rarely inland wetlands. Spring migration April–May, autumn end August–early October.
- Ruff** *Philomachus pugnax*. Uncommon passage migrant and summer visitor inland wetlands and Caspian shore. Spring migration March–May, summer June–July, autumn migration August–early October.
- Red-necked Phalarope** *Phalaropus lobatus*. Common, and in some years numerous, passage migrant and irregular summer visitor to inland wetlands and Caspian shore. Spring migration early April–early June, summer July, autumn migration end August–October, rarely November.
- Red Phalarope** *Phalaropus fulicarius*. Very scarce passage migrant and irregular summer and winter visitor Caspian shore (Dement'ev 1952, Scherbina 2013).
- Collared Pratincole** *Glareola pratincola*. Uncommon passage migrant and breeding summer visitor to open areas near inland wetlands and Caspian shore. Spring migration end March–early May, autumn end August–October.
- Black-winged Pratincole** *Glareola nordmanni*. Very scarce passage migrant to inland wetlands and Caspian shore. IUCN Red List (NT).
- Mew Gull** *Larus canus*. Passage migrant to wetlands throughout Turkmenistan and winter visitor Caspian shore where it can be common though numbers fluctuate annually. Winter departure and spring migration February–March, autumn migration end September–November, wintering birds arrive early December onwards.
- Glaucous Gull** *Larus hyperboreus*. Vagrant, with two records—a first winter between Guvlymayak and Guvly, Caspian shore 1 October 2008, and one northwest of Turkmenbashi 4 and 23 December 2008 (Scherbina 2013).
- Caspian Gull** *Larus cachinnans*. Common, locally numerous, passage migrant, breeding summer and winter visitor, with some birds on Caspian shore resident. Also present large wetlands throughout Turkmenistan. Dispersal and spring migration March–April, autumn September–October. Breeding population eastern part of Caspian dramatically decreased during last two decades due to disturbance.
- Lesser Black-backed Gull** *Larus fuscus*. Vagrant, with three museum specimens in zoological collections—collected from Caspian sea 1891 (Zarudny 1896), 1935 (Isakov & Vorob'ev 1940) and 1972 (Scherbina 2013).

- Pallas's Gull** *Larus ichthyaetus*. Uncommon passage migrant, local breeding summer visitor Ogurjaly island (Caspian) and Sarykamysh lake (north Turkmenistan) and winter visitor Caspian shore, though can occur at inland wetlands during dispersal and migration. Spring migration March–April, autumn July–August. Caspian population decreased during last two decades due to disturbance. Included in first edition of RDBT (Rustamov 1985) and recommended for inclusion in new edition as species with decreasing population.
- Black-headed Gull** *Larus ridibundus*. Common, locally numerous, passage migrant, winter and summer visitor to river valleys, lakes, reservoirs and Caspian shore. Winter departure and spring migration February–April, late migrants May, summering birds June–August, autumn migration September–November, and wintering birds from December.
- Slender-billed Gull** *Larus genei*. Uncommon to locally common passage migrant, breeding summer visitor and irregular winter visitor mainly to Caspian shore, rarely at inland wetlands. Winter departure and spring migration from early March, breeding birds present end April–mid July, autumn migration end August–November.
- Mediterranean Gull** *Larus melanocephalus*. Vagrant, recorded irregularly Caspian shore. First record 1977 (Karavaev 1991b).
- Little Gull** *Larus minutus*. Uncommon passage migrant and irregular winter visitor Caspian shore. Spring migration mid April–May, autumn August–September.
- Ross's Gull** *Rhodostethia rosea*. Vagrant, with one record, a bird at Sarykamysh lake 21 April 1988 (Antipov *et al* 1994).
- Gull-billed Tern** *Sterna nilotica*. Passage migrant and uncommon breeding summer visitor in varying numbers along eastern Caspian shore and Sarykamysh lake. Spring migration April–May, autumn August–September.
- Caspian Tern** *Sterna caspia*. Passage migrant and uncommon localised breeding summer visitor to islands of eastern Caspian and Sarykamysh lake. Spring migration mid March–April, autumn September.
- Sandwich Tern** *Sterna sandwicensis*. Breeding summer visitor islands of eastern Caspian. Spring migration March–April, autumn August–September. The population has dramatically decreased during the last two decades due to disturbance. Recommended for inclusion in RDBT.
- Common Tern** *Sterna hirundo*. Common passage migrant and breeding summer visitor to wetlands throughout. Spring migration April–May, autumn August–September. Breeding population of eastern part Caspian has dramatically decreased during last two decades due to disturbance.
- Little Tern** *Sterna albifrons*. Uncommon but widely distributed passage migrant and local summer visitor breeding Caspian shore and Sarykamysh lake. Spring migration end April–May, autumn August–September. Breeding population of eastern part Caspian has dramatically decreased during last two decades due to disturbance.
- Whiskered Tern** *Chlidonias hybrida*. Uncommon to locally common passage migrant and breeding summer visitor along major river valleys and Caspian shore. Spring migration from mid April, autumn from end August–September.
- White-winged Tern** *Chlidonias leucopterus*. Uncommon passage migrant river valleys and freshwater wetlands. Spring migration April–May, autumn August–September.
- Black Tern** *Chlidonias niger*. Uncommon to locally common passage migrant and probable breeding summer visitor river valleys and Caspian shore. Spring migration April–May, autumn September.
- Pomarine Jaeger** *Stercorarius pomarinus*. Uncommon scattered migrant with 1–2 birds recorded on four occasions Caspian shore 1973–2001 (Khokhlov 1995, Scherbina 2013).
- Parasitic Jaeger** *Stercorarius parasiticus*. Uncommon, scattered migrant and summer visitor eastern Caspian. Also recorded Sarykamysh lake 22 April 1985, 4 April 1987 (Antipov *et al* 1994).

- Long-tailed Jaeger** *Stercorarius longicaudus*. Uncommon, scattered migrant and summer visitor with 1–3 birds recorded on six occasions Caspian shore 1997–2008 (Scherbina 2013).
- Pallas's Sandgrouse** *Syrhaptus paradoxus*. Sporadic visitor undergoing periodic irruptive movements, mostly in spring and autumn, irregularly in winter. Can occur anywhere. Generally uncommon but can be common to locally numerous in some years.
- Pin-tailed Sandgrouse** *Pterocles alchata*. Common breeding summer visitor with some birds also present in winter. Widely distributed but prefers sand desert. Spring migration March, autumn end October–end November. Autumn migration is very noticeable, especially Kopetdag foothills, where the species can be very numerous for short periods.
- Spotted Sandgrouse** *Pterocles senegallus*. Vagrant, with single bird Amudar'ya valley near Turkmenistan/Afghanistan border 1889 (Zarudny 1910).
- Black-bellied Sandgrouse** *Pterocles orientalis*. Common to locally numerous passage migrant, breeding summer visitor and winter visitor to plains throughout but avoids barkhans, large wetlands and oases. Main breeding distribution northwestern Turkmenistan while wintering areas are in south and southwest. Migration concentrates Kopetdag foothills. Arrives March and first part of April, autumn migration September–October.
- Rock Pigeon** *Columba livia*. Common to locally numerous resident, widely distributed throughout Turkmenistan.
- Hill Pigeon** *Columba rupestris*. Vagrant, which may occur Koytendag and eastern Kopetdag (Efimenko 1989, Rustamov 2011).
- Stock Dove** *Columba oenas*. Uncommon passage migrant and probable breeding summer visitor, with some birds recorded winter. Widely distributed on migration but especially Amudar'ya valley. Arrives end February–early March, autumn migration September–October.
- Pale-backed Pigeon** *Columba eversmanni*. Uncommon and threatened passage migrant and breeding summer visitor major river valleys, especially Tejen, Murgab and Amudar'ya. Arrives second half March–early April, autumn migration September–October. Included IUCN Red List and RDBT category III (VU).
- Common Wood-pigeon** *Columba palumbus*. Breeding summer visitor Kopetdag and Koytendag, and uncommon to locally common widespread passage migrant mostly along river valleys. Arrives February, earlier in mild winters.
- European Turtle-dove** *Streptopelia turtur*. Widespread passage migrant and breeding summer visitor most areas, common on migration but breeding population has declined in recent decades. Arrives end April–early May, autumn migration end August–September.
- Oriental Turtle-dove** *Streptopelia orientalis*. Uncommon passage migrant and probable breeding summer visitor Koytendag. Occurs widely on migration especially Amudar'ya valley.
- Eurasian Collared-dove** *Streptopelia decaocto*. Common resident, first recorded Gushka valley middle of the last century but now found throughout Turkmenistan from the Amudar'ya to Caspian. Commonest south and east, less common in west. Large flocks can be found autumn/winter.
- Laughing Dove** *Stigmatopelia senegalensis*. Common. Locally numerous, resident synanthropic species occurring widely from river and mountain valleys, foothills, oases, deserts to large cities and small settlements. Spread of the species limited by predation by Magpies in the Amudar'ya and Murgab valleys, and by Hooded Crows in Kopetdag foothills.
- Great Spotted Cuckoo** *Clamator glandarius*. Vagrant, with one record from Gushka river valley in southern Turkmenistan 1954 (Sukhinin 1956).
- Common Cuckoo** *Cuculus canorus*. Uncommon passage migrant and breeding summer visitor. Widespread during migration but restricted to valleys and oases as a breeding species. Arrives end of April/early May, departs from middle of July with the main autumn migration September.

- Himalayan Cuckoo** *Cuculus saturatus*. Irregular scarce passage migrant Amudar'ya and Murgab valleys (Dement'ev 1952).
- Lesser Cuckoo** *Cuculus poliocephalus*. Vagrant, with one record mid Amudar'ya valley 1910 (Zarudny 1914).
- Asian Koel** *Eudynamis scolopaceus*. Vagrant, with one record Koitendar'ya valley, southeast Turkmenistan, May 2013.
- Barn Owl** *Tyto alba*. Vagrant, with two records—near Essenguly, southwest Turkmenistan, 1942 (Dement'ev 1952) and central Kopetdag 1983 (Sopyev *et al* 1988).
- Pallid Scops-owl** *Otus brucei*. Uncommon breeding summer visitor Amudar'ya, Murgab and Tejen valleys and parts of Kopetdag foothills. Arrives end March–April, departs early September.
- Common Scops-owl** *Otus scops*. Common passage migrant and numerous breeding summer visitor Bolshoy Balkhan, Kopetdag and Koytendag mountains. Spring migration April, autumn September.
- Snowy Owl** *Bubo scandiaca*. Extremely scarce winter visitor, recorded irregularly in abnormally cold winters. Most records from the plains.
- Eurasian Eagle-owl** *Bubo bubo*. Uncommon and patchily distributed resident throughout Turkmenistan, but only in unpopulated regions.
- Tawny Owl** *Strix aluco*. Uncommon local resident restricted to western Kopetdag and Koytendag.
- Little Owl** *Athene noctua*. Common and widespread resident mountain areas up to 2500 m asl.
- Long-eared Owl** *Asio otus*. Uncommon though widespread passage migrant and breeding summer and winter visitor along river valleys, oases and foothills. Spring migration March–April, autumn October–November.
- Short-eared Owl** *Asio flammeus*. Uncommon patchily distributed passage migrant and winter visitor. Spring migration March–early April, autumn October.
- Eurasian Nightjar** *Caprimulgus europaeus*. Uncommon but widely distributed passage migrant and breeding summer visitor river and mountain valleys, plains, foothills and oases, less frequently in deserts. Arrives mid April and departs end August and September.
- Egyptian Nightjar** *Caprimulgus aegyptius*. Uncommon, but less numerous than Eurasian Nightjar, passage migrant and breeding summer visitor, widely but patchily distributed. Prefers deserts and avoids mountains. Arrives second half April, departs September.
- Alpine Swift** *Tachymarptis melba*. Uncommon passage migrant and breeding summer visitor Kopetdag, Koytendag and other mountains.
- Common Swift** *Apus apus*. Numerous passage migrant and breeding summer visitor occurring widely but preferring river valleys, oases and settlements. Spring migration mid March–mid April, autumn July–August, though breeding birds depart early.
- Little Swift** *Apus affinis*. Uncommon breeding summer visitor to mountains in Badkhyz (Gyazgedyk) and Koytendag. Arrives April, departs August.
- European Roller** *Coracias garrulus*. Passage migrant and breeding summer visitor found mainly southern and eastern Turkmenistan, preferring river valleys and oases. Spring migration from second half April, autumn August–September. Included IUCN Red List (NT) but this relates to the European subspecies which is found along the Caspian shore and neighbouring areas (Isakov & Vorob'ev 1940). *C. g. semenovi* occupies the other parts of Turkmenistan where it is common and even numerous in some places.
- Common Kingfisher** *Alcedo atthis*. Uncommon resident with scattered distribution along Amudar'ya, Karakumdar'ya, Murgab, Tejen, Etrek and Sumbar rivers and, occasionally, small rivers in Kopetdag.



- Blue-cheeked Bee-eater** *Merops persicus*. Common, locally numerous, passage migrant and breeding summer visitor. Widely distributed during migration but prefers foothills and oases for breeding. Arrives second half April, departs August–early September.
- European Bee-eater** *Merops apiaster*. Common, locally numerous passage migrant and breeding summer visitor occurring widely but preferring foothills and oases for breeding. Spring migration second half April–mid May, autumn mid August–October.
- Eurasian Hoopoe** *Upupa epops*. Uncommon passage migrant and breeding summer visitor, small numbers in winter. Widely distributed but more numerous on plains than in mountains. Spring migration early March, autumn September.
- Eurasian Wryneck** *Jynx torquilla*. Uncommon passage migrant. Widely distributed but especially found mountain and river valleys, foothills and oases.
- Great Spotted Woodpecker** *Dendrocopos major* and **Eurasian Green Woodpecker** *Picus viridis*. Both species formerly inhabited southwestern Kopetdag but there have been no records since 1980 (Bukreev 1997, Khodjamuradov & Rustamov 2010). These species now appear extinct locally but vagrants from Iran may possibly be encountered in ravine forests.
- White-winged Woodpecker** *Dendrocopos leucopterus*. Uncommon resident recorded irregularly in the Karakum, western Uzboy, Tejen, Murgab and Amudar'ya valleys and possibly in Koytendag.
- Scaly-bellied Woodpecker** *Picus squamatus*. Formerly inhabited Murgab tugays, between Dashkepri and Sultanbent, until mid 20th century. Recommended for inclusion in RDBT with the suggestion that birds from Afghanistan and Pakistan, if it still occurs there, could be introduced to protected areas of tugay along the Amudar'ya, Murgab and Tejen (Dement'ev 1952, Rustamov 1985).
- Red-backed Shrike** *Lanius collurio*. Widespread but uncommon passage migrant. Spring migration May, autumn August–September.
- Rufous-tailed Shrike** *Lanius isabellinus*. Scarce passage migrant, mostly in south and east, with occasional winter records in south of Turkmenistan. Spring migration end February–April, autumn August–September.
- Turkestan Shrike** *Lanius phoenicuroides*. Uncommon passage migrant and breeding summer visitor with patchy distribution mainly in mountains and foothills but also river valleys and to a lesser extent deserts. Spring migration April, autumn September–October.
- Bay-backed Shrike** *Lanius vittatus*. Uncommon breeding summer visitor with very restricted distribution southern Turkmenistan eg eastern Kopetdag, western Badkhyz, Gushka valley, Koytendag. Arrives mid April, departs August.
- Long-tailed Shrike** *Lanius schach*. Uncommon and patchily distributed breeding summer visitor to mountains and foothills of Kopetdag and Koytendag, along river valleys and, irregularly, west to the Caspian (Karavaev 1979, Khokhlov 1995, Scherbina 2013). Arrives April–May, departs August–September.
- Lesser Grey Shrike** *Lanius minor*. Uncommon passage migrant and breeding summer visitor Kopetdag foothills and mountains, western Badkhyz, Koytendag and river valleys, being most numerous at higher elevations. Spring migration from mid April–May, autumn in August–September.
- Great Grey Shrike** *Lanius excubitor*. Uncommon passage migrant and winter visitor, widely distributed from the mountains to the plains, including oases. Spring migration March–mid April, autumn September–October.
- Southern Grey Shrike** *Lanius meridionalis*. Breeding summer visitor, with small numbers winter, and more numerous than the preceding species. Occurs plains eg Karakum and other deserts and semi-deserts but avoids large oases during nesting period. Arrives March, departs August–September.

- Woodchat Shrike** *Lanius senator*. Vagrant, with two records—foothills of Kurendag range (northwestern Kopetdag) in 1970 (Mischenko & Scherbak 1980) and Soimonova bay, Caspian, 2009 (Scherbina 2013).
- Masked Shrike** *Lanius nubicus*. Very scarce migrant, possibly breeding. Recorded Amudar'ya and Murgab valleys, Badkhyz and elsewhere. First observed in western Turkmenistan, along the Caspian shore, 2009 (Scherbina 2013).
- Eurasian Golden Oriole** *Oriolus oriolus*. Uncommon passage migrant and scarce breeding summer visitor recorded along the Amudar'ya, Karakumdar'ya, Murgab, Tejen and Etrek, at scattered locations of the Caspian basin, Bolshoy Balkhan, Kopetdag and its foothills, Badkhyz and Koytendag. Spring migration April–May, autumn August.
- Asian Paradise-flycatcher** *Terpsiphone paradisi*. Uncommon and local breeding summer visitor Koytendag (Efimenko 2006). One extralimital pair central Kopetdag (Efimenko 1989). Arrives end April, departs mid August–mid September. Included RDBT, category IV.
- Black-billed Magpie** *Pica pica*. Common resident though patchily distributed Kopetdag, Koytendag, Badkhyz, river valleys, Uzboy, Sarykamysh lake and Caspian shore.
- Turkestan Ground-jay** *Podoces panderi*. Uncommon resident Karakum, Chil'mamedkum and Uchtagankum.
- Red-billed Chough** *Pyrhacorax pyrrhacorax*. Uncommon resident patchily distributed mountains and foothills *eg* Badkhyz and Karabil'.
- Alpine Chough** *Pyrhacorax graculus*. Vagrant, with birds recorded central Kopetdag 1884, 1892 (Zarudny 1896) and 1986 (Efimenko 1989).
- Eurasian Jackdaw** *Corvus monedula*. Passage migrant, breeding summer visitor and scarce winter visitor. Patchily distributed, mainly mountainous areas *eg* Bolshoy and Maliy Balkhan, Kopetdag, Badkhyz, Karabil', Koytendag, but also Amudar'ya, Murgab, Gushka, Tejen, Sumbar, Chandyr and Etrek valleys and Uzboy.
- Rook** *Corvus frugilegus*. Common to numerous passage migrant and winter visitor in large flocks at some localities, and common breeding resident in lower reaches of the Amudar'ya. Occurs oases and river valleys, foothills of Kopetdag and even deserts during migration. Spring migration March, autumn October.
- Carrion Crow** *Corvus corone*. Uncommon local resident and nomadic migrant found along large river valleys and Koytendag.
- Hooded Crow** *Corvus cornix*. Common passage migrant and winter visitor, with some birds resident Kopetdag mountains. Occurs widely on migration but prefers foothills and river valleys. Spring migration March, autumn October. Numbers have been increasing Kopetdag as birds have colonised foothills.
- Brown-necked Raven** *Corvus ruficollis*. Uncommon resident of Caspian basin, Karakum, Saragamysh lake, along the Amudar'ya and Karakumdar'ya (occasional), Bolshoy and Maliy Balkhan, and more numerous in foothills of Kopetdag, Badkhyz and Karabil'.
- Common Raven** *Corvus corax*. Uncommon resident and nomadic migrant all mountain areas and also in Badkhyz and Karabil'.
- Bohemian Waxwing** *Bombycilla garrulus*. Widely distributed nomadic migrant and winter visitor, with numbers varying from year to year related to food supply (berries). Prefers valleys and oases. Usually arrives late November/December and stays until April or even mid May.
- Grey Hypoclious** *Hypoclious ampelinus*. Uncommon and local breeding summer visitor in varying numbers only found in the valleys of the Tejen (in the vicinity of Gannaly settlement), Gushka and Murgab (Saryyazy settlement). Included RDBT, category IV.
- White-throated Dipper** *Cinclus cinclus*. Vagrant, not included in the Birds of Turkmenistan (Dement'ev 1952), and first recorded Shorlok river, central Kopetdag, December 1986 (Efimenko 1989).

- Dark-grey Tit** *Parus rufonuchalis*. Uncommon local resident and nomadic migrant Koytendag.
- Coal Tit** *Parus ater*. Local resident Kopetdag undertaking short nomadic movements during autumn/winter. Occurs 1500–1600 m asl in central and eastern Kopetdag, rarely higher, but nests below 1500 m western Kopetdag.
- Great Tit** *Parus major*. Common resident southwestern Kopetdag.
- Turkestan Tit** *Parus bokharensis*. Common resident Karakum and foothill oases of Kopetdag, western Badkhyz and Amudar'ya, Karakumdar'ya, Murgab and Tejen valleys.
- Turkestan Grey Tit** *Parus cinereus*. Local resident Kopetdag. Uncommon though still more numerous than other tits which occur in mountains.
- Blue Tit** *Parus caeruleus*. Uncommon resident western and central parts Kopetdag. Sometimes occurs foothills in winter.
- Azure Tit** *Parus cyanus*. Uncommon resident and nomadic migrant only found Koytendag.
- Yellow-breasted Tit** *Parus flavipectus*. Uncommon resident and nomadic migrant only found Koytendag.
- Eurasian Penduline-tit** *Remiz pendulinus*. Uncommon passage migrant and winter visitor, and local breeding summer visitor to the Etrek and lower reaches of Tejen and Murgab. Occurs mainly in tugays along river valleys but may be encountered in other habitats.
- White-crowned Penduline-tit** *Remiz coronatus*. Uncommon passage migrant and winter visitor and breeds Sarykamysh lake and along Amudar'ya. Winters Amudar'ya and other large river valleys.
- Black-headed Penduline-tit** *Remiz macronyx*. Status uncertain but appears to be uncommon passage migrant and winter visitor, most frequently recorded Murgab, Tejen and Amudar'ya valleys.
- Sand Martin** *Riparia riparia*. Common but patchily distributed passage migrant and breeding summer visitor mainly to river valleys and oases. Spring migration from end March, autumn in October.
- Pale Sand Martin** *Riparia diluta*. Passage migrant and breeding summer visitor at scattered localities mainly eastern Turkmenistan. Less numerous than Sand Martin.
- Eurasian Crag-martin** *Hirundo rupestris*. Common passage migrant though some birds resident but undertake nomadic movements. Occurs steep-sided valleys and ravines in Bolshoy and Maliy Balkhan, Kopetdag and Koytendag. Arrives April, departs August.
- Barn Swallow** *Hirundo rustica*. Common and widespread passage migrant and breeding summer visitor, especially Amudar'ya, Karakumdar'ya, Murgab, Tejen and Etrek valleys and oases. Localised breeding population decreased during last decade. Spring migration March–April, autumn end September–mid October.
- Wire-tailed Swallow** *Hirundo smithii*. Scarce and local breeding summer visitor Gushka (Sukhinin 1956) and Koitendar'ya valleys. Arrives April–May, departs September–October.
- Red-rumped Swallow** *Hirundo daurica*. Uncommon and local breeding summer visitor Koytendag, though may be encountered elsewhere as passage migrant. Arrives April, departs August.
- Northern House-martin** *Delichon urbicum*. Common passage migrant and breeding summer visitor mountainous regions eg Bolshoy and Maliy Balkhan, Kopetdag and Koytendag. Also occurs plains after breeding season. Spring migration March–April, autumn September.
- Long-tailed Tit** *Aegithalos caudatus*. Uncommon resident and nomadic migrant southwestern Kopetdag.
- Calandra Lark** *Melanocorypha calandra*. Common to locally numerous resident and nomadic migrant mainly in foothills, lower and middle belts of Kopetdag, Badkhyz, Karabil', foothills of Koytendag and lower reaches of Etrek river. It may concentrate in large flocks during winter.

- Bimaculated Lark** *Melanocorypha bimaculata*. Common to locally numerous passage migrant and breeding summer visitor, with some birds present winter. Occurs both northwestern and southwestern Turkmenistan eg foothills and mountains of Bolshoy and Maliy Balkhan, Kopetdag, Karabil' and Koytendag, and also south Ustyurt. Spring migration April, autumn second half October and November.
- White-winged Lark** *Melanocorypha leucoptera*. Common to locally numerous passage migrant, breeding summer visitor and nomadic migrant. Large flocks early November–March.
- Black Lark** *Melanocorypha yeltoniensis*. Irregular visitor from Kazakhstan to northern Turkmenistan (Rustamov 1958) south as far as Krasnovodsky peninsula and Bolshoy Balkhan mountain (Scherbina 2013).
- Desert Lark** *Ammomanes deserti*. Common resident gently rolling landscapes, foothills and mountains though undertakes nomadic migrations. Occurs from south Ustyurt and eastern shore Caspian to Kopetdag, Badkhyz, Karabil and Koytendag.
- Greater Short-toed Lark** *Calandrella brachydactyla*. Common, locally numerous passage migrant, breeding summer visitor and winter visitor to plains throughout Turkmenistan, but avoids bakhans and vegetated valleys and oases.
- Hume's Lark** *Calandrella acutirostris*. Very scarce and localized summer breeding visitor Badkhyz, Karabil' and Koytendag, usually found in dry foothills and lower elevations of mountains.
- Lesser Short-toed Lark** *Calandrella rufescens*. As Greater Short-toed Lark— passage migrant, breeding summer and winter visitor to clay and silt plains and foothills throughout Turkmenistan.
- Asian Short-toed Lark** *Calandrella cheleensis*. Very scarce passage migrant and breeding summer visitor found on solonchaks (salt marsh type areas) and similar desert areas of the mid Amudar'ya. Probably also occurs north and west border zone with Kazakhstan.
- Crested Lark** *Galerida cristata*. Common to locally numerous resident of deserts, semi-deserts, mountains (up to 1500–1600 m asl), river valleys and oases. Sometimes undertakes local nomadic migrations.
- Wood Lark** *Lullula arborea*. Uncommon resident Bolshoy Balkhan and Kopetdag.
- Eurasian Skylark** *Alauda arvensis*. Common passage migrant, uncommon breeding summer visitor and locally abundant winter visitor to plains, foothills and oases. Breeds Bolshoy Balkhan and Kopetdag. Spring migration February–April, autumn October–November.
- Oriental Skylark** *Alauda gulgula*. Common and widely distributed passage migrant and breeding summer visitor to foothills of Kopetdag, Koytendag, Badkhyz, Karabil', and along the Etrek, Tejen, Murgab and Amydar'ya valleys. Most numerous in river valleys.
- Horned Lark** *Eremophila alpestris*. Uncommon resident undertaking local nomadic movements autumn/winter. Occurs Karabogazgol basin, Krasnovodsky peninsula (scattered), Bolshoy and Maliy Balkhan, Kopetdag and Badkhyz.
- Streaked Scrub-warbler** *Scotocerca inquieta*. Widely distributed common resident and nomadic migrant of deserts and foothills.
- Cetti's Warbler** *Cettia cetti*. Uncommon and patchily distributed breeding summer visitor Kopetdag and Tejen, Murgab and Amudar'ya valleys.
- Common Grasshopper-warbler** *Locustella naevia*. Uncommon passage migrant in well-vegetated river valleys eg meadows, wet glades with tall grass, bushes and reeds. Spring migration April and first half May, autumn second half September and October.
- Eurasian River Warbler** *Locustella fluviatilis*. Scarce passage migrant river valleys, lake shores and other wetlands. Spring migration late March and April, autumn September–mid October .
- Savi's Warbler** *Locustella luscinioides*. Uncommon passage migrant and breeding summer visitor to Etrek, Murgab, Tejen and Amudar'ya valleys, arriving early April.



- Moustached Warbler** *Acrocephalus melanopogon*. Scarce to locally common passage migrant and breeding summer visitor. Occurs in mountain and river valleys. Spring migration March–April, autumn September–October.
- Sedge Warbler** *Acrocephalus schoenobaenus*. Scarce passage migrant, with scattered distribution, mainly to river valleys and oases. Spring migration April–May, autumn October and first half November.
- Paddyfield Warbler** *Acrocephalus agricola*. Common passage migrant and breeding summer visitor Tejen, Murgab, Karakumdar'ya and Amudar'ya valleys. Spring migration April–May, autumn August–September.
- Eurasian Reed-warbler** *Acrocephalus scirpaceus*. Common passage migrant and breeding summer visitor large river valleys and oases. Spring migration April–May, autumn late August–late October.
- Blyth's Reed-warbler** *Acrocephalus dumetorum*. Common passage migrant to river valleys throughout and breeding summer visitor foothills and mountains of Kopetdag. Spring migration end April–May, autumn end August–September.
- Marsh Warbler** *Acrocephalus palustris*. Uncommon passage migrant mainly to river valleys and oases. Spring migration April–May, autumn September and early October.
- Great Reed-warbler** *Acrocephalus arundinaceus*. Common passage migrant to river valleys, lake shores, reservoirs and small water bodies.
- Clamorous Reed-warbler** *Acrocephalus stentoreus*. Common to locally numerous passage migrant and breeding summer visitor to reedbeds along large and small river valleys. Spring migration April–May, autumn August–October.
- Booted Warbler** *Hippolais caligata*. Numerous passage migrant and breeding summer visitor northern and eastern Turkmenistan. Spring migration April–May, autumn August–October.
- Sykes's Warbler** *Hippolais rama*. Widely distributed numerous passage migrant and breeding summer visitor. Spring migration April–May, autumn August–October.
- Eastern Olivaceous Warbler** *Hippolais pallida*. Common passage migrant and breeding summer visitor to plains, including large river valleys. Spring migration second half April, autumn August–September.
- Upcher's Warbler** *Hippolais languida*. Widely distributed common passage migrant and breeding summer visitor. Spring migration April–May, autumn September–October.
- Icterine Warbler** *Hippolais icterina*. Widely distributed common passage migrant, especially valleys and oases. Spring migration April–May, autumn August–September.
- Willow Warbler** *Phylloscopus trochilus*. Scarce passage migrant to variety of habitats but mainly foothills and river and mountain valleys. Spring migration March–April, autumn October.
- Common Chiffchaff** *Phylloscopus collybita*. Common passage migrant to plains and uncommon breeding summer visitor Kopetdag arriving end April.
- Plain Leaf-warbler** *Phylloscopus neglectus*. Uncommon breeding summer visitor Kopetdag and Koytendag.
- Sulphur-bellied Warbler** *Phylloscopus griseolus*. Uncommon and local breeding summer visitor Koytendag.
- Inornate Warbler** *Phylloscopus inornatus*. Rare passage migrant mainly eastern Turkmenistan eg Amudar'ya. Spring migration March, autumn October.
- Hume's Leaf-warbler** *Phylloscopus humei*. Irregular passage migrant, recorded Koytendag and several locations along upper reaches of the Amudar'ya.
- Greenish Warbler** *Phylloscopus trochiloides*. Widely distributed but uncommon passage migrant. Spring migration April, autumn September–October.

- Blackcap** *Sylvia atricapilla*. Scarce passage migrant in variety of habitats throughout. Spring migration April–May, autumn end August–September.
- Garden Warbler** *Sylvia borin*. Scarce passage migrant found in variety of habitats throughout. Spring migration April, autumn mid August–September.
- Common Whitethroat** *Sylvia communis*. Common passage migrant plains and mountains throughout, and breeding summer visitor to mountains of southern Turkmenistan eg Kopetdag, eastern Badkhyz, Koytendag. Spring migration from mid April, autumn from mid August–September.
- Lesser Whitethroat** *Sylvia curruca*. Common passage migrant and breeding summer visitor, widely distributed but most numerous plains. Spring migration from end March, autumn from mid August.
- Hume’s Whitethroat** *Sylvia althaea*. Uncommon passage migrant and breeding summer visitor Bolshoy Balkhan, Kopetdag and Koytendag. Spring migration April, autumn September.
- Desert Warbler** *Sylvia nana*. Common passage migrant and uncommon breeding summer visitor to desert plains. Spring migration end March, autumn October.
- Orphean Warbler** *Sylvia hortensis*. Uncommon passage migrant and breeding summer visitor Bolshoy Balkhan, Kopetdag, Koytendag and mountainous parts of Badkhyz. Spring migration April–May, autumn September–October.
- Menetries’s Warbler** *Sylvia mystacea*. Widely distributed but uncommon passage migrant and breeding summer visitor. Spring migration from mid March, autumn from August–mid September.
- Streaked Laughingthrush** *Garrulax lineatus*. Local and uncommon resident Koytendag, undertaking nomadic movements.
- Bearded Parrotbill** *Panurus biarmicus*. Uncommon passage migrant, breeding summer visitor and winter visitor mainly to large and small river valleys and oases.
- Goldcrest** *Regulus regulus*. Scarce but widely distributed nomadic migrant and winter visitor to mountains and foothills, with small numbers desert areas.
- Winter Wren** *Troglodytes troglodytes*. Uncommon resident and nomadic migrant Bolshoy Balkhan, Kopetdag and Koytendag mountains.
- Eastern Rock-nuthatch** *Sitta tephronota*. Uncommon resident low and middle belts of Bolshoy and Maliy Balkhan, Kopetdag, Koytendag and other suitable areas of Badkhyz and Karabil’.
- Wallcreeper** *Tichodroma muraria*. Scarce resident and nomadic migrant to Koytendag, Kopetdag and Bolshoy Balkhan. May also occur foothills and even plains during winter.
- Bar-tailed Treecreeper** *Certhia himalayana*. Local passage migrant and breeding summer and winter visitor Koytendag.
- Common Myna** *Acridotheres tristis*. Resident. First recorded in Turkmenistan in the extreme southeast in 1912 but has now spread north to the Aral sea and west to the Caspian. Currently known from Amudar’ya, Karakumdar’ya, Murgab, Gushka and Tejen valleys, foothills and mountains of Koytendag, Kopetdag, Karabil’ and Badkhyz, and scattered settlements and wells in the Karakum. Very numerous Amudar’ya and Murgab valleys, numerous Tejen valley and Kopetdag foothills, and still rare in Karakum and in the west.
- Brahminy Starling** *Sturnus pagodarum*. Vagrant, with one record Koytendag June 1963 (Rustamov *et al* 1965).
- Rosy Starling** *Sturnus roseus*. Common to numerous passage migrant, breeding summer visitor and nomadic migrant after breeding. Occurs throughout Turkmenistan from foothills and lower belts of mountains to plains along river valleys and Caspian basin. Spring migration late April–early May, autumn August.
- Common Starling** *Sturnus vulgaris*. Widespread, common to locally very numerous passage migrant, breeding summer visitor and winter visitor, with some birds resident. Breeds

river valleys and foothills and mountains. Spring migration March, autumn September–November.

**Blue Whistling-thrush** *Myophonus caeruleus*. Scarce local resident Koytendag.

**Ring Ouzel** *Turdus torquatus*. Uncommon breeding summer visitor Bolshoy Balkhan and Kopetdag, with small numbers resident.

**Eurasian Blackbird** *Turdus merula*. Common resident and passage migrant in small numbers. Occurs mountains and foothills of Bolshoy Balkhan, Kopetdag and Koytendag, and along river valleys and oases. More numerous at lower altitudes.

**Red-throated Thrush** *Turdus ruficollis*. Vagrant, southern and eastern Turkmenistan.

**Black-throated Thrush** *Turdus atrogularis*. Common, in some years numerous, passage migrant and winter visitor found in mountains, river valleys, oases and deserts. Spring migration March, autumn mid September.

**Fieldfare** *Turdus pilaris*. Common passage and nomadic migrant, with small numbers wintering southern Turkmenistan. Occurs river valleys and oases, foothills and mountain valleys. Spring migration March–April.

**Redwing** *Turdus iliacus*. Widely distributed but scarce passage migrant and irregular winter visitor. Spring migration end March–April, autumn early September–end November.

**Song Thrush** *Turdus philomelos*. Scarce passage migrant with some wintering. Widely distributed from plains to mountains. Spring migration March–April, autumn September–October.

**Mistle Thrush** *Turdus viscivorus*. Scarce passage migrant and winter visitor to plains but resident in mountains eg Kopetdag and Koytendag. On migration found valleys, oases and even deserts. Spring migration March, autumn November.

**European Robin** *Erithacus rubecula*. Uncommon passage migrant and winter visitor throughout Turkmenistan. Spring migration end March–April, autumn October–November.

**Thrush Nightingale** *Luscinia luscinia*. Widely distributed but uncommon passage migrant, especially to mountain areas. Spring migration end April–early May, autumn August–September.

**Common Nightingale** *Luscinia megarhynchos*. Uncommon passage migrant and breeding summer visitor to mountains and river valleys and oases. Also occurs deserts during migration. Arrives early April, departs August–September.

**Bluethroat** *Luscinia svecica*. Uncommon to locally common and widely distributed passage migrant, possibly breeding. Spring migration mid March–end April, autumn early September–end October.

**White-throated Robin** *Irania gutturalis*. Uncommon local breeding summer visitor Koytendag, arriving April and departing August.

**Rufous-tailed Scrub-robin** *Erythropygia galactotes*. Common breeding summer visitor to plains, preferring river valleys and oases. Arrives mid April–mid May, departs August–mid September.

**Rufous-backed Redstart** *Phoenicurus erythronotus*. Scarce passage migrant and winter visitor southern Turkmenistan.

**Black Redstart** *Phoenicurus ochruros*. Common breeding summer visitor to mountain areas arriving mid March–April and departing September.

**Common Redstart** *Phoenicurus phoenicurus*. Widely distributed but uncommon passage migrant, possibly breeding. Spring migration second half April–mid May, autumn October.

**Whinchat** *Saxicola rubetra*. Scarce passage migrant throughout but prefers river valleys.

- Common Stonechat** *Saxicola torquata*. Uncommon passage migrant and breeding summer visitor to foothills and mountains of Kopetdag. Spring migration March and first half April, autumn August–mid October.
- Pied Bushchat** *Saxicola caprata*. Common breeding summer visitor mountains and river valleys and oases, arriving end April and departing between August and October.
- Northern Wheatear** *Oenanthe oenanthe*. Widespread but uncommon passage migrant and breeding summer visitor. Spring migration end February–mid March, autumn end August–end October.
- Finsch's Wheatear** *Oenanthe finschii*. Widely distributed breeding summer visitor from the mountains of southern Turkmenistan to Ustyurt and Mangyshlak in the north, locally in Karakum. Part of the population winters in the south. Common mountain habitats, scarce elsewhere.
- Variable Wheatear** *Oenanthe picata*. Common breeding summer visitor to mountain areas of southern and western Turkmenistan. Arrives from mid March and departs September–October.
- Pied Wheatear** *Oenanthe pleschanka*. Uncommon passage migrant and scarce breeding summer visitor. Widely distributed during migration but prefers mountain habitats in the south and undulating ground in the northwestern and northern parts of Turkmenistan for breeding. Arrives spring mid March and departs August–mid October.
- Eastern Black-eared Wheatear** *Oenanthe hispanica*. Scarce breeding summer visitor western and central Kopetdag.
- Kurdish Wheatear** *Oenanthe xanthopyrmyna*. Scarce breeding summer visitor central Kopetdag between 1200 and 2500 m asl.
- Desert Wheatear** *Oenanthe deserti*. Uncommon passage migrant and breeding summer visitor to plains throughout Turkmenistan. Spring migration from March, autumn September–October.
- Isabelline Wheatear** *Oenanthe isabellina*. Common passage migrant and breeding summer visitor, with some birds wintering in southern Turkmenistan. The commonest species of wheatear occurring widely on plains, but avoiding river valleys and oases, and in mountains to high elevations. Spring migration end February–March, autumn August–end October.
- Rufous-tailed Rock-thrush** *Monticola saxatilis*. Uncommon passage migrant and breeding summer visitor to all mountain regions. Spring migration from mid March, autumn end August–September.
- Blue Rock-thrush** *Monticola solitarius*. Uncommon breeding summer visitor Bolshoy Balkhan, Kopetdag and Koytendag, arriving end March and departing September–October.
- Spotted Flycatcher** *Muscicapa striata*. Common passage migrant and breeding summer visitor to mountains, foothills and river valleys. Spring migration April, autumn August–September.
- Rusty-tailed Flycatcher** *Muscicapa ruficauda*. Scarce local breeding summer visitor to juniper forests on Koytendag up to 2000–2500 m asl.
- European Pied Flycatcher** *Ficedula hypoleuca*. Scarce and irregular migrant.
- Collared Flycatcher** *Ficedula albicollis*. Scarce and irregular migrant central Kopetdag and southwestern Turkmenistan.
- Red-breasted Flycatcher** *Ficedula parva*. Numerous widely distributed passage migrant and probable breeding summer visitor to Kopetdag. Spring migration end March–end April, autumn end August–early November.
- Saxaul Sparrow** *Passer ammodendri*. Common resident of central and eastern Karakum. Local nomadic migrations during winter.

- House Sparrow** *Passer domesticus*. Common synanthropic resident of southwestern and western Turkmenistan.
- Indian House Sparrow** *Passer indicus*. Numerous to very numerous but widely scattered passage migrant and breeding summer visitor to southern Turkmenistan. Spring migration March–April, autumn August–September.
- Spanish Sparrow** *Passer hispaniolensis*. Unevenly distributed passage migrant, breeding summer and winter visitor to lower reaches of the Etrek, Tejen, Murgab, Karakumdar'ya and Amudar'ya valleys, western Uzboy and Kopetdag foothills. It may also occur in the Karakum during migration. Numerous to very numerous during autumn/winter.
- Desert Sparrow** *Passer simplex*. Scarce and threatened resident of eastern and central Karakum undertaking nomadic migrations during autumn/winter. Included RDBT, category III (VU).
- Eurasian Tree Sparrow** *Passer montanus*. Common but unevenly distributed synanthropic resident throughout.
- Rock Sparrow** *Petronia petronia*. Uncommon resident distributed throughout all mountain and hilly areas from Karabogazgol basin in the northwest to Koytendag in southeastern Turkmenistan. May undertake altitudinal migrations.
- Pale Rock Sparrow** *Petronia brachydactyla*. Scarce breeding summer visitor Kopetdag and Badkhyz, arriving April and departing July–August.
- White-winged Snowfinch** *Montifringilla nivalis*. Scarce resident Koytendag and possible nomadic migrant elsewhere. Recorded central Kopetdag February 1983 (Sopyev *et al* 1988) and eastern Caspian shore 2009 (Scherbina 2013).
- Afghan Snowfinch** *Montifringilla theresae*. Scarce nomadic migrant Badkhyz and Karabil'.
- Alpine Accentor** *Prunella collaris*. Scarce resident on Kopetdag and Koytendag.
- Radde's Accentor** *Prunella ocularis*. Scarce local breeding visitor central Kopetdag.
- Black-throated Accentor** *Prunella atrogularis*. Uncommon passage migrant, winter visitor and nomadic migrant occurring sporadically foothills and plains.
- Hedge Accentor** *Prunella modularis*. Scarce migrant and probable winter visitor southwestern Turkmenistan *eg* Sumbar and Etrek valleys.
- White Wagtail** *Motacilla alba*. Common and widely distributed passage migrant and uncommon winter visitor. Prefers oases and foothills in winter.
- Masked Wagtail** *Motacilla personata*. Uncommon resident mainly along river valleys on plains, in mountains and oases.
- Citrine Wagtail** *Motacilla citreola*. Passage migrant to plains and mountain, preferring oases and river valleys. Spring migration mid March–early May, autumn August–September. Less numerous than Yellow Wagtail and Yellow-fronted Wagtail.
- Lesser Citrine Wagtail** *Motacilla verae*. Passage migrant to plains and mountain, preferring oases and river valleys. Spring migration mid March–early May, autumn August–September. Less numerous than Yellow Wagtail and Yellow-fronted Wagtail.
- Common Black-backed Wagtail** *Motacilla calcarata*. Uncommon passage migrant and breeding summer visitor. In eastern Turkmenistan occurs particularly Amudar'ya valley (Shestoperov 1937, Rustamov 1958). In west found along the Karakumdar'ya, Murgab and Tejen, and Kopetdag foothills.
- Yellow Wagtail** *Motacilla flava*. Common and widely distributed passage migrant found in deserts, foothills, valleys, oases and Caspian shore. Spring migration end March–mid May, autumn September–October.
- Yellow-fronted Wagtail** *Motacilla lutea*. Scarce and widely distributed passage migrant in deserts, foothills, valleys, oases and Caspian shore. Spring migration end March–mid May, autumn September–October.



- Black-headed Wagtail** *Motacilla feldegg*. Widely distributed passage migrant and breeding summer visitor to river valleys on plains (common), mountains (rare) and oases. Spring migration mid March–early May, autumn August–September.
- Grey Wagtail** *Motacilla cinerea*. Patchily distributed and uncommon passage migrant and breeding summer visitor to mountain regions throughout Turkmenistan. Spring migration April and first half May, autumn October.
- Richard's Pipit** *Anthus richardi*. Vagrant, with two records—extreme southwest near Esenguly 9 October 1939, and northwest on south Ustyurt 23 April 1947 (Rustamov 1958).
- Tawny Pipit** *Anthus campestris*. Uncommon passage migrant and breeding summer visitor to foothills and mountains, though may also be found on plains during migration. Arrives April and departs September–October.
- Tree Pipit** *Anthus trivialis*. Uncommon passage migrant mainly plains and to lesser extent mountains but can be common river valleys. Spring migration early April–May, autumn August–September.
- Meadow Pipit** *Anthus pratensis*. Common and widely distributed passage migrant and winter visitor, preferring valleys and oases. Recorded end September–mid April, sometimes later.
- Red-throated Pipit** *Anthus cervinus*. Widely distributed but uncommon passage migrant throughout Turkmenistan. Spring migration April–May, autumn September.
- Water Pipit** *Anthus spinoletta*. Scarce breeding summer visitor to Bolshoy Balkhan, Kopetdag and Koytendag, and common and widely distributed passage migrant and winter visitor preferring river valleys and foothills. Small numbers also found in the Karakum. Spring migration early March–mid April, autumn October–November.
- Eurasian Chaffinch** *Fringilla coelebs*. Common passage migrant and winter visitor to plains and, especially, oases, river valleys and Caspian shore. Also scarce breeding visitor to parts of Kopetdag. Spring migration March, autumn October–November.
- Brambling** *Fringilla montifringilla*. Numerous and widely distributed passage migrant and winter visitor to river valleys and foothills, rarely mountains. Spring migration March, autumn October–November. The population is numerous.
- Fire-fronted Serin** *Serinus pusillus*. Uncommon resident Bolshoy and Maliy Balkhan, Koytendag and Kopetdag, including foothills of the latter. May undertake altitudinal migrations.
- European Greenfinch** *Carduelis chloris*. Passage migrant, breeding summer visitor and winter visitor Koytendag, Kopetdag and adjacent plains and Etrek, Sumbar, Tejen, Murgab and Amudar'ya valleys. Uncommon in valleys spring and summer, common mountains and locally numerous during autumn/winter. Spring migration March, autumn October–November.
- Eurasian Siskin** *Carduelis spinus*. Widespread but patchily distributed and uncommon passage migrant and winter visitor. Spring migration March–April, autumn October–November.
- European Goldfinch** *Carduelis carduelis*. Uncommon but widely distributed passage migrant and winter visitor. Spring migration April, autumn November.
- Grey-headed Goldfinch** *Carduelis caniceps*. Common resident in mountains and foothills and occasionally found river valleys southern Turkmenistan. Undertakes altitudinal migrations in winter.
- Common Redpoll** *Carduelis flammea*. Vagrant, with three records—central Kopetdag 1914 (Dement'ev 1952) and eastern Caspian shore winter 1975/1976 (Karavaev & Belousov 1977) and April 2009 (Scherbina 2013).
- Twite** *Carduelis flavirostris*. Very scarce migrant to Kopetdag and Koytendag in winter.
- Eurasian Linnnet** *Carduelis cannabina*. Uncommon resident and nomadic migrant Bolshoy Balkhan, Kopetdag, Koytendag and their foothills.

- Asian Crimson-winged Finch** *Rhodopechys sanguinea*. Scarce and patchily distributed resident and nomadic migrant to Kopetdag, Koytendag and probably Badkhyz.
- Mongolian Finch** *Bucanetes mongolicus*. Scarce and irregular migrant to southeastern Turkmenistan.
- Desert Finch** *Rhodospiza obsoleta*. Common resident and nomadic migrant patchily distributed from Caspian basin to Karakumdar'ya, Tejen, Murgab and Amudar'ya valleys, eastern Karakum, Kopetdag, Badkhyz, Karabil' and Koytendag.
- Trumpeter Finch** *Bucanetes githagineus*. Uncommon and patchily distributed breeding summer visitor and nomadic migrant occurring Caspian basin, western Uzboy, Bolshoy and Maliy Balkhans, Kopetdag (Kurendag range), central Karakum (Unguz) and parts of Badkhyz.
- Long-tailed Rosefinch** *Uragus sibiricus*. Vagrant, with two records Soimonov bay, eastern Caspian, January–February 2011 and November 2012 (Scherbina 2013).
- Common Rosefinch** *Carpodacus erythrinus*. Uncommon passage migrant to plains and probable breeding summer visitor in mountains. Spring migration April–May, autumn August–September.
- Red-mantled Rosefinch** *Carpodacus rhodochlamys*. Uncommon local breeding summer visitor Koytendag but may be resident.
- Red Crossbill** *Loxia curvirostra*. Irruptive migrant in years when conifer cone crops fail, sometimes occurring in flocks. Can occur anywhere but particularly Bolshoy Balkhan, Kopetdag and its foothills and Amudar'ya valley.
- Eurasian Bullfinch** *Pyrrhula pyrrhula*. Vagrant, with one record central Kopetdag September 1909 (Rustamov 1958).
- Hawfinch** *Coccothraustes coccothraustes*. Scarce nomadic migrant, possibly breeding. Most often recorded Bolshoy Balkhan, Kopetdag and its foothills and Koytendag.
- White-winged Grosbeak** *Mycerobas carripes*. Common resident juniper forests Bolshoy Balkhan, Kopetdag and Koytendag.
- Corn Bunting** *Miliaria calandra*. Common resident Bolshoy Balkhan, Kopetdag and its foothills, Tejen, Murgab and Amudar'ya valleys, Badkhyz and probably Koytendag.
- Yellowhammer** *Emberiza citrinella*. Scarce passage migrant and irregular winter visitor, occurring mountains, foothills and oases. Spring migration March, autumn October–November.
- Pine Bunting** *Emberiza leucocephala*. Uncommon passage migrant and winter visitor occurring mainly river valleys and foothills.
- Chestnut-breasted Bunting** *Emberiza stewarti*. Scarce resident Koytendag breeding in juniper forests.
- Rock Bunting** *Emberiza cia*. Common though patchily distributed resident Bolshoy and Maliy Balkhans, Kopetdag, western Badkhyz, Karabil' and Koytendag. Undertakes altitudinal migrations.
- Grey-necked Bunting** *Emberiza buchanani*. Uncommon and patchily distributed passage migrant and breeding summer visitor to Bolshoy and Maliy Balkhans, Kopetdag, western Badkhyz and Koytendag. Spring migration April–May, autumn August–September.
- Cinereous Bunting** *Emberiza cineracea*. Vagrant. The only record is flock of 12–15 southwestern Kopetdag March 1989 (Leonovich 1996).
- Ortolan Bunting** *Emberiza hortulana*. Uncommon breeding summer visitor Kopetdag and widespread passage migrant. Spring migration April–mid May, autumn August–mid September.
- Rustic Bunting** *Emberiza rustica*. Vagrant, with two records—eastern Karakum 1 January 1893 (Zarudny 1896) and eastern Uzboy 21 October 1935 (Rustamov 1958).

**Yellow-breasted Bunting** *Emberiza aureola*. Vagrant, with three records 2006–2008, all Soimonov bay, Caspian shore (Scherbina 2013). Included in IUCN Red List (EN).

**Black-headed Bunting** *Emberiza melanocephala*. Uncommon and localised breeding summer visitor Etrek valley (Belousov 1990) east to central Kopetdag (Mischenko 1986). First recorded June 1976 (Karavaev & Belousov 1977).

**Red-headed Bunting** *Emberiza bruniceps*. Widely distributed passage migrant and breeding summer visitor to mountains and river valleys, oases and foothills. Common only Badkhyz and Karabil'. Spring migration April–May, autumn August–September.

**Reed Bunting** *Emberiza schoeniclus*. Uncommon passage migrant and winter visitor, with some birds resident. Occurs mountain and river valleys and oases, occasionally in deserts. Spring migration March–mid April, autumn October–November.

**Great-billed Reed Bunting** *Emberiza pyrrhuloides*. Uncommon resident and nomadic migrant to Amudar'ya, Karakumdar'ya, Murgab, Tejen and Etrek valleys and rivers of Uzboy and Kopetdag.

**Lapland Longspur** *Calcarius lapponicus*. Vagrant, with one record Soimonov bay, Caspian shore, October 2008 (Scherbina 2013).

**Snow Bunting** *Plectrophenax nivalis*. Vagrant, with one record eastern Caspian shore January 1972 (Scherbina 2013).

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## REFERENCES

- Antipov SM, VYu Chernov & VP Shubenkin. 1994. [New bird species findings north Turkmenistan]. *Sovremennaya ornitologiya*. 1992. Izdatel'stvo "Nauka", Moscow: 221. [In Russian]
- Belousov EM. 1990. [Materials of new nesting bird species of Etrek lower-reaches (southeastern Caspian zone)]. *Ornithology* 24: 103–107. [In Russian]
- BirdLife International. 2012. *The BirdLife checklist of the birds of the world, with conservation status and taxonomic sources*. Version 5. www.birdlife.info/im/species/checklist.zip.
- Bukreev SA. 1997. [Ornithological geography and reserve management and studies of Turkmenistan]. Izdatel'stvo Biodiversity Conservation Center, Moscow. 156pp. [In Russian]
- Dement'ev GP. 1952. [*Birds of Turkmenistan*. Vol 1]. Izdatel'stvo Akademii nauk, Ashkhabad. 546pp. [In Russian]
- Dement'ev GP & AK Rustamov. 1957. [About distribution of Laggar Falcon (*Falco jugger* Gray) in Central Asia]. *Journal of Zoology* 36(5): 792–794. [In Russian]
- Efimenko NN. 1989. [Rare and unknown bird species of Kopetdag state zapovednik. *Ekologicheskie aspekty izucheniya, prakticheskogo ispol'zovaniya i ohrany ptic v gornyh ekosistemah*.] Izdatel'stvo Ilim, Frunze: 34–36. [In Russian]
- Efimenko NN. 2006. [Nesting ecology of Asian Paradise Flycatcher in Turkmenistan]. *Strepet*, Rostov na Donu 4(1): 68–78. [In Russian]
- Geptner VG. 1956. [*Fauna of Badkhyz vertebrates (south Turkmenistan)*]. Izdatel'stvo Akademii nauk, Ashkhabad. 334pp. [In Russian]
- Isakov YuA. 1940. [Wintering ecology of waterbirds at south part of Caspian sea]. *Trudy Vsesoyuznogo ornitologicheskogo zapovednika Gassan-Kuli*. 1. Moscow: 160–238. [In Russian]
- Isakov YuA & KA Vorob'ev. 1940. [Survey of bird wintering stages and flyways at south part of Caspian sea]. *Trudy Vsesoyuznogo ornitologicheskogo zapovednika Gassan-Kuli*. 1. Moscow: 5–159. [In Russian]
- Karavaev AA. 1979. [Nesting of Long-tailed Shrike in Krasnovodsk town]. *Prirodnaya sreda i pticy poberezhii Kaspiiskogo morya i prilozhashih nizmennostei / Trudy gosudarstvennogo zapovednika Kyzyl-Agach*. 1. Izdatel'stvo Azneshir, Baku: 247. [In Russian]
- Karavaev AA. 1991a. [Population and distribution of waterbirds in southeastern Caspian sea (Grebes, Pelecaniformes, Ciconiiformes, Anseriformes)]. *Prirodnaya sreda i zhivotny mir Yugo-Vostochnogo Prikaspiya / Trudy gosudarstvennogo zapovednika Krasnovodskii*. 2. Izdatel'stvo VNIPEILesprom, Moscow: 37–143. [In Russian]
- Karavaev AA. 1991b. [New findings of birds in western Turkmenistan]. *Materialy 10-i Vsesoyuznoy ornitologicheskoy konferencii*. 2(1). Izdatel'stvo Navuka i Teakhnika, Minsk: 261–262. [In Russian]

- Karavaev AA & EM Belousov. 1977. [New data about birds of Turkmen Caspian sea shore]. *VII Vsesoyuznaya ornitologicheskaya konferenciya. Chast' 1*. Izdatel'stvo Naukova Dumka, Kiev: 65–66. [In Russian]
- Karavaev AA & EM Belousov. 1982. [New data of vagrant visitations of some waders in southeastern part of Caspian sea]. *Ornithology* (Izdatel'stvo Moskovskogo universiteta, Moscow) 17: 167–168. [In Russian]
- Khodjamuradov HI & EA Rustamov. 2010. [From data of ornithological monitoring in IBAs of western Kopetdag]. *Issledovaniya po klyuchevym ornitologicheskim territoriyam v Srednei Azii i Kazahstane* (Tashkent) 3: 93–101. [In Russian]
- Khokhlov AN. 1995. [*Ornithological study in western Turkmenistan*]. Stavropol'. 68pp. [In Russian]
- Leonovich VV. 1996. [Vagrant visit of *Emberiza cineracea semenowi* Zarudny to Turkmenistan]. *Ornithology* (Izdatel'stvo Moskovskogo universiteta, Moscow) 27: 276–277. [In Russian]
- Marochkina VV & EA Rustamov. 2008. [Vagrant Swan Goose at Amudar'ya]. *Kazarka* 11(2): 184–185. [In Russian]
- Mischenko YuV. 1986. [Species composition and vertical-habitat distribution of birds of central Kopetdag]. *Priroda Central'nogo Kopetdaga*. Izdatel'stvo Ylym, Ashkhabad: 120–162. [In Russian]
- Mischenko YuV & NN Scherbak. 1980. [About new findings of rare and unknown birds of Turkmenistan]. *Vestnik zoologii* 1: 13–17. [In Russian].
- Red Data Book of Turkmenistan. 2011. Volume 2. Izdatel'stvo Akademii nauk Ylym, Ashkhabad. 383pp. [In Turkmen, English & Russian]
- Rustamov AK. 1954. [*Birds of Karakum desert*]. Izdatel'stvo Akademii nauk, Ashkhabad. 344pp. [In Russian]
- Rustamov AK. 1958. [*Birds of Turkmenistan*. Vol 2]. Izdatel'stvo Akademii nauk, Ashkhabad. 252pp. [In Russian]
- Rustamov AK. 1985. [Birds. *The Red Data Book of Turkmen SSR*]. Izdatel'stvo Turkmenistan, Ashkhabad: 106–208. [In Turkmen & Russian]
- Rustamov AK. 1994. Ecology of birds in the Karakum Desert. *Biogeography and Ecology of Turkmenistan*. Kluwer, Dordrecht, Netherlands: 247–264.
- Rustamov AK. 2011. [*The animal world of Turkmenistan and their protection*]. Izdatel'stvo Ylym, Ashkhabad. 246pp. [In Turkmen & Russian]
- Rustamov AK, MK Karaev, OS Sopyev & LR Freiberg. 1965. [Brahminy Starling—new species of bird fauna of USSR]. *Journal of Zoology* 44(6): 940–941. [In Russian]
- Rustamov AK & AF Kovshar' (eds). 2007. [*The Birds of Middle Asia*. 1.]. Almaty: 574. [In Russian]
- Rustamov EA (ed). 2013. [*Birds of Turkmenistan: Illustrated Field Guide*]. Izdatel'stvo Ylym, Ashkhabad. 688pp. [In Turkmen & Russian]
- Rustamov EA, GR Welch & M Bombacher. 2010. *Important Bird Areas in Turkmenistan*. Ministry of Nature Protection, Ashkhabad. 195pp.
- Rustamov E & D Saparmuradov. 2010. Turkmenistan. *Atlas of the Siberian Crane Sites in Western Central Asia*. International Crane Foundation, Wisconsin: 83–89.
- Scherbina AA. 2013. [From the material of rare and little studied birds of Turkmen Caspian zone]. *Izuchenie bioraznobraiia Turkmenistana*. Nauchnyi sbornik, Moscow. In press. [In Russian]
- Shestoperov EL. 1937. [*Guide for vertebrates of Turkmenskaya SSR (fishes, amphibians, reptiles, birds, mammals)*. 4. *Birds*]. Ashkhabad/Baku. 331pp. [in Russian].
- Shukurov GSh. 1962. [*Fauna of vertebrates of Bolshoy Balkhan mountains (southwestern Turkmenistan)*]. Izdatel'stvo Akademii nauk, Ashkhabad. 157pp. [In Russian]
- Sopyev OS, AV Solokha, TP Bozhko & IA Kaidun. 1988. [Species composition, distribution and nesting of birds of central Kopetdag]. Izdatel'stvo Ylym, Ashkhabad: 39–64. [In Russian]
- Stepanyan LS. 2003. [*Summary of avifauna of Russia and adjacent territories (in borders of SSSR as historical region)*]. Izdatel'stvo Akademkniga, Moscow. 808pp. [In Russian]
- Sukhinin AN. 1956. [Materials of distribution of some species in Turkmenistan]. *Journal of Zoology* 35 (5): 779–780. [In Russian]
- Sukhinin AN. 1971. [*Ecology of owls and birds of prey of Badkhyz (southeastern Turkmenistan)*]. Izdatel'stvo Ylym, Ashkhabad. 100pp. [In Russian]
- Vasil'ev VI, EA Rustamov & ME Gauzer. 2009. [*Monitoring of waterbird populations at the Turkmen shores of Caspian sea in autumn-winter (1971–2005)*]. Moscow. 64pp. [In Russian]
- Zarudny NA. 1896. [*Avifauna of Transcaspian Region (North Persia, Transcaspian, Khivin oasis and Low Bukhara)*. *Materialy k poznaniyu fauny i flory Rossiiskoi imperii*. Otdel zoologicheskii. 2]. Moscow. 555pp. [In Russian]
- Zarudny NA. 1910. [Notes of ornithology of Turkestan]. *Ornitologicheskyy vestnik* 2: 99–117. [In Russian]
- Zarudny NA. 1914. [Notes of cuckoos of Turkestan]. *Ornitologicheskyy vestnik* 2: 105–115. [In Russian]

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