

## Review of Rare Birds in Iran, 1860s–1960s

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**Abstract:** Based on original literature reports covering the period 1860–1969, details of 362 records of 102 bird species considered rare in Iran are presented. This fills a gap in knowledge of Iran’s birds from a period between research by Gmelin and Hablizl in the 1770s (reviewed by Mlikovsky 2008) and an overview of the observations of rare birds in Iran in the 1960s and 1970s (presented by Scott 2008). Attention is drawn to two new species for Iran (Eastern Marsh Harrier *Circus spilonotus* and Blue Whistling Thrush *Myophonus caeruleus*). Published details validate the records of Light-bellied Brent Goose *Branta hrota*, Upland Buzzard *Buteo hemilasius*, Great Knot *Calidris tenuirostris*, and Oriental Cuckoo *Cuculus saturatus*, formerly considered as of dubious occurrence in Iran. Information on six species (Yellow-breasted Tit *Cyanistes cyanus flavipectus*, Falcated Duck *Anas falcata*, Indian Nightjar *Caprimulgus asiaticus*, Gldenstdt’s Redstart *Phoenicurus erythrogaster*, Cirl Bunting *Emberiza cirlus* and Eurasian Nutcracker *Nucifraga caryocatactes*) was considered insufficient or unreliable and the occurrence of these species in Iran has been rejected. We recommend that these species be omitted from the last revised checklist of the birds of Iran (Scott & Adhami 2006). Accordingly, the updated checklist of the birds of Iran reaches 522 species (including five recently added species, namely Sooty Shearwater *Puffinus gravis*, Barnacle Goose *Branta leucopsis*, Red-necked Stint *Calidris ruficollis*, Namaqua Dove *Oena capensis* and Red-vented Bulbul *Pycnonotus cafer*).

**Keywords:** Distribution, Iran, rare birds, rarities, status, 1860s–1960s.

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### INTRODUCTION

An overview of the main publications on birds of Iran (Roselaar & Aliabadian 2007) emphasised breeding birds as published in c. 100 travel reports that appeared between 1869 and 1970. In the meantime, we expanded our set of literature to over 300 articles, this time also covering migrants and wintering birds. From these papers a fair overview of old bird records can be obtained.

From published recent reports (e.g. Tohidifar & Zarei 2007, Scott 2008, Tohidifar 2008) it appears that few details of rarities among these old observations are known within Iran. This is not surprising, because many of these older publications were written in Russian, German, French or even Swedish and Hungarian and were published in journals hard to obtain, or not easy to access for most ornithologists working at present on Iranian birds. In the updated checklist of the birds of

Iran, Scott & Adhami (2006) initially categorised the Iranian birds by 16 symbols for status of each species. However the categories ‘scarce’ and ‘rare’ in this checklist were not clearly defined. The explanation was given later in Scott (2008), a valuable list detailing 510 records for 96 rare species (including four subspecies) observed between 1967 and 1978, in which ‘rare’ meant up to 12 records for the 12-year period (thus, on average one record per year or less) except for seven species with more than 12 records and excluding three species with less than 12 records (Scott 2008). The observations of Gmelin and Hablizl in the 1770s are aptly summarized in Mlikovsky (2008): of the 96 species listed as seen in the 1770s, the following fall in the present-day category of ‘rare’: Diver *Gavia* sp. in Mar. 1773, Siberian Crane *Grus leucogeranus* in Dec. 1773, Black Woodpecker *Dryocopus martius* in Jan. 1774, and Black Lark

*Melanocorypha yeltoniensis* in Jan, 1774, all in the Bandar Anzali area.

In this review, we focus on rarities observed in the period between the years covered by Mlikovsky (2008) and Scott (2008). In this long period, ornithological research in Iran was carried out between 1862 (De Filippi in Schalow 1876) and 1966 (Genenger & Gennenger 1968), with more important contributions by Blanford, Radde, Zarudny, Witherby, Cumming, Paludan, Schüz, and Koelz (see the records in the Systematic List). Of these, the ornithological value of the publications of Nikolai Zarudny, a very keen observer publishing largely in Russian, need some explanation.

N. Zarudny travelled widely in Iran between the 1880s and 1904. His reports generally fall apart in three types: (1) itineraries, without details on birds but useful to check places visited. The distance covered daily is often presented (in versts: 1.067 km, or Farsang: 5.6 km (Zarudny 1900), which is important to trace some of his collecting localities when the direction of travelling is known. (2) Reports made for the Russian Geographical Society; these are made in the form of a diary, written after every 2–3 evenings in the village in which his party spend the night. These are interesting reading, because they include notes on landscape and habitats encountered these days, notes on interesting architecture observed, means of living of the inhabitants, villages visited underway but also other ones in the surroundings, often with the number of houses present, and political relationships between the local chiefs and mullahs and those of other habitations. The last-named accounts are clearly not his own, but obtained by questioning his hosts. These reports often contain lists of the more noteworthy birds observed that day, though the identification of birds seen or shot is sometimes provisional (see *e.g.* '*Numenius tahitiensis*'). (3) A true scientific report, made after returning home, in which all birds are properly identified after comparison with literature and museum specimens and providing many details on localities, numbers, status, habits, nesting, *etc.* Note that the list of collected specimens given at the start of each of his species accounts are the birds presented to the St Petersburg collection; Zarudny also had a 'shadow collection' of birds kept for private use

or exchange (see *e.g.* Pleske's Ground Jay *Podoces pleskei* in Zarudny 1900: four birds to St Petersburg, three to private collection). The last trip for which all three types of reports were published is that of 1898: the diary and the scientific report are in Zarudny (1901, 1903). Of his journey to Sistan-Baluchestan from October 1900 to August 1901, only the itinerary (Zarudny 1902) and diary (Zarudny 1916) have been published, and of the journey from Gorgan to Khorram-Shahr and back to Bandar Anzali between September 1903 and May 1904, the itinerary appeared (Zarudny 1905a), but of the rest, the only publications comprise a long list of short articles (between 1904 and 1912) on new species and subspecies found along that route. In the 1902–03 journey, much effort was spent on the requirements of private collections; many birds of this trip were sold to natural history museums world-wide, by Zarudny directly or by his travelling-companion, M. Härms, *e.g.* 902 birds were obtained by Lord W. Rothschild for his private collection in Tring, UK (which was later sold to the AMNH in New York; Rothschild also had obtained 414 birds from the journey of 1898, 180 from that of 1896, and 31 from that to NE Khorasan in 1892, all now in the AMNH). Though small numbers of birds from the journey of 1903–04 can be found in the NMW Vienna, ZFMK Bonn and elsewhere, most birds appeared to have been kept in Zarudny's private collection and are now in NUUT Tashkent, as are his skins from later expeditions to Turkmenistan, Uzbekistan, and other west-central Asian countries (Votteler 1991, R Kashkarov in litt). Zarudny produced a list of the birds of Iran (Zarudny 1911), in which he announced that a large manuscript with many details on Iranian ornithology was ready for print, but this never appeared.

## MATERIALS AND METHODS

Our attempt was to fill the gap of rare birds seen in Iran between the visit by De Filippi in 1862 and that of Derek A. Scott who arrived in October 1970. The only ornithological research undertaken before 1862 is that of S.G. Gmelin and C. Hablitzl in the 1770s, summarized in Mlikovsky (2008). Part of the ornithological observations made in the 1960s are published in

Scott (2008), and these are not repeated here. The systematic list summarises 362 records of 103 species of birds observed or collected in Iran up to 1966.

A record in this article refers to one or more specimens seen on a single locality and on a single day or on a few subsequent days. Many observations like ‘common at Sheedvar Island 12–14 August’ cannot be split into separate records because details for each separate day are not available. On the other hand, some records are reduced to a single record in this paper, for instance when a series of 20 birds was collected on a single day at a single site. When an observer rather than a collector had been active that day at that place, the birds would also have been entered as a single record. In each species heading two numbers are given within brackets. The first is the number of records from 1770 to 1966 (some records cited in Scott 2008 from the 1960s are included), and the second number is the number of records made between 1967 and 1978 (usually the same number as in Scott 2008). In the case of Goliath Heron and Sacred Ibis, the correct figures for these species are 28 and 19, respectively (D.A. Scott, in litt.) and for Black-winged Pratincole we gave 5 records for that period (see Systematic List).

Data from Russian authors or in Russian service, using the Julian calendar (*e.g.* Radde, Nikolskiy, Zarudny, Buturlin) are adapted to the present-day calendar by adding 11 days to observation dates up to February 1800, by adding 12 days up to dates in February 1900, and adding 13 days thereafter, generally until 1918 when the western calendar was introduced in Russia.

The position of all Iranian localities was checked by means of Google Earth®, a splendid way to find lakes, mountains, rivers, or forests with suitable habitat for a species. However, though names of towns and some villages can be found on Google Earth®, no names of rivers and other natural features are provided, and also none of the villages which no longer exist are shown, and for these the original travel reports, old maps, or other websites are more suitable (see Roselaar & Aliabadian 2007). Localities are listed in Appendix I.

All records of rare birds made before 1970 are listed as far as not given in Scott (2008), but

none from the period from the 1980s onwards, though we also assembled literature from this period. When necessary, we add some notes on taxonomy. However, though we examined quite a number of Iranian specimens in natural history collections (Tring, Bonn, Berlin, Vienna, Manchester, Leiden, Amsterdam – for abbreviations used in the text see Acknowledgements), no extensive review on taxonomy of Iranian birds has yet been undertaken.

Our systematic list was mainly based on list of rarities presented by Scott (2008) including the appendices. Scott (2008) covered 96 rare species in his Systematic List. We did not apply a definition for ‘rare’ in our paper, but relied mostly on Scott (2008) for rarities. However, some species with very few records were added (32 species) while others were excluded (25). As a very rough criterion, species listed here usually have less than 20 records. Eleven species out of total 103 had no confirmed record in the period discussed here: African Darter *Anhinga rufa*, Sacred Ibis *Threskiornis aethiopicus*, Long-tailed Duck *Clangula hyemalis*, Lanner Falcon *Falco biarmicus*, Small Buttonquail *Turnix sylvatica*, Red Phalarope *Phalaropus fulicarius*, Long-tailed Skua *Stercorarius longicaudus*, Sooty Tern *Onychoprion fuscata*, Eastern Bonelli’s Warbler *Phylloscopus orientalis*, Cretschmar’s Bunting *Emberiza caesia*. In addition, the record of Laggar Falcon *Falco jugger* we found suspicious.

We add details of older records for 71 of the 96 species covered by Scott (2008), but not for the following 19, because there were no records in Iran prior to the period covered by Scott’s paper: Cory’s Shearwater *Calonectris diomedea*, Wedge-tailed Shearwater *Puffinus pacificus*, Cotton Pygmy Goose *Nettapus coromandelianus*, Caucasian Black Grouse *Tetrao mlokosiewiczi*, Greater Painted Snipe *Rostratula benghalensis*, Small Pratincole *Glareola lactea*, Great Skua complex *Catharacta [skua]*, White-eyed Gull *Larus leucophthalmus*, Black-legged Kittiwake *Rissa tridactyla*, Red Turtle Dove *Streptopelia tranquebarica*, Asian Koel *Eudynamis scolopacea*, Red-throated Thrush *Turdus ruficollis* [at present separated from Black-throated *T. atrogularis*], Mountain Chiffchaff *Phylloscopus sindianus lorenzii* [nominate

*sindianus* is on the hypothetical list], Wood Warbler *Phylloscopus sibilatrix*, Yellow-browed Warbler *Phylloscopus inornatus* [a few old records have not with certainty been separated from Hume's Warbler *Ph. humei* and are rejected], Oriental White-eye *Zosterops palpebrosus*, Common Crossbill *Loxia curvirostra*, Red Avadavat *Amandava amandava*, and House Crow *Corvus splendens*.

Also the following six species from the Systematic List of Scott (2008) are not included because they need a more thorough review due to taxonomic and identification problems: Marsh Warbler *Acrocephalus palustris*, European Pied Flycatcher *Ficedula hypoleuca*, White-crowned Penduline Tit *Remiz coronatus*, Caspian Tit *Poecile (lugubris) hyrcanus*, Eurasian Bullfinch *Pyrrhula pyrrhula*, and Dead Sea Sparrow *Passer moabiticus*. On the other hand, 23 of the 29 species in Appendix I of Scott (2008) [‘recorded prior to 1960 but not during the 1960s or 1970s’] have been moved to our main Systematic List because the original data have been checked in the literature and the identifications are considered to be well-documented and trustworthy. Of the remaining six species of Scott's Appendix I, one (Scaly-bellied Woodpecker *Picus squamatus*) is in need of further research, one (Yellow-breasted Tit *Cyanistes cyanus flavipectus*) is documented by a specimen but is considered unreliable and is moved to our hypothetical list, and for four (Falcated Duck *Anas falcata*, Gldenstdt's Redstart *Phoenicurus erythrogaster*, Cirl Bunting *Emberiza cirlus*, and Eurasian Nutcracker *Nucifraga caryocatactes*) no well-documented records have been published and these, all based solely on the list of Zarudny (1911), are rejected.

Scott (2008) also has an Appendix II covering Doubtful Records of 17 species. The original literature giving details of these records has been checked, and we consider records of four species to be valid and these thus feature in our Systematic List: Light-bellied Brent Goose *Branta hrota* (listed under *Branta bernicla* in Scott 2008), Upland Buzzard *Buteo hemilasius*, Great Knot *Calidris tenuirostris*, and Oriental Cuckoo *Cuculus saturatus*. Records of the other 13 species indeed would better be forgotten, though Bald Ibis *Geronticus eremita* and Hume's Tawny Owl *Strix butleri* still feature in

our Hypothetical List, together with 11 other species.

We have added Lichtenstein's Sandgrouse *Pterocles lichtensteinii* to our Systematic List because very few records of this probably locally common species were available, although it was not included by Scott (2008). We also add Red-necked Stint *Calidris ruficollis* of which the occurrence was noted by Kirwan (2007) but of which we have additional notes, and we list two species as new for Iran for which the occurrence in Iran seems to have been overlooked previously: Eastern Marsh Harrier *Circus spilonotus* and Blue Whistling Thrush *Myophonus caeruleus*.

Bird species listed solely in the tables of Zarudny (1911) and not in prime literature are not considered as valid records, unless supported by specimens or observations in his travel reports or in other papers. The strange fact is that for various regions of his list from 1911 species are listed which do not feature in his original reports for these areas. Though Zarudny had correspondents in Iran who had send him rare birds (see e.g. Snowy Owl *Bubo scandiaca*), and perhaps some rarities listed in Zarudny (1911) were received after his last visit to Iran in 1904, one also gets the impression that some birds were listed only on the basis of hearsay evidence by correspondents or hosts who were not as experienced ornithologists as Zarudny. Further, Zarudny presumed that when a bird occurred close to Iran it would occur also within Iran. Thus, species listed as occurring in Lankaran (Azerbaijan Republic) by Radde (1881, 1884) were added to his list for the Caspian plains of Iran (e.g. Snow Goose *Anser caerulescens*), and species recorded along the coast of Pakistan Balochistan by Cumming were supposed to occur in Iranian Baluchestan (e.g. Common Noddy *Anous stolidus*).

Appendix II lists 15 species reported (but not proven) as occurring, or likely to have occurred because they have been recorded close to Iran's borders: Flesh-footed Shearwater *Puffinus carneipes*, Bald Ibis *Geronticus eremita*, Snow Goose *Anser caerulescens* (noted as vagrant in the eastern Azerbaijan Republic according to Radde 1881, but no proof for Iran), Falcated Duck *Anas falcata*, Lesser Florican *Sypheotides indicus*, Common Noddy *Anous stolidus*, Arctic Tern *Sterna paradisaea*, Hume's Owl *Strix butleri*, Indian

Nightjar *Caprimulgus asiaticus* (this species was also not listed in Scott 2008), Plumbeous Water Redstart *Rhyacornis fuliginosa*, Mountain Chiffchaff *Phylloscopus sindianus*, Yellow-breasted Tit *Parus (cyanus) flavipectus*, Cirl Bunting *Emberiza cirlus*, Black-breasted Weaver *Ploceus benghalensis* and Indian Golden Oriole *Oriolus kundoo*.

Other doubtful species listed in Zarudny (1911) but not shown in his travel reports are: Red-headed Vulture *Sarcogyps calvus* and Slender-billed Vulture *Gyps tenuirostris* (both in southern Baluchestan, ‘occurrence proven but status unclear’: seen as a trophy at the home of a local hunter during his stay here from 1 Jan. to 20 May (1901?), Painted Sandgrouse *Pterocles indicus* (‘vagrant south Baluchestan’), Grey-headed Woodpecker *Picus canus* (‘rare resident southern Caspian’), Olive-tree Warbler *Hippolais olivetorum* (‘rare migrant in Azarbaijan, rare breeder southern Caspian’), Brown Accentor *Prunella fulvescens* (‘vagrant northern Khorasan’), and Gldenstdt’s Redstart *Phoenicurus erythrogaster* (‘possible sedentary breeder in southern Caspian’). None is acceptable unless specimens or other evidence comes to light, *e.g.* in the Zoological Institute of the Russian Academy of Sciences in St Petersburg, which has a collection of birds from Iran which was not examined because the treasures of these are hidden among the over 100,000 other birds from central and northern Eurasia.

Dubious birds listed by other authors are: European Shag *Phalacrocorax aristotelis* (based on misidentified Socotra Cormorant *P. nigrogularis*) (Scott 2008), Long-toed Stint *Calidris subminuta* (possibly observed SE Baluchestan in 1972 but record withdrawn – Scott 2008), Collared Scops Owl *Otus bakkamoena* (old specimen of subspecies *deserticolor* from Bushehr in Karachi Museum; rard & Etchcopar 1970), White-backed Woodpecker *Dendrocopos leucotos*, Arctic Warbler *Phylloscopus borealis* (‘fairly common in coastal plain between Rasht and Chalus in January–February 1957’ according to Passburg 1959, but occurrence unlikely and record withdrawn – Scott 2008), Spectacled Warbler *Sylvia conspicillata*, Marsh Tit *Parus palustris*, Corsican Nuthatch *Sitta canadensis* (Scott 2008) and Pander’s Ground-Jay *Podoces*

*panderi* (Roselaar & Aliabadian 2007) (see Scott 2008 for details of rejection).

## SYSTEMATIC LIST

### Red-throated Diver *Gavia stellata* (1, 3)

Hablizl had noted unidentified divers *Gavia* at Bandar Anzali in March 1774 (Mlikovsky 2008). Zarudny (1911) on 17 Sep 1903 found in shops of bird dealers in Bandar-e Gaz a few skins of Red-throated Divers, obtained at the mouth of the Gorgan River nearby, probably in the previous winter. However, this species could occur also in the Persian Gulf, as one was collected by W.D. Cumming at Ormara in Pakistan Balochistan on 17 Nov. 1901 (Ticehurst 1926–27).

### Black-throated Diver *Gavia arctica* (1, 12)

Among the Red-throated Divers cited for 1903 above some skins of Black-throated Divers were noted, also from the mouth of the Gorgan River.

### Persian Shearwater *Puffinus persicus* (6, 17)

This species was scientifically described for the first time by Hume (1873), who based his description on an adult female in moult collected by A.E Butler at sea between Gwadar (SW Pakistan) and Masqat (NE Oman). Though this is not with certainty within Persian waters, the fact that it was named ‘*persicus*’ may mean that it really came from the off-shore waters of Iran. Butler found the bird also commonly off Hengam Island on 17 May 1877, apparently close to shore because he landed on the island the same day (Ticehurst 1926–27); two birds were collected and are now in the Natural History Museum in Tring (UK) (Salvin 1896). Zarudny noted them off Chah-Bahar during his visit to this town on 26 Mar 1901 (Zarudny 1916). Ticehurst met many flocks of up to 300 birds on 22 Mar. 1918 at sea in the Hormoz Straits, west to Greater Tunb, but not further west, though he saw none on his return on 17 November (Ticehurst *et al.* 1925). LaPersonne observed birds at sea just off northern Greater Tunb (Hormozgan) on 14 Mar. 1914, and supposed they bred there; Cheesman observed many feeding flocks of 22–30 birds each between Bani-Farur and Abu-Musa islands (Hormozgan) on 18 Mar. 1914 (Ticehurst *et al.* 1925). Tuck (1974) had observations in the 1960s of frequent very large flocks in all seasons at unspecified localities at sea both in the Persian Gulf and the Gulf of Oman. A flock of shearwaters seen by Lppenthin (1951) off Chah-Bahar (Baluchestan) on 31 Mar. 1938 was not identified with certainty but were supposed to be this species.

### Wilson’s Storm Petrel *Oceanites oceanicus* (3, 7)

Frequently seen and some birds collected along the Makran coast during 13–29 May 1877 by A.E. Butler, especially between Chah-Bahar (Persian Baluchestan) and Pasni (Pakistan) (Ticehurst 1926–27). Zarudny found it near the harbour of Chah-Bahar on 25–27 Mar 1901 (Zarudny 1911, 1916), but left the town too early to see the wreck of this species on the Makran coast after heavy storms between 7 Jul. to 23 Sep. 1901, witnessed by Cumming at Ormara (Pakistan) (Ticehurst 1926–27). Tuck (1974) noted occasional observations in the Persian Gulf in the early 1960s, and reports on frequent large flocks in the Gulf of Oman between July and December in the same period.

**Red-billed Tropicbird** *Phaethon aethereus* (7, 15)

The six types of the local subspecies *indicus* were taken in February (year not specified, but likely 1875) off Ormara in Pakistan Balochistan (Ogilvie-Grant 1898), as were two birds collected by A.E. Butler off Gwadar on 14 May 1877 (70 km east of the Iranian border). Between 5 and 9 Apr. 1921 LaPersonne, Cox & Cheesman found many nesting birds in fissures on Lesser Tunb Island (Hormozgan); they collected just-hatched pulli, half-grown young and an adult. Most juveniles were about to fledge by 9 April (Ticehurst 1923). LaPersonne visited the island again on 24 Mar. 1923 and collected an egg, 4 adult males and 5 adult females (Ticehurst *et al.* 1925). Løppenthin (1951) recorded the species in the Strait of Hormoz between 55°E and 57°E from 28 Mar. to 7 Apr. 1938, but found no signs of breeding on a visit to Lesser Tunb on the latter date. The occurrence at sea in the 1960s is summarised by Tuck (1974): scarce in the Persian Gulf but frequently observed in the Strait of Hormoz and the Gulf of Oman.

**Masked Booby** *Sula dactylatra* (1, 1)

The first record of this species for Iran was of a bird which hit overhead wires within Chah-Bahar on 31 July (1916?); it was brought to W.D. Cumming who skinned it and send it to the Quetta Museum (Ticehurst 1926–27). It had previously been recorded nearby, when an adult male of the subspecies *melanops* was collected on 14 May 1877 off Gwadar (Pakistan, 70 km east of the Iranian border) by A.E. Butler, now in the NNM at Tring (UK) (Ogilvie-Grant 1898). Tuck (1974) recorded one in the 1960s off the Masandan Peninsula in Oman, which could have been near or just within Iranian waters.

**Socotra Cormorant** *Phalacrocorax nigrogularis* (9, 9)

LaPersonne & Cheesman noted birds at sea near Greater Tunb on 13 March and near Hengam Island on 15 Mar. 1921; they found half-grown young on

far-out Farsi Island (27°58'N, 50°11'E) on 23 Apr. 1921, and the same day they noted breeding birds and dead nestlings on the beach of Arabi Island (Saudi Arabia) nearby (27°46'N, 50°10'E) (Ticehurst *et al.* 1925). Also Løppenthin (1951) found 10–12 birds on Farsi on 25 Apr. 1938; though 250 active nests and 2000 birds were found on Arabi Island that day, no sign of breeding was found on Farsi. Several birds but not evidence of breeding was noted on Lark Island (28 Mar. 1938), Sheikh Shoeyb Island (10 Apr. 1938), Shitvar (Sheedvar) Island (9 Apr. 1938, 1 bird only), and at the coast of Bushehr (Jan. 1938) and Bandar Abbas (5 Apr. 1938) (Løppenthin 1951). Bred on Khark Island (Bushehr) in the 1960s (Tuck 1974), and seen off the North shore of Qeshm Island on 27 Apr. 1967 by Énard & Etchécopar (1970).

**African Darter** *Anhinga rufa* (0, 4)

A common breeder in the Rotha marsh NE of Qurnah (Iraq) in the past, within a few km from the Iran border ; here, many eggs have been collected in mid-May of about 1910 (Tomlinson 1916) and large numbers were found breeding on 23 Jul. 1921 (Ticehurst *et al.* 1926). Though these marshes are contiguous with the Hoor-al-Azim marshes near Hoveizeh in Iran, there were no definite records from Iran until Eftekhari & Cornwallis found 3 birds in the Dez River reserve on 15 Jan 1973 (Scott 2008). Note that the local subspecies *chantrei*, formerly breeding at Amik Gölü (Turkey) and Lake Huleh (Israel), is at present surviving only in the marshes of Iraq; it is sometimes not considered to be separable from nominate *rufa* from mainland Africa (*e.g.* Ticehurst *et al.* 1921–23). However, Vaurie (1965), who had the largest series of skins of both *chantrei* and *rufa* then known available for comparison found *chantrei* perfectly valid.

**Goliath Heron** *Ardea goliath* (1, 28)

Like *Anhinga rufa* and *Threskiornis aethiopicus* this species was historically known to breed only in the Rotha marsh NE of Qurnah, Iraq, in the 1920s (Ticehurst *et al.* 1921–23), a few km from the border with Khuzestan. Breeding in mangroves along the Iran south coast, as reported by Scott (2007, 2008), it had not been observed before the 1970s. However, Blanford (1876) observed a bird at Bampur on 15 Apr. 1872, and perhaps the bird bred in the Bampur basin and other basins with similar water regimes like the Sistan and Jazmurian basins in those years. Although Zarudny (1911) ‘confirms’ Blanford’s observation (‘rare for South Baluchestan’, an area in which he includes the Bampur basin), he does not list the bird in his own travel-report (1916) for the Bampur basin or the south coast of Baluchestan.

**Striated Heron** *Butorides striatus* (1, 9)

Løppenthin (1951) collected three birds on Shitvar (Sheedvar) Island (Hormozgan) on 9 Apr. 1938, now in ZMUK in Copenhagen; of these, a male had gonads enlarged as if about to breed, a female had gonads at rest.

**Woolly-necked Stork** *Ciconia episcopus* (1, 0)

Three birds observed by Zarudny between Mir-Bazar and Shahrestan (Baluchestan) on 19 Mar. 1901 (Zarudny 1911). A quite isolated record, as the bird occurs only from the Indus-basin eastward and is not known from Pakistan Balochistan (Ticehurst 1926–27).

**Sacred Ibis** *Threskiornis aethiopicus* (0, 19)

Twenty breeding pairs were found in the Rotha marsh NE of Qurnah on 13 Jul. 1921, an area only a few km from the Khuzestan border; the nests contained both eggs and fledged juveniles (Ticehurst *et al.* 1926). Other colonies were slightly more distant from Iran, like the one near Abd visited by LaPersonne on 19 Jul. 1922 (Ticehurst *et al.* 1926). May have bred also in the 19<sup>th</sup> century near Astara (Azerbaijan Republic), just north of the Gilan border; seen here in marshes near Archivan on 25 Jul. 1874 and at Ardupa a 23 Jul. 1875, 3–6 km from Iran; seen Lake Sevan (Armenia) in June 1904 and a last flock of seven birds appeared in the eastern Azerbaijan Republic on 3 Apr. 1944 (Radde 1884, Zugmayer 1908, Schüz 1959, Patrikeev 2004). Though at least some of these birds must have overflowed Persian territory, none has officially been reported for Iran until January 1971, when 6 birds were found in the Dez River reserve (Scott 2007).

**Lesser Flamingo** *Phoeniconaias minor* (1, 0)

One record for Iran and two from nearby areas, all within a relatively short period and all three noted by the Cumming brothers: a juvenile collected at Kuhak (along the lower Hirmand River in NE Sistan) in June 1904, sent to the Bombay Museum (Baker 1919), a juvenile collected on the Farah-Rud River close to its mouth into the Hamun-e Puzak in Afghanistan in December 1904, only a few km from the Sistan border and at present in the NHM collection in Tring (UK) (Cumming 1905), and a bird collected in Ormara (Pakistan) on 16 Sep. 1903, c. 300 km from the border with Iran (Ticehurst 1926–27). Apparently, a breeding colony existed not far away from SE Iran in those years.

**Bean Goose** *Anser fabalis* (2, 1)

Zarudny (1903) collected a bird of the subspecies *middendorffi* out of a group of six at Pol-e Band (Khorasan-e Razavi) on 3 Nov. 1898. This subspecies from central and east Asia is characterised by a long swan-like bill with heavy bulging lower mandible. Zarudny was surprised to

shoot a bird of this taxon because he considered the normal form in E Iran to be *segetum*, a name then used for birds with long and slender bills from the taiga of E Europe and W Siberia which are now known as nominate *fabalis* or *johanseni*. In contrast to D.A. Scott (as expressed in Scott (2008) and in litt.) we think Misonne's (1955) record of a flock of 150 Bean Geese migrating south at Shah-Godar (Hamedan) on 10 Dec. 1953 is valid. The correct identification as Bean Goose of the following observations are doubtful: Passburg (1959) noted 50 birds southward at Ahmad-Abad (Tehran) on 4 Dec 1956 and 10 north over Tehran on 27 Feb. 1957; Nielsen observed 100s foraging along the south shore of Gorgan Bay on 2 Feb. 1961 (Nielsen & Speyer 1967).

**Light-bellied Brent Goose** *Branta hrota* (1, 0)

Shestoperov (1927) observed some 'Black Casarca Geese' (the translated Russian name for birds of the *Branta bernicla* superspecies) between Chat-e Atrak and Gonbad-e Qabus (Golestan) on 13 Oct. 1916. H J Speyer noted a single *B. hrota* on the beach of Babol-Sar (Mazandaran) on 29 Oct. 1960 and observed others, 'apparently of this species', flying by at sea (Nielsen & Speyer 1967). The birds of Shestoperov and the flying birds of Speyer perhaps more likely referred to Red-breasted Geese *Branta ruficollis*, which are difficult to separate from Dark-bellied Brent Geese *B. bernicla* when not seen well. However, Speyer likely knew both Dark- and Light-bellied Brent Geese *B. bernicla* and *B. hrota* well from his home country Denmark because they are common in winter, and the bird of Babol-Sar appears to be genuine, also because feeding on beach-washed weeds on the shore is typical for *B. hrota*.

**Red-breasted Goose** *Branta ruficollis* (5, 10)

Løppenthin (1951) noted a few in a lagoon SE of Bushehr on 8 Mar. 1938. Occurred in great numbers near Bandar Anzali (Gilan) in severe winters, when flocks normally wintering in eastern Azerbaijan Republic move south; such winters were those of, *e.g.* 1926/27 and 1949/50 (M Dadashi in Schüz 1959). Also on the Sari – Tir–Tash (Behshahr) plain in eastern Mazandaran birds are common in some years, but not in others, *e.g.* none seen up to November 1951 (Misonne 1953). Savage (1963) observed 6 birds at Abbas-Ali Kesh (Mazandaran) on 24 Jan. 1957, but none during a mid-winter count of wildfowl in February 1959. In the same area, small numbers wintered in the Larim-Sara wetlands (Mazandaran) in the 1950s and early 1960s, but none since (BirdLife International 2008). For possible further observations, see also Pale-bellied Brent Goose above.

**Long-tailed Duck** *Clangula hyemalis* (0, 1)

Recorded as not uncommon in winter on the Caspian shores of Iran (Zarudny 1911). However, Zarudny's experience of the Caspian area within Iran was highly limited and restricted to a few days in the southeast corner in the 1880s (mostly in summer) and a single day (25 May 1904) in Bandar Anzali. In contrast, he knew the situation along the Caspian shores of eastern Azerbaijan Republic and of western Turkmenistan well, both from the literature and from own observations, and apparently assumed that the casual observations here would also apply to Iran.

**Velvet Scoter** *Melanitta fusca* (2, 0)

Known from a record from Tabriz (East Azarbaijan) in 1862 by De Filippi (Schalow 1876) and a doubtful report of 9 birds seen by H.J. Speyer on 7 Feb. 1964 off Miankaleh sandspit (Mazandaran) (Nielsen & Speyer 1967). Zarudny did not observe this species (he was only for a day in Bandar Anzali on 25 May 1904), but refers to De Filippi's observation in Zarudny (1911). Inland occurrence at Tabriz is not unlikely because the species breeds on mountain lakes in eastern Turkey and Armenia, not far from Iranian Azarbaijan.

**Common Scoter** *Melanitta nigra* (1, 1)

Collected by Zarudny in about January 1885 in Gorgan Bay between the mouths of the Gorgan and Gaz rivers; he could retain part of the bird only for his collection (Zarudny 1911). All other records prior to 1970 refer to this record or of wrong interpretations of it.

**Red Kite** *Milvus milvus* (22, 10)

As stated by Scott (2008), not all the older records are reliable because observers may not have been aware of the occurrence of the large form *Milvus (migrans) lineatus* in Iran, which show some resemblance to *Milvus milvus*. However, note that observers like Heinrich, Schüz and Paludan knew both *M. milvus* and *M. migrans* well because both are common in central Europe. As they also list *M. migrans*, it cannot be a simple question of misidentification. All records cited by Scott are from winter in Gilan and Mazandaran. Also a number of the records from before 1970 are from winter in these provinces: 26 Februari 1926 one bird Bandar Anzali (Gilan) (Heinrich 1928), 27 Mar. 1927 one Ramsar (Sakht-Sar) (Heinrich 1928), 20 Apr. 1927 one near Khorram-Abad (Mazandaran) (Heinrich in Stresemann 1928, collected, wing 470 mm, which fits *milvus* as well as *lineatus*); 6 Mar. 1956 one Rud-Sar, 7 Mar 1956 two birds above mountain-forest at Punel, 23 Apr. 1956 one circling above Rezvan-Shahr (all Gilan) (Schüz 1959). Observations in other provinces, at other times of

year, and statements about nesting seem less reliable, but are nevertheless all listed here: 16 Feb. 1917 one bird Gonbad-e Qabus and 14 Apr. 1917 one bird Gorgan (Golestan) (Shestoperov 1927), 16 Apr. 1919 nest in tall elder Bandar Anzali (Buxton 1921), 1 Jul. 1919 one bird south of Rasht (Cheesman in Buxton 1921), 14–28 May 1927 several seen Pish-Kuh base-camp, 10 Jun. 1927 common between Abbas-Abad and Sardab-Rud, 28 Jun. 1927 common above forest south-south-east of Babol-Sar (all Mazandaran) (Heinrich 1928), 14 Jul. 1935 at Pol-e Safid (Mazandaran) (Paludan 1940), 3 May 1956 one bird near Haviq at 38°N (Gilan) (Schüz 1959); also, several observations of Passburg (1959) in southeast Gilan and western Mazandaran in 1957–58 (including birds in May) and of Feeny *et al.* (1968) in eastern Mazandaran between 19 Aug. and 16 Sep. 1961.

**Eastern Marsh Harrier** *Circus spilonotus* (2, 0)

Collected twice by Zarudny: an adult male on 5 Oct. 1898 at Mirza Mohammad-Hosein (Sistan), for which he noted: “the one collected was the only one observed, apparently rare” (Zarudny 1903); another was obtained on 11 Nov. 1900 at Shahr-e Now (Khorasan-e Razavi) (Zarudny 1916). The text in Zarudny (1911) is more or less in accordance with this: ‘migratory vagrant southern Khorasan, Hari-Rud valley, and Sistan, rare in winter in Sistan’. *C. spilonotus* is sometimes considered as a subspecies of Western Marsh Harrier *C. aeruginosus* [Dementiev *et al.* (1951) stated that *spilonotus*-like individuals occur in *Circus aeruginosus aeruginosus* as colour variants, and discarded all records of “spilonotus” from “Soviet” Central Asia.], but hybridization in the zone of overlap is limited (Fefelov 2001) adopted by Dickinson *et al.* (2003).

**Pallas's Fish Eagle** *Haliaeetus leucoryphus* (7, 3)

Zarudny observed some birds in eastern Iran: 9 Jun. 1896, a few above the Sistan marshes; 11 Jun. 1896, a small number present at the large Sistan lakes, “probably breeding” (Zarudny 1900); 19–22 Apr. 1898, a few birds migrating northwards above the Hari-Rud near Pish-Robat (Khorasan-e Razavi); first two weeks of October 1898, a small number of both adults and juveniles at the Pir-Mohammad marshes (Sistan); 2 Feb. 1898, an adult pair migrating at high altitude to south at Mashhad (Khorasan-e Razavi) (Zarudny 1903). In Zarudny (1911) he gave its status as ‘present in winter but no proof of nesting’ for the Caspian plains, Sistan, and the Zagros area, and as a ‘rare migrant’ in southern Khorasan and along the Hari-Rud. J.W. Cumming noted a pair at a bluff high above Lake Hamun-e Sabari (Sistan) on 12 Jan. 1905, but was not quite certain about the identification (Cumming 1905). Koelz collected a



male on 12 Jul. 1941 at Do-Rud (Lorestan), now in FMNH (Chicago).

**White-rumped Vulture** *Gyps bengalensis* (2, 3)

First noted by Zarudny (1916) at Riku (Baluchestan) on 13 Mar. 1901: "After the passage of the two low peaks of the Kuh-e Do-Baradar I noticed a large group of vultures (*monachus*, *bengalensis*, perhaps also *fulvus*) wheeling above a dead camel along the road. I had *bengalensis* not yet in my collection and crept silently closer. After the shot all birds flew higher up and disappeared to the mountain tops." Others were seen by him between Kambel and Lekubal on 21 Mar. 1901 (Zarudny 1916), but the listing in Zarudny (1911) as 'common breeder southern Baluchestan' is not supported by the (short) texts in the Baluchestan diary of Zarudny (1916). Énard & Etchécopar (1970) observed the birds twice (a single and a pair) among *Neophron* between Chandgan and Qasr-e Qand (SE Baluchestan) on 13 May 1967.

**White-eyed Buzzard** *Butastur teesa* (10, 12)

Noted by Blanford (1876) northwest of Bampur (Baluchestan) on 12 Dec. 1872. Zarudny collected three birds in this area, one male on 20 Jul. 1898 along the Rud-e Bampur near Bampur, one male on 26 Jul. 1898 at Iran-Shahr (Zarudny 1901), and one female at Gowhar Posht on 24 Apr. 1901 (NUUT). He found the birds also between Kambel and Lekubal (Baluchestan) on 21 Mar 1901 (Zarudny 1916). W.D. Cumming collected a nest with three eggs at Jask (Hormozgan) on 15 April of about 1910 and considered it to be common at Chah-Bahar (Baluchestan) in 1912 and occurred west to Bandar Abbas (Ticehurst 1926–7). Two birds have been collected in SE Baluchestan: one at Qasr-e Qand on 29 Dec 1916, another at Kajdar on 25 Sep. 1917; these are in the collection of the Bombay Natural History Society (Énard & Etchécopar 1970).

**Upland Buzzard** *Buteo hemilasius* (1, 0)

Zarudny (1916) collected a specimen of a Himalayan Buzzard in the Tabas basin (South Khorasan) on 30 Nov. 1900 under the name *Buteo japonicus*, and correctly gave its status as 'new for Persia'; he was less certain on the identification of a few others seen on 1 Feb. 1901 at Shahrak-e Tahlab (Baluchestan) (Zarudny 1916), and these latter should be considered as unconfirmed. At present, *B. japonicus* is no longer in use as name for Himalayan Buzzards, as buzzards from the Himalaya and eastern Asia are rather different in morphology and DNA and are separated from each other as Himalayan Buzzard *B. burmanicus* and Japanese Buzzard *B. japonicus*; the nearest relative of Himalayan Buzzard is Upland Buzzard *B. hemilasius* from central Asia, both being close in

DNA and agreeing for instance in the occurrence of a black-brown morph (Riesing *et al.* 2003, Kruckenhauser *et al.* 2004). In Zarudny (1911), Himalayan Buzzard *B. 'japonicus'* is not listed, but instead *B. hemilasius* is present as 'rare winter vagrant to southern Khorasan'. Apparently, the preliminary identification as Himalayan Buzzard in his diary (written 1900, but published long afterwards in 1916) was at home corrected into the closely related Upland Buzzard *B. hemilasius*. According to Zarudny (1911) both the pale-headed ('*B. leucocephalus*') and the black-brown morph ('*B. strophiatius*') of *B. hemilasius* were recorded in Sistan, but these do not feature in his own reports (Zarudny 1901, 1903, 1916) and are unconfirmed.

**Rough-legged Buzzard** *Buteo lagopus* (1, 17)

Listed as rare winter visitor for northern Great Khorasan in Zarudny (1911), but no support for the observations in this area in Zarudny (1900, 1903). One seen at close range by Misonne (1953) near Ramsar (Mazandaran) in October 1952.

**Indian Tawny Eagle** *Aquila vindhiana* (2, 6)

A juvenile female collected by Zarudny on 23 Mar. 1901 near Lekubal on the Tiskupan road, SE Baluchestan (Zarudny 1916). Zarudny sold the bird to the private collection of Lord Rothschild, together with many others of his specimens. Ernst Hartert, the curator of the Rothschild collection, was quite puzzled about the identification of this bird, and was inclined to consider it as a new species (Hartert 1912–21, p. 1108), because the combination of pale colour and large size (wing 555 mm) was unknown to him for eagles, but he did not formally name it. The bird is now in New York (AMNH). Zarudny (1911) listed it as 'common breeder in southern Baluchestan' but this seems an overestimate when only one was collected and none was mentioned elsewhere in his report (Zarudny 1916). All further records of this species in Iran have been made since 1970, in Baluchestan and Semnan, though it may occur further west in Bushehr or Khuzestan too because it has been recorded in Iraq in the early 20<sup>th</sup> century, sometimes close to the Iran border (*e.g.* at Basrah) (Ticehurst *et al.* 1921–23).

**Red-footed Falcon** *Falco vespertinus* (5, 7)

An occasional migrant through Iran, mainly in April and September, but probably easily overlooked among the more common *F. subbuteo*. A flock of 112 birds was resting on an escarpment near Akunlu (Hamedan) on 10 Sep. 1953, and a further 57 birds were found resting on rocks at nearby Ab Meskhin the next day (Misonne 1955). A few doubtful records in Ahmad-Abad and Robat-Karim (Tehran) in September 1955 or 1956 (Passburg 1959). Nielsen noted two birds migrating northwest at Gulgah

(Gilan) on 21 Apr. 1967, followed by one more bird seen by Speyer on 30 April at the same place and year (Nielsen 1969). Outside the migration season is an observation at Qazvin on 18 June in the 1940s by Brotherston (Trott 1947).

**Red-necked Falcon** *Falco chicquera* (1, 0)

Zarudny collected an adult male in a palm-garden at Bazman (Baluchestan) on 11 Jul. 1898. He made the remark: ‘May breed in the surroundings’ (Zarudny 1903) and ‘rare breeder’ (Zarudny 1911). Though this assertion may be correct, as palm-gardens are the specialized habitat of this species and July is in the breeding season, proof of breeding is lacking.

**Sooty Falcon** *Falco concolor* (1, 0)

One male collected and another bird seen by W.D. Cumming at Chah-Bahar on 31 Aug. 1912. The collected bird was sent to the Quetta Museum; wing 278 mm, tail 133 mm, bill to cere 13.0 mm, tarsus 33.5 mm; identification was confirmed by Norman Kinnear of the NHM in London (Ticehurst 1926–27).

**Lanner Falcon** *Falco biarmicus* (0, 12)

Passburg (1959) noted occasional birds in Varamin area (Tehran) in November and April 1955 or 1956, but these records are considered unreliable by Éraud & Etchécopar (1970). A bird of the subspecies *tanypterus* was collected by W.D. Cumming very close to the Iran border at Fao (Al-Faw, Iraq) on 30 August (1886?) (Ticehurst *et al.* 1921–23).

**Laggar Falcon** *Falco jugger* (0, 1)

An endemic bird of the Indian peninsula, of which the breeding range extends west to *c.* 64°E in Pakistan Balochistan and to eastern Afghanistan, but which occurs as vagrant west to Iran and north to S Kazakhstan and Uzbekistan without evidence of breeding. Recorded by Misonne (1976) near Purvadeh (Yazd) on 9 Apr. 1972, but also one earlier record: one collected 25 km west of Kaakhka on 14 Apr. 1946 by G.P. Dementiev (Dementiev *et al.* 1951, Vaurie 1965). Though Kaakhka is just beyond the border of Iran in Turkmenistan, a collecting locality 25 km west of this village is probably into Iranian Khorasan-e Razavi Province, a region visited by Dementiev (1948).

**Grey Partridge** *Perdix perdix* (15, 8)

The subspecies *canescens* from Transcaucasia extends to NW Iran, where many have been collected. It favours higher grounds, generally higher up than *Alectoris chukar* (Cerch 1943), and originally may have occurred throughout the Alborz and Zagros mountains. Its range appears fragmentary now, probably due to heavy hunting pressure. Woosnam collected a male near Heider-

Abad (West Azarbaijan) close to Lake Orumiyeh on 15 Jun. 1905 (Witherby 1907). Mr Ingoldby collected two near Zinjanab (East Azarbaijan) in October 1919 (Buxton 1921). Walter Koelz collected large series in Azarbaijan in 1940: 3 birds near Tabriz on 30 October, 6 birds near Maragheh on 27–28 Nov., 5 birds near Orumiyeh city on 7–8 Dec., and 2 birds at Khoy on 12 Dec.; these birds are now in the AMNH (New York), UMMZ (Ann Arbor) and FMNH (Chicago), USA. Further south, Koelz collected 21 birds in Sep.–Oct. 1942 at Borujerd (Lorestan). Birds noted in Kordestan by Captain Sawdaz in 1942 form a link between the Azarbaijan and Lorestan distribution: eight birds were shot at *c.* 1500 m altitude out of 4–5 coveys seen three miles east of Sanandaj (Kordestan) and one was shot from a large group at a pass 80–90 km W of Sanandaj at *c.* 2100 m (thus, approximately east of Marivan) (Cerch 1943). Trott (1947) found the bird fairly common at 12 km east of Tehran in December in the 1940s, and abundant birds were for sale on the Tehran market in November 1952 (Misonne 1953); also Koelz bought 3 birds here on 5 Jan. 1944, now in FMNH. A single bird seen at Miankaleh sandspit on 23 Mar. 1963 by Speyer and Geertz-Hansen (Nielsen & Speyer 1967) seems further east and lower down than normal for the species; its identification may be doubtful (though the dark horseshoe mark on the breast was seen well), but note that the subspecies *robusta* of the Transcasian lowlands is migratory (Dementiev 1952) and may well reach NE Iran in winter.

**Small Buttonquail** *Turnix sylvatica* (0, 1)

None recorded in Iran prior to 1970 unless the record of an “unknown Quail, not *coturnix*” on 12 February 1910 in Chah-Bahar by W.D. Cumming (Ticehurst 1926–27) belonged to this species. Zarudny (1911) listed the bird as a vagrant for the Paropamisus area (which equals Hari-Rud/Tajan Valley) and a rare breeder in southern Baluchestan, but on what evidence is not clear because he did not list the bird among birds seen by him on his visit to the Hari-Rud valley in April 1898 (Zarudny 1901, 1903) nor in the diary of his travels in southern Baluchestan in April–May 1901 (Zarudny 1916).

**Siberian Crane** *Grus leucogeranus* (3, 7)

Noted as wintering in flooded rice-fields in the Anzali area by C. Hablitzl in December 1773 (Schüz 1959). Radde (1881) observed several birds at Astara on 16 Mar. 1880. Nielsen noted a single bird migrating west over Gulgah (Gilan) on 29 Mar. 1963 (Nielsen & Speyer 1967). The western migratory flyway of the species along the western Caspian Sea over the eastern Azerbaijan Republic as established by Karamzin (1912) is recently confirmed with help of a radio transmitter attached

to a Mazandaran bird (Kanai *et al.* 2002). As for *Anthropoides virgo*, the species may also have used a flyway along the eastern shores of the Caspian which touched eastern Iran: Zarudny (1911) listed as a rare migrant in the Atrak region and a rare winter bird in Sistan, Bilkevich noted pairs arriving on small lakes near Dushak (Turkmenistan) on 22 Oct. 1912, only ca 16 km north of the border of Khorasan-e Razavi (Zarudny & Bil'kevich 1913).

**Demoiselle Crane** *Anthropoides virgo* (2, 3)

Only a single early record for Iran (a migrating flock over Kuhak, NE Sistan, on 30 Mar. 1905) (Cumming 1905), though frequently recorded in neighbouring countries then: Radde noted migration over Kaakhka and Dushak very close to the Iran border in Turkmenistan from 26 Mar. to 3 Apr. 1886 (Radde & Walter 1889), a bird was collected along the Hirmand River in Afghanistan on 7 Feb. 1903 (Cumming 1905), and numerous migrants arrived from the northeast in Mosul (Iraq) between 24 Nov. and 3 Dec. 1922 (Meinertzhagen 1924). These rather casual observations point to two flyways crossing Iran: one along the western Caspian over northwest Iran (recently confirmed by Ra'naghad & Ebrahimi 2007) and another along the eastern Caspian touching eastern Iran in Sistan and eastern Khorasan. Though no birds are featuring in Zarudny's own travel reports, he listed the bird as 'migrant in southern Caspian and wintering in Sistan, southern Baluchestan, and along the shores of the Persian Gulf and Gulf of Oman' (Zarudny 1911).

**Black-winged Pratincole** *Glareola nordmanni* (4, 5)

Listed as rare migrant for Azarbaijan by Zarudny (1911), an area never visited by himself, and occurrence here apparently based on hearsay evidence or old unpublished reports and not considered reliable. Three males collected by Koelz on 27 Apr. 1941 at Do-Rud (Lorestan); another male collected by Mr Delacroix along the river near Robat-Karim (Tehran) on 14 Apr. 1967 (Érard & Etchécopar 1970). Some records of large flocks in the 1960s are dismissed by Scott (2008), viz., 20 birds at central Miankaleh sandspit (Mazandaran) on 11 Sep. 1961 (Feeny *et al.* 1968), 35 birds at Bander-e Gaz (Golestan) on 21 Aug. 1963 and 95 there on 27 August (P.J.K. Burton in Feeny *et al.* 1968), and 6,000 birds (70% *nordmanni*) over rice-fields 20 km east of Babol-Sar (Mazandaran) on 1 Aug. 1969 (S.C. Madge). In contrast to D.A. Scott (as expressed in Scott (2008) and in litt.) we think all four observations of Feeny, Burton and Madge are valid. Black-winged Pratincole should be much commoner in Iran on migration than believed and is probably overlooked: the direct migration line of

this species from the centre of its breeding grounds in Kazakhstan to the centre of its winter quarters in central southern Africa runs straight over Iran, and several hundred thousand birds (BirdLife International 2000) must cross Iran twice a year. Probably the migration is mostly in a broad-front unbroken flight at high altitude, as in Transcaspi (Grote 1932), but it would not be surprising if some flocks come down to feed and rest.

**Pacific Golden Plover** *Pluvialis fulva* (1, 3)

Zarudny suspected occurrence in eastern Iran, but as he managed to collect only 2 examples of *P. apricaria* and no *P. fulva* he did not publish his possible field observations of the latter (Zarudny 1903). Later he was less careful, and he listed it as a rare winter rare bird along the southern Caspian shores and a rare migrant in southern Baluchestan, the shores of the Persian Gulf and Sea of Oman, and the Khuzestan plains (Zarudny 1911), but he lists no own records in his travel reports (Zarudny 1900, 1903, 1916). Therefore, the only valid occurrence before 1970 is that of one shot 23 October of approximately 1956 at Ahmad-Abad (Tehran) by Passburg (1959).

**Sociable Lapwing** *Vanellus gregarius* (5, 6)

Several present at the (former) mouth of the Atrak River in Golestan on 13 May 1886 (Radde & Walter 1889). Fairly common on the Sari – Tir-Tash (Behshahr) plain (Mazandaran) in late November 1952, in small groups of 10–30 birds each; one collected (now in KBIN Brussels) on 30 November, none seen October to mid-November (Misonne 1953). Various flocks also present on the Sari – Tir-Tash (Behshahr)\_plain on 1–5 Sep. 1953 (Misonne 1954). A flock of 12 birds seen at the west end of Gorgan Bay (Mazandaran) on 16 Feb. 1963; one bird still there on 13 April, seen by A. Davidson (Nielsen & Speyer 1967). One bird at Ghazian/Anzali airport (Gilan) on 2 Apr. 1967 (Nielsen 1969). One bird near Bandar Anzali (Gilan) on 25 Mar. 1968 and 8 birds there exactly one year later, seen by DA Ferguson (Sachanowicz *et al.* 2002). Large flocks recorded in upland fields in Iraq in winter during 1917–1922 (in the provinces Wasit, Dhi-Qar, Salah-ad-Din, Al-Anbar, Diyala) (Ticehurst *et al.* 1921–23, 1926) must have crossed Iran on migration at a moment that observer density there was very low.

**Spur-winged Lapwing** *Vanellus spinosus* (2, 0)

A common breeder in the Tajan (Tedzhen) river valley in 1887, recorded from Pulikhatun (12 May) north to Sarakhs (14 May) in Khorasan-e Razavi and from Rukhn-Abad (15 May) north to Kary-Bent (19 May) in Turkmenistan, but not occurring in the plains west of this valley (Walter in Radde & Walter

1889). Noted as rare winter visitor for the Khuzestan plains by Zarudny (1911); he may have observed the species personally when visiting these plains in January–February 1904, but most of the details of this journey have not been published.

**Far Eastern Curlew** *Numenius madagascariensis* (1, 0)

When Zarudny collected a large dark-rumped male curlew in the Pir-Mohammad marsh in Sistan on 2 Oct. 1898 he was really puzzled about the identification (Zarudny 1903); apparently because of lack of good identification literature, he listed it as “*N. tahitiensis*”, a rare endemic bird from Alaska wintering on Pacific islands, rather than under the (then) correct name *N. cyanopus*. The measurements supplied, wing 275 mm, bill 140 mm, tarsus 82 mm (Zarudny 1903), show that indeed a large curlew like *N. cyanopus* was involved (though the measurements would also fit the much paler male of the local wintering subspecies *N. arquata orientalis*). In Zarudny (1911), the bird is correctly listed as ‘*N. cyanopus* – vagrant Sistan’. A further observation on 8 Oct. 1898 along Bareng Bay (western Hamun-e Sabari, Sistan), ‘a bird resembling an intermediate between *N. arquata* and *N. tahitiensis*’ (Zarudny 1903) is doubtful: a bird appearing intermediate between the pale local birds of *N. arquata orientalis* and dark *N. madagascariensis* was most likely nominate *N. arquata arquata*.

**Slender-billed Curlew** *Numenius tenuirostris* (8, 2)

A critically endangered species, which may effectively be almost extinct by now. Breeding grounds unknown, but supposed to be in temporary marsh in steppe; wintering grounds on flats with low scanty growth, not on open mudflats like many other waders, as the bill is not strong enough for drilling, just suited for superficial probing in small open holes in substrate and pecking from vegetation and earth surface to find insects like mole-crickets and grasshoppers (C.S. Roselaar pers. obs.). Birds breeding in steppe marshes necessarily breed early, because these dry out in summer; therefore, observations of Zarudny in late May and June may point to breeding, although this cannot be proven now: 7–16 Jun. 1896, small numbers along the lakes of NW Sistan basin; 14 Jun. 1896, birds in fresh meadows at Hosein-Abad (near Zabol, Sistan) (Zarudny 1900); 23 May to 16 Jun. 1898, breeds in small numbers in the meadows bordering the eastern and northern marshes along the Sistan lakes (Zarudny 1903); also: 15 Jun. 1884, several curlew-pairs in steppe near Dort-Kuju (Zarudny 1885) (in Turkmenistan, 122 km from Iran border, but in circumstances as for Sistan). Zarudny managed to collect only one female, an apparent migrant taken

at Mozhn-Abad (Khorasan-e Razavi) on 29 Apr. 1898 (Zarudny 1903). Koelz collected a male at Bandar Abbas on 20 Dec. 1939 (now in FMNH, Chicago). Reliable later observations may be those of P.J.K. Burton of a small slim short-billed curlew with quick wing-beats and a monosyllabic call which started bubbling on 23 and 27 Aug. 1963 at Bandar-e Gaz (Golestan) (Feeny *et al.* 1968); more doubtful appear those of Heinrich at Ghazian (Anzali, Gilan) on 2 Mar. 1927 (“observed curlew, pale, thus *tenuirostris*”) and of Énard & Etchécopar (1970) on mud-flats near Bandar Abbas (3 birds on 25 Apr. 1967, 7 on 30 April), though occasional foraging on surface insects at the fringe of wet mudflats cannot be excluded.

**Solitary Snipe** *Gallinago solitaria* (11, 0)

Zarudny (1903, 1916) listed the following detailed records, all except one from Greater Khorasan: two females collected, one in Pir-Mohammad marsh (Sistan) on 2 Oct. 1898 and another along the upper Rud-e Ahangaran (South Khorasan) on 24 Oct. 1898 (Zarudny 1903), both now in NUUT. During his journey in 1898, he also observed birds in the Tabas basin (19 October), at Gazik (21 October), at Kalateh-ye Mardj (between Gazik and Gulmirun, several on 21–22 October) and at Gulmirun proper (22 October); one shot at Karat on 31 October was taken by a Kestrel *Falco tinnunculus* (Zarudny 1903). Further specimen(s) (sex not stated) were collected at Chahar-Takab on 7 Nov. 1900 (Zarudny 1916). On his 1903/1904 travel he collected a female at Kulam-Haji-Ali (Golestan) on 26 Oct. 1903 and a male at Tedzhar (Semnan) two days later (now in NUUT). The listing of this snipe in Zarudny (1911) is more puzzling: “migrant and winter bird Khorasan” [OK in view of birds mentioned above]; “rare breeder and rare migrant Sistan” [but only the specimen of the Pir-Mohammad marsh has been published, no further details on the species has been mentioned in the reports of his travels in Sistan: Zarudny 1900, 1903, 1916], “rare migrant and rare winter bird in Kuhestan-Kerman” [the only record is the Semnan bird listed above]; “migrant and nests, almost without doubts, in the Alburz mountains” (Zarudny 1911) [Zarudny was in the E Alburz above Gorgan in May 1885 and in October 1903 and in the W Alburz near Rostam-Abad on 26–31 May 1904; he may have heard display but did not report such for the travel in 1885. No report has been published on his journey of May 1904, though the bird in the Alburz mountains in southern Golestan in Oct. 1903 supports its occurrence on migration but not its nesting].

**Pin-tailed Snipe** *Gallinago stenura* (6, 0)

A female collected by Zarudny at Mohammad-Abad near Ahangaran (South Khorasan) on 24 Oct. 1898;

also, a few observed 2–12 Oct. 1898 along Bareng Bay (W Hamun-e Sabari, Sistan) and on 10–22 Nov. 1898 at Mashhad (Khorasan-e Razavi) (Zarudny 1903). J.W. Cumming found this snipe numerous among *G. gallinago* in the marshes of eastern Sistan between September and late April 1903–05 (Cumming 1905). Koelz collected a male between Shahdad and Deh-Shib (Kerman) on 15 Jan. 1940, now in FMNH (Chicago).

**Red Knot** *Calidris canutus* (6, 0)

Zarudny collected a juvenile female at the Mashkel and Kund lakes in the Duz-Ab valley near Zahedan (Baluchestan) on 13 Sep. 1898 (NUUT) and noted a few along Bareng bay (western Hamun-e Sabari, Sistan) on 6 Oct. 1898 (Zarudny 1903). Nielsen noted a small flock just west of Gohar-Baran (Farah-Abad) (Sari, Mazandaran) on 23 Aug. 1961 and one on the shore of Miankaleh sandspit (Mazandaran) on 22 Mar. 1963 (Nielsen & Speyer 1967); Feeny *et al.* (1968) report their observation on Miankaleh sandspit on 18 Sep. 1961 and also an observation of four adults in summer plumage near Bandar-e Gaz (Mazandaran) on 21 Aug. 1963 by the group with P.J.K. Burton. These latter 4 observations are also listed in Kirwan (1996) and Scott (2008).

**Great Knot** *Calidris tenuirostris* (1, 0)

A single bird was collected on the coast of Chah-Bahar (Baluchestan) on 26 Mar. 1901 (Zarudny 1916). This is in line with recent observations along the south coast, with several local counts of over 100 birds (Diek *et al.* 2004, Azin *et al.* 2008).

**Red-necked Stint** *Calidris ruficollis* (1, 0)

Koelz collected two males and two females on 18, 20, and 25 Jul. 1941 at Borujerd (Lorestan). The skins are now in AMNH (New York) and FMNH (Chicago). Details for the females (both 25 July) are in Kirwan (2007). Whether new birds gradually appeared over a period of eight days or whether it took a week before a vagrant flock was exterminated is not known. Careful scrutiny of the many *C. minuta* migrating and wintering in Iran may reveal further examples of this bird from the east Siberian Tundra.

**Red Phalarope** *Phalaropus fulicarius* (0, 8)

Misonne recorded many “*P. fulicarius*” in the Gorgan Bay (Mazandaran) in September 1953 (Misonne 1954), but corrected this to *P. lobatus* in Misonne (1955); whether this correction also applies to two birds seen there on 19–20 Oct. 1953 is not clear; in any case, they are rather late for *P. lobatus*. Also the correct identification of 2 birds with “thick bills” on 28 Aug. 1961 and of 11 migrating birds seen on 11 Sep. 1961 on central Miankaleh sandspit (Mazandaran) (Feeny *et al.* 1968) is doubtful. More

certain are birds in (partial) rufous summer plumage recorded off Hormozgan by Énard & Etchécopar (1970): some groups of together less than 100 birds between Bandar Abbas and Qeshm Island on 26 Apr. 1967, and 30 birds off Hormoz Island on 29 Apr. 1967.

**Long-tailed Skua** *Stercorarius longicaudus* (0, 1)

One flying over Gulgah (Gilan) towards NW on 30 Apr. 1956 (Schüz 1959), five very high over Miankaleh sandspit (Mazandaran) to south on 31 Aug. 1961 (about to cross the Alburz Mts), and another one there on 10 Sep. 1961 (Feeny *et al.* 1968). Identification of Feeny’s observations was provisional, and also the observation of Schüz is doubtful because he described an elongated tail combined with a brown breast-band, which are features of *S. parasiticus*, not of *S. longicaudus*. The record of a flock of nine over Bandar Anzali on 29 Apr. 1970 now seems to be the only reliable record observed by Pete Burness, Dick Newell and Bob Scott (Scott 2008). Skuas are difficult to identify, especially in the heavily barred non-breeding and juvenile plumages when all three smaller species lack elongated central tail-feathers and are very similar apart for build. For an overview of skua occurrence in the Middle East (including Iran) and causes of annual variations in overland migration, see Arkhipov & Blair (2007).

**Brown-headed Gull** *Chroicocephalus brunnicephalus* (1, 2)

One bird collected by W.D. Cumming in Chah-Bahar (Baluchestan) in January of about 1916 (Ticehurst 1926–27). One bird observed on 25 Nov. 1987 in the Persian Gulf at 26°40’N, 51°26’E, halfway between Bahrain and Nay-Band (Bushehr), another on 26 Jan. 1988 in the Gulf of Oman at 25°36’N, 57°01’E, 35 km SW of Ras-al-Kuh (Hormozgan) (Bourne & Bundy 1990).

**Mediterranean Gull** *Larus melanocephalus* (1, 5)

A bird seen 27 Apr. 1966 on Anzali Wetland (Gilan) was documented by photographs (Genenger & Genenger 1968).

**Great Black-backed Gull** *Larus marinus* (1, 2)

Most old records of “*L. marinus*” in Iran are misidentified Heuglin’s Gulls *L. heuglini*, a species then unknown to most European observers and which is as large and black-backed as *L. marinus*. Løppenthin (1951) verified the correct identification of the two birds he observed at Bushehr between November 1937 and early January 1938; one of these stayed to 26 January.

**Sooty Tern** *Onychoprion fuscata* (0, 1)

Tuck (1974) collected a few observations in the 1960s in the Strait of Hormoz and off the Iran coast in the Gulf of Oman, but gives no exact dates and localities, and none is accepted here for Iran up to 1969.

**Indian Skimmer** *Rynchops albigollis* (1, 0)

One bird collected (inland!) along the Rud-e Sarbaz near Bahu-Kalat (Baluchestan) on 14 Mar. 1901 (Zarudny 1911, 1916). Zarudny was well aware of the rarity of this bird: ‘a great rarity for the country and until now not known further west than Sind’ (Zarudny 1916).

**Lichtenstein’s Sandgrouse** *Pterocles lichtensteini* (2, 12)

Zarudny collected a male on the Bergen-Rud near Bahu-Kalat on 12 Mar. 1901 (NUUT). Common on both sides of the border near Mand (Baluchestan) in May of about 1917 (Hotson in Ticehurst 1926–27); other observations of Hotson in June (Panjgur, Kolwa, Zai) are further east in Pakistan Balochistan. Énard & Etchécopar (1970) observed this bird three times in southern Baluchestan: two males collected from flocks of c. 10 birds each on 12 May 1967 between Takht-e Malek and Kheir-Abad (wing lengths 165 and 170 mm), one pair seen on 13 May 1967 between Chandgan and Qasr-e Qand, and four further birds the same day between Nik-Shahr and Chandgan.

**Pallas’s Sandgrouse** *Syrrhaptes paradoxus* (2, 1)

Two males collected from a small flock on 18 Apr. 1898 near Kariz (Khorasan-e Razavi) (Zarudny 1903). One freshly-killed bird shown to Zugmayer by a hunter in Jolfa (East Azarbaijan) in July 1904 (Zugmayer 1908).

**Yellow-eyed Dove** *Columba eversmanni* (9, 5)

A common breeder in holes of larger trees growing in the Hari-Rud Valley in late April 1885; several birds collected, mostly on the Afghan side of the river near Tir-Pol, but also a male at Tuman-Aqa (Khorasan-e Razavi) on 28 April (Aitchison in Sharpe 1889). Found breeding in rock walls along the Sumbar River upwards from Tersakan (Turkmenistan) on 21–22 May 1886, including the valley near Khodzhakala on 22 May where the upper Sumbar forms the border between N Khorasan and Turkmenistan (Radde in Radde & Walter 1889); strong migration over the Tajan River at Sarakhs (Khorasan-e Razavi) on 14 May 1887 (Walter in Radde & Walter 1889). The first five arriving migrants noted at c. 36°52’N, 58°57’N between Jafar-Abad and Chenaran (Khorasan-e Razavi) on 7 Apr. 1896, and migration also observed at Feiz-Abad (near Miandehi, Khorasan-e Razavi) on 23 Apr. 1896 (Zarudny 1900). Small numbers found

breeding in the Hari-Rud valley near Pish-Robot (Khorasan-e Razavi) on 19 Apr. 1898; several of these long-distance migrants noted in the Duz-Ab valley near Zahedan (Baluchestan) on 14 Sep. 1898 and one male collected (Zarudny 1903). A female collected by J.W. Cumming along the Rud-e Sistan near Kuhak (NE Sistan) on 28 Apr. 1905, the only one observed during his long stay in Sistan (Baker 1919); one seen Chah-Bahar (Baluchestan) on 24 Sep. 1912 by his brother W.D. Cumming (Ticehurst 1926–27). Though not in Iran, the large colonies found by Paludan (1959) in steep clay banks along the Hari-Rud from Herat (Afghanistan) upwards in July 1949 are noticeable.

**Oriental Turtle Dove** *Streptopelia orientalis* (1, 6)

One male collected from a flock of 10 birds at Farman-Abad (Khorasan-e Razavi) on 23 Apr. 1898 (Zarudny 1903). Two days earlier, Zarudny noted a flock of 8 migrants following the Hari-Rud valley northwards, but this was near Eslam-Qale on the Afghan part of the river, ca 10 km from the Iran border (with a flight speed of 60km/hr they would have reached Iran 10 minutes later).

**Great Spotted Cuckoo** *Clamator glandarius* (5, 1)

Collected June 1872 near Shiraz (Fars) by Blanford (1876). Witherby (1903) found the bird common near a magpie-colony at Khan-e Zinian (Fars) on 27 Apr. 1902; as the bird uses magpies *Pica pica* to host its eggs, it likely reproduced there. A female collected at Band-Qir (Khuzestan) by Woosnam on 6 Mar. 1905 (Witherby 1907) was probably on migration. W. Koelz collected two birds, both likely reproducing locally: a female at Shiraz on 2 Apr. 1940 and a male at Qaleh-Tak (on Zard-Kuh mt, Bakhtiari) on 4 Apr. 1942 (both in FMNH, Chicago). Passburg (1959) considered the bird to be a scarce migrant in the Tehran area in 1956–58, birds appearing 25 April and later. As no birds are known to reproduce in N Iran or further north, it is unclear were these migrants would go to and the record is dubious. The remarks in Zarudny (1911) ‘vagrant southern Caspian and southern Baluchestan, common nesting Zagros, migrant Khuzestan plains’ more or less agree with the data above, though in part obtained long before Koelz and Passburg were active.

**Jacobin Cuckoo** *Oxylophus jacobinus* (2, 0)

Two males have been collected by Zarudny in the Bampur basin in 1898, where the bird was said to occur in small numbers only: one on the Rud-e Kiangur near Bazman on 16 July, the other on the Rud-e Bampur near Bampur on 21 July (Zarudny 1903). The subspecies *pica* of this form breeds in the northern Indian peninsula and winters in Africa, though there are few actual records of migrants in

between; the Bampur birds may be such migrants, but migration is supposed to occur in May and in September–October as judged from arrival and departure in Pakistan and northern India (Cramp 1985).

**Oriental Cuckoo** *Cuculus saturatus* (2, 0)

Zarudny collected a male near Pish-Robat in the Hari-Rud valley (Khorasan-e Razavi) on 20 Apr. 1898, for which he states it was the only one encountered here; another was observed near Sadaki (Sistan) on 28 Sep. 1898 (Zarudny 1903). The statements in Zarudny (1911) about occurrence as a migrant in Khorasan, Kuhestan-Kerman deserts, Paropamisus area (= Hari-Rud/Tajan valley) and Sistan and nesting in south Khorasan, Hari-Rud valley and Sistan are scarcely supported by his original reports (Zarudny 1900, 1903, 1916), as no other birds than the two above feature in these.

**Barn Owl** *Tyto alba* (2, 3)

The first proven case of occurrence in Iran was a bird captured at Mishun castle (Fars) in spring 1925 and sent live to the London Zoo (Capito 1931), though one may suppose it occurred in the Khuzestan plains long before this, as it was known from nearby Fao (Al-Faw) and Basrah in Iraq (Sharpe 1886a, Tomlinson 1916, Ticehurst *et al.* 1921–23, 1926). Koelz collected four birds on 22–25 Mar. 1940 at Jahrom (Fars) and two on 23 Sep.–6 Oct. 1941 at Borujerd (Lorestan) (now in AMNH New York and FMNH Chicago); another bird preserved in alcohol in Chicago is an unsexed one collected by Mr Street on 31 May 1960 at Bijaneh (7 km E of Kermanshah). Though 10 km north of the Golestan border, a bird collected Ghasan-Kuli (Turkmenistan) on 4 Oct. 1942 is of interest (Dementiev *et al.* 1951).

**Snowy Owl** *Bubo scandiaca* (1, 1)

Mr Paul obtained a bird on 18 Mar. 1903 at Khajeh-Nafas (Golestan) (Zarudny 1911).

**Brown Fish Owl** *Ketupa zeylonensis* (6, 0)

The large local subspecies *semenowi* was scientifically described by Zarudny (1905b) from two birds he collected in Khuzestan, a male at Chashmeh-Rowghani on 13 Jan. 1904 (NUUT) and a female from Shushtar taken on 19 Mar. 1904 (Zarudny 1905b). Other birds collected in Iran are: a female from Kazerun (Fars) on 2 Sep. 1920 (in NHM Tring), a pair taken from a cave on 19 Oct. 1921 at Beshadaraz (Ilam) by Cheesman (Ticehurst *et al.* 1926, in NHM Tring), a male received by Capito from Gach-e Turush mountain (Fars) on 31 Jul. 1924 (Capito 1931, also in NHM Tring), and a bird collected by Paludan (1938) on 26 Mar. 1935 along the Chah-Bazan rivulet, a branch of the Dum-

Dum river which is now flooded by the Dez Dam reservoir (Lorestan) (in ZMUK Copenhagen). Wings of these birds: males 368, 395, 399, 399 mm, females 381, 404, 425 mm (Zarudny 1905b, CS Roselaar).

**Long-eared Owl** *Asio otus* (15, 10)

Recorded at Emam-Rud (Semnan) in November (1870?) by St John (Blanford 1876). Mr Mocquerys collected a bird at Bandar Anzali in November 1894 (now in AMNH New York). Zarudny collected a male in the Hari-Rud valley near Pish-Robat (Khorasan-e Razavi) on 20 Apr. 1898 and noted that small numbers bred here, though he provided no details of nests or eggs found; another bird for Khorasan-e Razavi was seen in the garden of the Russian Consulate in Mashhad on 15 Nov. 1898 (Zarudny 1903). W. Koelz collected 11 birds in Iran on various sites, mostly in winter, all now in FMNH in Chicago; among these, a male taken 6 Aug. 1940 on the Kotalyek Chinar pass (North Khorasan) may be of interest, as this is before the start of the autumn migration and may point to local breeding. Other birds collected by Koelz were in East Azarbaijan (Sarab, 7 Nov. 1940; Maragheh, 26 Nov. 1940), Hamedan (Hamedan city, 17 Jan. 1941), Lorestan (Borujerd, a pair on 23 Sep. 1941; Do-Rud, female on 11 Nov. 1941, two males on 9 Jan. 1943), Bakhtiari (Qaleh-Tak on Zard-Kuh mt, 4 Mar. 1942), and Tehran (Karaj, 6 Feb. 1944). Passburg (1959) found a roost of 10 birds in a poplar at Robot-Karim (Tehran) in January–April 1957; S.H. Jervis Read went there to shoot one male on 15 Mar. 1958 (Diesselhorst 1962). This owl may winter also in Sistan, as Paludan (1959) recorded two birds at Baqer-Abad (Afghanistan) on 15–16 Mar. 1949, along the Farah-Rud 6 km north of the Sistan border.

**Sykes's Nightjar** *Caprimulgus mahrattensis* (16, 3)

Widespread in Sistan-Baluchestan: collected in Baluchestan by Blanford at Bahu-Kalat in early February 1872 (Blanford 1876) and by Zarudny at Kush-Gardan on 23 Jul. 1898 (juvenile male), between Sinkuran and Kukhar on the upper Rud-e Bampur on 28 Jul. 1898 (adult male), at Iran-Shahr on 6 Aug. 1898 (juvenile female), at Bazman on 18 Aug. 1898 (adult female) (Zarudny 1903), near Bahu-Kalat on 14 Mar. 1901 (adult male; in NUUT), at Nik-Shahr on 7 Apr. 1901, and near Iran-Shahr on 2 May 1901 (Zarudny 1916). In NE Sistan, W.D. Cumming recorded it at Kuhak (clutches of 2 eggs on 24 May 1903, 18 Apr. 1904, and 2 Jun. 1904, of 1 egg on 28 Apr. 1904; juvenile on 28 Jun. 1904, pairing couple seen on 4 May 1905), and at unspecified localities on the lower Hirmand River (two birds) and near Zabol in the same years (Cumming 1905).

**Black Woodpecker** *Dryocopus martius* (8, 5)

Recorded by C. Hablitzl near Bandar Anzali (Gilan) in January 1774 (Mlikovsky 2008), at Molla-Kola (Mazandaran) on 27 Feb. 1907 by Woosnam (Witherby 1910), and in tall forest on the Leva pass (40–50 km E of Gonbad-e Qabus, Golestan) on 18 Feb. 1917 (Shestoperov 1927). Two males collected by Bilkevich at Aq Emam (Golestan) on 7 Aug. and 1 Sep. 1912 (Zarudny collection, now in NUUT). Fairly common near Gerd Heinrich's base-camp at c. 36°41'N, 50°53'E south of Khorram-Abad (Mazandaran), where two males (wing length 235 & 238 mm) and four females (wings 240, 241, 241, 242) were collected between 2 and 30 Apr. 1927 (Stresemann 1928). Common at Vatana (in Alborz of western Golestan) in October or early November 1952 and in early September 1953 (Misonne 1953, 1954). Large nesting holes probably of this species seen in forest between Dasht and Dolat-Abad (North Khorasan) on 29 May 1967 (Érard & Etchécopar 1970).

**White-winged Woodpecker** *Dendrocopos leucopterus* (2, 0)

A common breeder in Rukhn-Abad oasis along the Tajan/Tedzhen River, breeding in poplars (Radde & Walter 1889). Rukhn-Abad village is in Turkmenistan, 3 km from the Khorasan-e Razavi border, but the trees of the oasis extended southward through the Tajan valley to 7 km north of Sarakhs, covering 6 km of forested river-bed within Iran. Zarudny (1908) had a large series of this woodpecker from here and from the Murghab River further east in Turkmenistan; he listed it as a 'common resident breeder' in Zarudny (1911), in both papers under the name '*Dendrocopos major transcaspicus*'. An observation by Érard & Etchécopar (1970) of a possible *leucopterus* at Dasht (North Khorasan) on 29 May 1967 is too unsure to accept and moreover was in an area known to be inhabited by the rather similar *D. major poelzami*, which has a range extending east to 57°30' in Khorasan-e Razavi, still 450 km away of the known range of *D. leucopterus*.

**White-winged Lark** *Melanocorypha leucoptera* (2, 18)

Migrant and wintering bird in Azarbaijan and the southern Caspian (Zarudny 1911), but as Zarudny had never visited Azarbaijan and visited the southern Caspian only in late spring and summer, this statement is clearly not based on own observations. Misonne (1953) noted frequent small groups in the coastal lowlands of the Gorgan Bay area between October and mid-December 1952. Schüz (1959) observed one bird in a flock of migrating Lesser Short-toed Larks *Calandrella*

*rufescens* along the Caspian Sea near the mouth of the Mulla-Rud (Gilan) on 12 Mar. 1956.

**Black Lark** *Melanocorypha yeltoniensis* (1, 13)

Occasional flocks seen on the shore near Anzali by C. Hablitzl in January 1774 (Schüz 1959, Mlikovsky 2008). Zarudny (1911) listed it as 'wintering along the southern Caspian, vagrant in winter in the Atrak area', without providing details.

**Hume's Short-toed Lark** *Calandrella acutirostris* (1, 2)

One male collected by Zarudny near Golandar (South Khorasan) on 27 Jun. 1896, thus in the breeding season, now in AMNH (New York) (Zarudny 1900, Hartert 1921–22). In the 1920s, the identification of this specimen was accepted but the chance that its label had been changed with another species was kept in mind, because the species then was known only from mountain steppe at high altitude in Central Asia (Hartert 1921–22). Since then, breeding areas became known lower down and further west, e.g. in Herat in Afghanistan (Paludan 1959), and further records have been made in the breeding season in Khorasan since the 1970s (Scott 2008).

**Richard's Pipit** *Anthus richardi* (4, 10)

Zarudny identified this species with certainty only on his 3<sup>rd</sup> long voyage in eastern Iran: 'large numbers' near Hosein-Abad (Sistan) on 19 Dec. 1900 and some in the Duz-Ab valley near Zahedan (Baluchestan) on 20 Jan. 1901 and at the well Chah-e Bid (Baluchestan) on 23 Feb. 1901 (Zarudny 1916). One female collected at Parak on the Rud-e Kahir (Baluchestan) on 30 Mar. 1901 (in NUUT). In Zarudny (1911), he added the Khuzestan plains as locality, but records from here, probably obtained during his travel in the plains in Jan.–Mar. 1904, have not been published; no birds from here are in his private collection (now in NUUT).

**Long-tailed Shrike** *Lanius schach* (6, 0)

Noted by Zarudny (1900) in the Kopet Dagh Mountains of northern Khorasan near Emam-Qoli on 5 Apr. 1896, at Kjardy on 2 Aug. 1896 and a few days later on the Marish river near Muzdaran Mountain and near Khakestar; Zarudny assumed they bred here. As Radde observed birds at Garmab in the breeding season (4 Jun. 1886) and collected an adult male then (Radde & Walter 1889), this assumption may be right. Though Garmab is a mountain village in Turkmenistan, the habitat of open juniper forest there extends across the border into Iran 10 km away. Zarudny also observed one bird on the next voyage: a male was collected at Karat (Khorasan) on 25 Apr. 1898, but he found no evidence of breeding here (Zarudny 1903). *L. s.*



*erythronotus* is listed as common breeder and migrant in northern Great Khorasan and as a rarer breeder and migrant for southern Great Khorasan (Zarudny 1911), but other data than those given above are not in Zarudny's travel reports for these areas.

**Bohemian Waxwing** *Bombycilla garrulus* (1, 2)

Zarudny (1903) observed a bird in the garden of the Russian consulate in Mashhad on 15 Nov. 1898. In Zarudny (1911), noted as wintering bird in the area of the lower Atrak and as rare winter visitor on the Caspian plains and in northern and southern Great Khorasan, though the bird listed above is the only one featuring in his reports.

**Black-throated Accentor** *Prunella atrogularis* (6, 3)

A male collected 31 Oct. 1898 at Karat (Khorasan-e Razavi) (Zarudny 1903). Noted or collected at Kariz (Khorasan-e Razavi) on 14 Nov. 1900, at Bandan (South Khorasan) on 10 Dec. 1900, and in the Duz-Ab valley near Zahedan (Baluchestan) on 19 Jan. 1901 (Zarudny 1916), the latter bird now in NUUT. Singles obtained at Tomogaon (Kerman) on 3 Feb. 1940 and at Karaj (Tehran) on 21 Mar. 1943, both by Koelz and now in AMNH (New York); another was taken by Paludan (1959) in the Farah-Rud delta on 26 Feb. 1949, in Afghanistan but only 3 km north of the Iranian border of Sistan. At least four of the collected birds were identified as the rare nominate *atrogularis*, a breeder with a restricted range in scrub-tundra at the foot of the northern Ural mountains in Russia, far distant from the breeding range of the subspecies *huttoni* in the mountains of Central Asia

**White-crowned Wheatear** *Oenanthe leucopyga* (1, 0)

An adult male collected on the Jebel-Tnue ridge near Ahwaz (Khuzestan) on 10 Mar. 1904 (Zarudny 1911).

**Blue Whistling Thrush** *Myophonus caeruleus* (1, 0)

A bird of the subspecies *turcestanicus* was collected in the valley of the Rud-e Ahangaran near Gulmirun (South Khorasan) on 28 Nov. 1900: 'I obtained this beautiful species as new for Iran' (Zarudny 1916). Occurrence is perhaps not unexpected, as Aitchison found it very common in *Pistacia*-forest in the Badghis province of NW Afghanistan on 6–14 Dec. 1884 (Sharpe 1889), his westernmost record scarcely 100 km away from the Iran border.

**Red-throated Thrush** *Turdus ruficollis* (2, 2)

Two red-throated birds were obtained by Zarudny in 1903: a female near Namreh (Semnan) on 30 Oct.

and a male near Esfahan (Esfahan) on 19 Dec. (NUUT).

**Iraq Babbler** *Turdoides altirostris* (4, 6)

Eggs were collected by Tomlinson (1916) at Ahwaz (Khuzestan) in April 1908 and May 1913; 14 birds were collected by Koelz at Qasr-e Shirin (Kermanshah) on 5–9 Jan. 1941, now in AMNH (New York), UMMZ (Ann Arbor), and FMNH (Chicago). Two males were collected at Harmaleh on Dez River (Khuzestan) on 26 Oct. 1957 (Diesselhorst 1962), in the latter article, many details on habits and habitat are given).

**Bearded Reedling** *Panurus biarmicus* (14, 8)

A common breeder in the reeds along the Sistan lakes, where Zarudny collected nine birds 14–16 Jun. 1896 (including just-fledged juveniles) (Zarudny 1900) and two males 23–30 May 1898 (in marshes of the Hamun-e Farah and at marshes west of Nasr-Abad) (Zarudny 1903). Further summer records in Baluchestan were made by Zarudny in 1898 in marshes in the Kurin valley (2 adult males collected 3 July), the Kuh-e Murghak valley (several collected including juveniles on 8 July), the Rud-e Kiagur valley near Bazman (3 birds collected 16 July), the Rud-e Bampur below Bampur (juvenile male collected 23 July), and at the Hamun-e Jauri marshes (several seen in reeds, juvenile female in moult collected 28 August) (Zarudny 1903). As birds in juvenile plumage or in moult do not migrate until after that date, at least the records of juveniles point to local breeding. Other records are: several migrants in reeds, but no sign of breeding in the Hari-Rud valley near Pish-Robat (Khorasan-e Razavi) on 19–22 Apr. 1898, a few collected Ladiz valley (Baluchestan) on 9 Sep. 1898 (Zarudny 1903); seen Chat-e Atrak (Golestan) on 5 Oct. 1916 and several from November 1916 to mid-January 1917 at small lakes east of Gonbad-e Qabus (Golestan) (Shestoperov 1927); one bird Gulgah (Gilan) 11 Dec. 1962 (Nielsen & Speyer 1967).

**Zitting Cisticola** *Cisticola juncidis* (1, 8)

Four collected Qasr-e Shirin (Kermanshah) 1–8 Jan. 1941 by Walter Koelz (in FMNH Chicago); no earlier records for Iran, though known to occur close to the Khuzestan border in Basrah province of Iraq (Ticehurst *et al.* 1921–23).

**River Warbler** *Locustella fluviatilis* (1, 0)

A female collected by W. Koelz at Chashmeh-Shirin (Khuzestan) on 12 May 1940 (FMNH Chicago). Listed as rare migrant for the Caspian plains by Zarudny (1911), but no details published.

**Paddyfield Warbler** *Acrocephalus agricola* (4, 9)

Two males collected in the Hari-Rud valley near Pish-Robot (Khorasan-e Razavi) on 19–22 Apr. 1898; small numbers in reed-beds and tamarisks in marshes west of Nasr-Aabad (Sistan) on 24 May 1898, of which one male collected, ‘possibly breeding here’; a few migrants seen in marshes in the Duz-Ab valley near Zahedan (Baluchestan) on 13 Sep. 1898 (Zarudny 1903). Listed as common breeder for Sistan, scarce breeder for Hari-Rud valley, and rare breeder for northern Great Khorasan by Zarudny (1911). Two birds trapped on 15 Aug. 1963 and two more on 25 August by P.J.K. Burton in Bandar-e Gaz (Golestan) (Feeny *et al.* 1968). Common in the inundation zone of Sistan near Zabol on 18–20 May 1967, many in song but identification not entirely certain, and also identification of numerous small and rufous *agricola*-like birds seen along canals near Zahedan on 10 May 1967 not entirely sure (Érard & Etchécopar 1970). Also Paludan (1959) collected this species in the Sistan basin, on 16 Apr. 1949 at Feiz-Abad (Afghanistan), 8 km north of the Iran border.

**Rüppell’s Warbler** *Sylvia rueppellii* (1, 0)

A male collected by Walter Koelz at Do-Rud (Lorestan) on 2 Apr. 1941 (in FMNH Chicago).

**Eastern Bonelli’s Warbler** *Phylloscopus orientalis* (0, 1)

A male collected by Zarudny at Taasuk (Baluchestan) on 17 Jan. 1901, now in AMNH (New York), has been re-identified as *P. neglectus* (T. Trombone, AMNH, *in litt* 23 Mar 2009). Hence, the bird noted by D. Scott near Marivan (Kordestan) in July 1975 (Scott 2008) is the only record for Iran.

**Greenish Warbler** *Phylloscopus trochiloides* (5, 4)

A female of the subspecies *viridanus* was collected by Zarudny (1903) between Sangan and Niaz-Abad (Khorasan-e Razavi) on 28 Apr. 1898 (when also a few more were seen) and some possible ones were seen along the upper Rud-e Ahangaran (South Khorasan) on 23 Oct. 1898. Four birds have been collected by Koelz: a male at Bojnurd (North Khorasan) on 2 Aug. 1940, a female at Kharv-e Bala (South Khorasan) on 5 Sep. 1940, and a male and female near Gorgan (Golestan) on 29–30 Sep. 1940 (all in AMNH New York).

**Turkestan Tit** *Parus bokharensis* (2, 4)

Found breeding in small numbers in tamarisks along both sides of the Hari-Rud river between Pish-Robot (Khorasan-e Razavi) and Eslam-Qale (Afghanistan) on 19–22 Apr. 1898 (Zarudny 1903). Many collected in the Tajan/Tedzhen valley 1885–1903 by Zarudny, Radde, Walter, and Loudon (*e.g.* see Zarudny & Bil’kevich 1913), though localities were not all specified; most may have been on the

Turkmenistan part of the river, but likely it was also found in the Sarakhs area (Khorasan-e Razavi) where pristine riverine forest occurred in those years within the Iran border and where the species was rediscovered by D.A. Scott in 1973 (Scott 2008). Mainly a species of the Turkmenistan plains, the identification as *P. bokharensis* of a juvenile male collected on 4 Jun. 1886 at Garmab in open juniper forest high up in the Kopet Dagh Mountains (Radde & Walter 1889), in Turkmenistan a few km north of the North Khorasan border, is therefore not without doubt: it may have been *Parus cinereus intermedius*.

**Cretzschmar’s Bunting** *Emberiza caesia* (0, 1)

A vagrant in the Zagros (Zarudny 1911), so probably observed or collected December 1903 or April 1904 when Zarudny crossed these mountains, but details have not been published and confirmation is required.

**Cinereous Bunting** *Emberiza cineracea* (13, 5)

The breeding subspecies of Iran, *semenowi*, was scientifically described by Zarudny (1904); the description was based on 3 males collected by him in 1904, two from the Jebel-Tnue ridge near Ahwaz on 7 and 9 March, another from the Kuh-e Asmari near Bid-Zard on 9 April; the former two birds were likely on migration, the latter likely on its breeding grounds. This subspecies differs from nominate *cineracea* from Turkey by the extensive yellow pigmentations of its plumage. Already Sharpe (1886b) noted the yellow tinge of a female collected by A.J.V. Palmer at Bushehr on 27 Mar. 1885, but thought it was the result of immaturity. Fair numbers have been collected since: a male at Izeh (Khuzestan) on 10 Apr. 1905 by Woosnam (Witherby 1907), one on Greater Tunb Island (Hormozgan) on 23 Mar. 1921 by LaPersonne (Ticehurst *et al.* 1925), three males and a female at Kulmahak (Lorestan) on 5–8 Apr. 1935, and three males and two females on 17–27 Apr. 1935 at Bisheh-ye Pooran (Lorestan) (Paludan 1938). Koelz obtained six birds at Kalvar (Lorestan) 27–30 May 1940, one male at Ghali-Kuh Mountain (Lorestan) on 1 Jun. 1940, two at Ti (Lorestan) on 6 Jun. 1940, and two at Do-Rud (Lorestan) at 22 and 28 Aug. 1941 (now in AMNH, FMNH and UMMZ). All 27 birds recorded previous to 1972 were collected, none was just observed in the field.

**White-capped Bunting** *Emberiza stewarti* (2, 1)

Zarudny collected a female in the Hari-Shotur gorge (Kara-Kuh Mountain, Khorasan-e Razavi) on 30 Oct. 1898 and noted it as ‘rare’ (Zarudny 1903). Vagrant in winter in southern Great Khorasan and rare migrant in the Hari-Rud valley (Zarudny 1911), but the Hari-Rud record is not in any of Zarudny’s travel reports and thus unconfirmed. Three males

were taken by Koelz at Bardu forest (Khorasan-e Razavi) on 20 Aug. 1940 (in AMNH and FMNH).

**Rustic Bunting** *Emberiza rustica* (3, 4)

A female collected in the Kashtadan valley near Karat (Khorasan-e Razavi) on 31 Oct. 1898 (Zarudny 1903) and a male on the Jebel-Tnue ridge near Ahwas 21 Jan. 1904 (NUUT). Rare migrant northern and southern Great Khorasan (Zarudny 1911), but no confirmation for southern Khorasan in Zarudny's travel reports. The correct identification of birds recorded as Rustic Buntings from mid-November 1956 to mid-February 1957 at Ahmad-Abad and on the Rud-e Shur near Robat-Karim, Tehran area (Passburg 1959) is doubtful. One seen by P.A.D. Hollom in Dasht-e Arjan on 27 Nov. 1965 (Scott 2008).

**Little Bunting** *Emberiza pusilla* (2, 0)

One collected by Koelz on about 10 Feb. 1940 at Goraghan (Kerman), now in UMMZ; another collected on the Sari - Tir-Tash (Behshahr) plain (Mazandaran) on 2 Dec. 1952 (Misonne 1953), now in KBIN Brussels.

**Yellow-breasted Bunting** *Emberiza aureola* (2, 2)

A male collected at Bid (Baluchestan) on 30 May 1901 (NUUT), a female seen on Ashurah Deh (Mazandaran) on 19 Sep. 1961 (Feeny *et al.* 1968). One further record is listed in Scott (2008). The coincidence of the dates (19 Sep. (Feeny *et al.* 1968) and 18 Sep. 1974 (Scott 2008)) is interesting.

**European Serin** *Serinus serinus* (1, 1)

Collected on 21 Apr. 1904 at Sarkhun (Bakhtiari) (Zarudny 1911, identification not entirely certain), and a pair collected Qasr-e Shirin (Kermanshah) on 6 Jan. 1941 (Koelz, in FMNH).

**White-winged Grosbeak** *Mycerobas carnipes* (18, 6)

The type of the subspecies breeding in Iran and nearby Turkmenistan, *speculigerus*, was collected over 160 years ago, because this taxon was described in 1842 by Brandt from a bird from 'North Iran'. Common high up in the Kopet Dagh Mountains of North Khorasan and Khorasan-e Razavi, where Rubansky collected four birds in the Domchi-Dareh valley in 1886, while Walter found them "very common" in juniper on the Guliuli Plateau on 5 Jun. 1887 and on the Kurt-Severdeh pass 5 days later (Radde & Walter 1889). Zarudny also obtained one on the Guliuli Plateau on 26 Jun. 1892 (in AMNH). Other observations of Zarudny were made in the Emam-Qoli/Zubaran area on 4–6 Apr. 1896, near Jarf on 23 Jul. 1896, on the Kuh-e Kalleh-Menar on 24 Jul. 1896, between Jank and Mareshk on 3 Aug. 1896, and on the Hazar-Madjed

pass near Khakestar on 7 Aug. 1896 (Zarudny 1900). Further birds were collected in the mountains near Bardu (35°23'N, 60°02'E) on 12 Apr. 1898 and at nearby Sibek-Bala the next day (Zarudny 1903). Koelz collected a long series (14 males, 6 females) at Karim-Serai (Golestan) on 21 Jul. 1940 (in AMNH and FMNH) and a further 6 males and 6 females at Bardu (Khorasan-e Razavi) on 19–20 Aug. 1940, now all in FMNH (apparently another Bardu than that of Zarudny, at c. 36°20'N, 58°30'E, according to a map on the website of the UMMZ). Seven birds were observed in degraded forest on a rocky slope near Dasht (North Khorasan) on 29 May 1967 (Érard & Etchécopar 1970).

**Indian Silverbill** *Euodice malabarica* (2, 9)

One collected on Greater Tunb Island (Hormozgan) by LaPersonne on 7 Apr. 1921, but no others seen (Ticehurst *et al.* 1925) and apparently not established as a breeder. Four birds collected by Koelz near Isin (Hormozgan) on 17–18 Dec. 1939 (FMNH), and also noticed in the Isin area by J. Vielliard on 22 Feb. 1969 (Érard & Etchécopar 1970).

**Saxaul Sparrow** *Passer ammodendri* (1, 0)

Occurred in the Tajan/Tedzhen valley south to Rukhn-Abad oasis, breeding in tree-holes (*e.g.* in holes of *Dendrocopos leucopterus*) in riverine forest but also in saxaul-scrub in desert and at the base of nests of large birds-of-prey (Radde & Walter 1889, Zarudny & Härms 1913). As the trees of Rukhn-Abad oasis extended south along the Tajan almost to Sarakhs on both sides of the river, one may assume that the species occurred also in Iran, though Radde & Walter (1889) after research in the area on 15 May 1887 clearly state: 'common on the east-bank of the Tedzhen [in Turkmenistan], absent on the west-bank [in Iran]'. Certainly within Iran were one or more specimens which Zarudny collected at Pish-Robat further south in Khorasan-e Razavi on the west bank of the Hari-Rud on 16 Nov. 1900 (Zarudny & Härms 1913).

**Jungle Sparrow** *Passer pyrrhonotus* (2, 4)

Zarudny observed a small flock in trees in a flooded swamp at Kucheh (between Mir-Bazar and Shahrestan in Baluchestan) on 19 Mar. 1901; three days later he collected a male from a flock of six birds at Lekubal (Baluchestan), seen close to old nests in scrub supposed to be of this species (Zarudny & Härms 1913). Érard & Etchécopar (1970) found about six birds in acacia and tamarisk in a wadi-bed near Nik-Shahr on 13 May 1967.

**Desert Sparrow** *Passer simplex* (3, 0)

On 2 May 1898 Zarudny observed one or more birds at Howz-e Muzaffari (South Khorasan) (Zarudny

1901). On 5 May he found a small number along the road in hilly desert with well-developed scrub and Saxaul-bush between Chah-Rakht and Ahangan (South Khorasan). Because the habitat here was very similar to the breeding habitat used by the species in Repetek (Turkmenistan), a breeding locality well-known to him, he supposed the species bred also in Iran (Zarudny 1911), though he had no direct observation of nesting. Only the record of 5 May is listed in his scientific report (Zarudny 1903) and in Zarudny & Härms (1912), but both 2 and 5 May are listed in his diary (Zarudny 1901). On 2 Aug. 1901 Zarudny found birds on Kuh-e Aik, west of Bam-Rud (Khorasan) (Zarudny 1916). Beldi (1918) reported an observation of Desert Sparrows near Fara-Dombeh (Bakhtiari) on 27 Jun. 1916, but this appears doubtful; no description was supplied other than the call, recorded as "tyerr-er-err", which seems to point to *Carpospiza brachydactyla*, a species apparently unknown to Beldi.

**Black Drongo** *Dicrurus macrocercus* (1, 0)

On 4 and 5 Aug. 1898 Zarudny collected three birds in riverine forest along the Rud-e Bampur river, two adult females and a juvenile male (Zarudny 1903). One female and the juvenile are now in the AMNH in New York, the other female in NUUT in Tashkent. Because a juvenile was present, the species is supposed to have bred here, also because post-breeding dispersal of a small flock of birds seems unlikely. The nearest regular breeding area of the species is in the Mashkai valley in Pakistan Balochistan at 65°35'E, five degrees (520 km) east of Bampur, though a vagrant has been recorded at Ormara (64°38'E) on 21 Oct. 1901 (Ticehurst 1926–27).

**Carrion Crow** *Corvus corone* (8, 4)

All-black birds of the eastern subspecies *orientalis* were found breeding on the Iranian side of the Hari-Rud valley near Torbat-e Jam (Khorasan-e Razavi) in about May 1890 (Zarudny 1900). Several were observed along the Sistan lakes and near Hosein-Abad (Sistan) on 7–16 Jun. 1896, and Zarudny supposed that small (Zarudny 1900) or large (Zarudny 1911) numbers bred here, though no proof of this is provided. One bird was seen near Qalandar-Abad (Khorasan-e Razavi) on 26 Jul. 1896 (Zarudny 1900). A few seen and a male collected in gardens near Torbat-e Jam on 16–17 Apr. 1898 (wing length 332 mm; possibly 1<sup>st</sup>-year); a rare breeder in the Hari-Rud valley near Pish-Robat (Khorasan-e Razavi) 19–22 Apr. 1898 (Zarudny 1901). Common in winter in Kuhak (NE Iranian Sistan); one collected here on 20 Mar. 1905 went to the NHM (Cumming 1905). A juvenile male was collected on 23 May 1967 at Hosein-Abad near Shusf (South Khorasan); wing length 348 mm but

wing probably still growing as primary-bases sheathed; on the same day, a flock of circa 10 birds seen at Khoshareh (Khan-Sharaf, South Khorasan) (Érard & Etchécopar 1970). Paludan (1959) observed a few all-black crows probably of this species on the lower Farah-Rud on 28–30 Mar. 1949; though in Afghanistan, this is only a few km from the Sistan border.

**Large-billed Crow** *Corvus macrorhynchus* (3, 0)

P.M. Matyushovyn found many breeding pairs on both sides of the Hari-Rud river (Khorasan-e Razavi) in 1896 and a few in 1895; on 19–22 Apr. 1898, Zarudny encountered this species only on the Afghan side of the river near Eslam-Qale, none on the Iranian side near Pish-Robat; he collected a male (wing length 350 mm, bill 65.4 mm) (Zarudny 1903). On 14 Nov. 1900 Zarudny noted a bird near Kariz (Khorasan-e Razavi) (Zarudny 1916). Zarudny (1911) also lists it as a scarce breeder in Sistan, but no birds are mentioned in his travel reports for Sistan.

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**Appendix I.** Coordinates of localities cited. Localities outside Iran are indicated by grey background.

Locality	Province (Iran) or country (in capital)	x°.y' N	x°.y' E	Locality	Province (Iran) or country (in capital)	x°.y' N	x°.y' E
Ab Meshkin	Hamedan	35.37	48.16	Dort-Kuju	TURKMENISTAN	37.45	61.15
Abbas-Abad	Mazandaran	36.43	51.09	Do-Rud	Lorestan	33.29	49.04
Abbas-Ali Kesh	Mazandaran	36.43	52.59	Dum-Dum River	Lorestan	32.44	48.34
Abd	IRAQ	31.34	47.16	Dushak	TURKMENISTAN	37.11	60.04
Abu-Musa Island	Hormozgan	25.52	55.02	Duz-Ab valley	Baluchestan	29.29	60.54
Ahangaran	South Khorasan	33.24	60.10	Emam-Qoli	Khorasan-e Razavi	37.26	58.30
Ahmad-Abad	Tehran	35.22	51.13	Emam-Rud	Semnan	36.25	54.58
Ahwaz	Khuzestan	31.20	48.41	Esfahan	Esfahan	32.42	51.41
Akunlu	Hamedan	35.36	48.11	Islam-Qale	AFGHANISTAN	34.40	61.03
Al-Anbar Province	IRAQ	33.00	42.45	Fao/Al-Faw	IRAQ	29.55	48.26
Alireza-Abad (Moghan plain)	East Azarbaijan	39.21	47.28	Fara-Dombe	Bakhtiari	32.00	51.12
Amik Gölü	TURKEY	36.19	36.19	Farah-Abad (Gohar-Baran)	Mazandaran	36.48	53.06
Anzali Wetland	Gilan	37.25	49.28	Farah-Rud delta	AFGHANISTAN	31.26	61.25
Arabi Island	SAUDI ARABIA	27.46	50.10	Farah-Rud river, lower	AFGHANISTAN	31.26	61.28
Aq Emam	Golestan	37.43	55.58	Farman-Abad	Khorasan-e Razavi	34.42	60.46
Archivan	AZERBAIJAN REP.	38.30	48.49	Farsi Island	Bushehr	27.58	50.11
Ardupa	AZERBAIJAN REP.	38.28	48.50	Feiz-Abad	AFGHANISTAN	31.29	61.30
Astara	AZERBAIJAN REP.	38.27	48.52	Feiz-Abad (near Miandehi)	Khorasan-e Razavi	35.01	58.46
Atrak River mouth	Golestan	37.16	54.09	Gach-e Turush Mountain	Fars	29.54	50.56
Babol-Sar	Mazandaran	36.41	52.39	Garmab	TURKMENISTAN	38.01	57.44
Bahu-Kalat	Baluchestan	25.43	61.25	Gaz River mouth	Mazandaran	36.47	53.55
Bala-Morghab	AFGHANISTAN	35.35	63.19	Gazik	South Khorasan	33.00	60.13
Bam	Kerman	29.07	58.20	Ghasan-Kuli (Hasan-Qoli)	TURKMENISTAN	37.25	53.58
Bampur	Baluchestan	27.13	60.28	Ghazian	Gilan	37.27	49.34
Bam-Rud	South Khorasan	33.39	60.05	Gohar-Baran	Mazandaran	36.48	53.06
Bandan	South Khorasan	31.23	60.43	Golandar	South Khorasan	32.24	59.40
Bandar Abbas	Hormozgan	27.11	56.16	Gonbad-e Qabus	Golestan	37.15	55.10
Bandar Anzali	Gilan	37.28	49.27	Goraghan	Kerman	28.53	57.54
Bandar-e Gaz	Mazandaran	36.47	53.57	Gorgan	Golestan	36.50	54.26
Band-Qir	Khuzestan	31.40	48.54	Gorgan Bay South shore	Mazandaran	36.47	53.53
Bani-Farur Island	Hormozgan	26.17	54.31	Gorgan Bay West end	Mazandaran	36.51	53.37
Baqer-Abad	AFGHANISTAN	31.28	61.30	Gorgan River mouth	Golestan	37.00	54.00
Bardu (Koelz)	Khorasan-e Razavi	36.20	58.30	Gowhar Posht	Baluchestan	27.07	60.29
Bardu (Zarudny)	Khorasan-e Razavi	35.23	60.02	Gulgak	Gilan	37.30	49.20
Bardu forest (Koelz)	Khorasan-e Razavi	36.20	58.30	Guliluli Plateau	North Khorasan	37.40	58.15
Bareng Bay	Sistan	31.09	61.09	Gulmirun	South Khorasan	33.12	60.12
Basrah	IRAQ	30.30	47.50	Gwadar	PAKISTAN	25.07	62.19
Bazman	Baluchestan	27.51	60.11	Hamedan	Hamedan	34.47	48.31
Bergen-Rud	Baluchestan	25.43	61.25	Hamun-e Farah	Sistan	31.08	61.20
Beshadaraz	Ilam	32.47	46.59	Hamun-e Jauri marsh	Baluchestan	28.16	60.36
Bid	Baluchestan	29.09	61.02	Hamun-e Puzak	Sistan	31.16	61.42
Bijaneh	Kermanshah	34.19	47.07	Hamun-e Sabari lake	Sistan	31.25	61.20
Birjand	South Khorasan	32.52	59.13	Hari-Rud valley	Khorasan-e Razavi	34.48	61.04
Bisheh-ye Pooran	Lorestan	33.20	48.52	Hari-Shotur gorge	Khorasan-e Razavi	34.32	60.28
Bojnurd	North Khorasan	37.28	57.19	Harmaleh (on Dez River)	Khuzestan	31.51	48.42
Borujerd	Lorestan	33.54	48.45	Haviq	Gilan	38.09	48.53
Bushehr	Bushehr	28.58	50.50	Hazar-Madjed pass	Khorasan-e Razavi	36.54	59.50
Chahar-Takab	Khorasan-e Razavi	35.29	59.54	Hengam Island	Hormozgan	26.38	55.53
Chah-Bahar	Baluchestan	25.17	60.37	Herat	AFGHANISTAN	34.17	62.10
Chah-Bazan River	Lorestan	32.40	48.24	Heider-Abad	West Azarbaijan	37.07	45.27
Chah-e Bid well	Baluchestan	27.10	62.10	Hirmand River, lower	Sistan	31.10	61.36
Chah-Rakht	South Khorasan	33.38	60.16	Hoor-al-Azim marsh	Khuzestan	31.30	47.50
Chalus	Mazandaran	36.39	51.25	Hormoz Island	Hormozgan	27.05	56.25
Chandgan	Baluchestan	26.10	60.28	Hormoz Straits	Hormozgan	27.00	57.00
Chashmeh-Rowghani	Khuzestan	31.33	49.42	Hosein-Abad (near Shusf)	South Khorasan	31.44	60.04
Chat-e Atrak	Golestan	37.58	55.16	Hosein-Abad (near Zabol)	Sistan	30.48	61.23
Chenaran	Khorasan-e Razavi	36.39	59.07	Hoveizeh	Khuzestan	31.26	48.03
Dasht	North Khorasan	37.18	56.01	Howz-e Muzzafari	South Khorasan	33.52	59.54
Dasht-e Arjan	Fars	29.37	51.58	Huleh Lake	ISRAEL	33.08	35.36
Davar-Panah	Baluchestan	27.19	62.23	Iran-Shahr	Baluchestan	27.12	60.41
Deh-Shib	Kerman	30.29	57.19	Isin	Hormozgan	27.49	56.16
Dez Dam reservoir	Lorestan	32.38	48.28	Izeh	Khuzestan	31.50	49.52
Dez River reserve	Khuzestan	32.03	48.30	Jafar-Abad	Khorasan-e Razavi	37.13	58.18
Dhi-Qar province	IRAQ	31.10	46.25	Jahra Bay	KUWAIT	29.22	47.43
Diyala province	IRAQ	33.50	45.00	Jahrom	Fars	28.29	53.33
Dolat-Abad	North Khorasan	37.20	55.49	Jank	Khorasan-e Razavi	36.47	59.35
Domchi-Dareh valley	Khorasan-e Razavi	36.31	60.04	Jask	Hormozgan	25.38	57.46



Locality	Province (Iran) or country (in capital)	x°:y' N	x°:y' E	Locality	Province (Iran) or country (in capital)	x°:y' N	x°:y' E
Jazmurian Basin	Baluchestan/Kerman	27.32	59.21	Mulla-Rud mouth	Gilan	37.34	49.10
Jebel-Tnue ridge	Khuzestan	31.18	48.44	<b>Muscat/Masqat</b>	<b>OMAN</b>	<b>23.36</b>	<b>58.35</b>
Jolfa	East Azarbaijan	38.56	45.38	Muzdaran mountain	Khorasan-e Razavi	36.51	59.34
<b>Kaakhka</b>	<b>TURKMENISTAN</b>	<b>37.20</b>	<b>59.37</b>	Namreh	Semnan	36.25	54.43
Kajdar	Baluchestan	26.35	61.17	Nasr-Abad	Sistan	31.01	61.29
Kalagan	Baluchestan	27.29	62.47	Nay-Band	Bushehr	27.25	52.45
Kalateh-ye Mardj	South Khorasan	33.08	60.10	Niaz-Abad	Khorasan-e Razavi	34.13	60.02
Kalvar	Lorestan	33.20	49.00	Nik-Shahr	Baluchestan	26.13	60.13
Kambel	Baluchestan	25.22	60.52	<b>Nygyman</b>	<b>KAZAKHSTAN</b>	<b>50.19</b>	<b>69.25</b>
Karaj	Tehran	35.46	51.05	Ormara	PAKISTAN	25.12	64.38
Karat	Khorasan-e Razavi	34.33	60.34	Orumiyeh city	West Azarbaijan	37.33	45.04
Karim-Serai	Golestan	36.30	54.30	Orumiyeh lake	Azarbaijan	37.30	45.30
Kariz	Khorasan-e Razavi	34.48	60.49	<b>Panjgur</b>	<b>PAKISTAN</b>	<b>26.58</b>	<b>64.07</b>
<b>Kary-Bent</b>	<b>TURKMENISTAN</b>	<b>37.13</b>	<b>60.41</b>	Parak	Baluchestan	25.29	60.33
Kashtadan valley	Khorasan-e Razavi	34.33	60.34	Parvareh/Purvadeh	Yazd	33.04	57.16
Kazerun	Fars	29.37	51.39	<b>Pasni</b>	<b>PAKISTAN</b>	<b>25.15</b>	<b>63.28</b>
Khajeh-Nafas	Golestan	36.59	54.05	Pir-Mohammad marshes	Sistan	30.48	61.40
Khakestar	Khorasan-e Razavi	37.05	59.29	Pish-Kuh basecamp	Mazandaran	36.38	50.35
Khan-e Zinian	Fars	29.40	52.09	Pish-Robat	Khorasan-e Razavi	34.50	61.03
Kharkic/Kharg Island	Bushehr	29.14	50.19	Pol-e Safid	Mazandaran	36.05	53.01
Khav-e Bala	South Khorasan	33.34	57.09	Pol-e Band	Khorasan-e Razavi	34.54	60.34
Khair-Abad	Baluchestan	27.17	60.17	<b>Pulikhatur</b>	<b>TURKMENISTAN</b>	<b>35.57</b>	<b>61.07</b>
<b>Khodzhakala</b>	<b>TURKMENISTAN</b>	<b>38.14</b>	<b>56.48</b>	Punel	Gilan	37.32	49.06
Khorram-Abad	Mazandaran	36.45	50.58	Qalandar-Abad	Khorasan-e Razavi	35.37	59.57
Khorram-Shahr	Khuzestan	30.26	48.11	Qaleh-Tak (Zard-Kuh mt)	Bakhtiari	32.29	50.08
Khoshareh	South Khorasan	31.33	60.06	Qasr-e Qand	Baluchestan	26.14	60.45
Khoy	West Azarbaijan	38.33	44.57	Qasr-e Shirin	Kermanshah	34.30	45.34
<b>Kirkuk</b>	<b>IRAQ</b>	<b>35.28</b>	<b>44.26</b>	Qazvin	Kazvin	36.16	50.00
Kjardi	Khorasan-e Razavi	36.41	59.42	Qeshm Island	Hormozgan	26.50	55.54
<b>Kohsan</b>	<b>AFGHANISTAN</b>	<b>34.39</b>	<b>61.11</b>	Ramsar	Mazandaran	36.54	50.41
<b>Kolwa</b>	<b>PAKISTAN</b>	<b>26.01</b>	<b>64.16</b>	Ras-al-Kuh cape	Hormozgan	25.47	57.18
Kotalyek-Chinar pass	North Khorasan	37.35	57.30	Rasht	Gilan	37.16	49.35
Kucheh	Baluchestan	25.35	61.05	<b>Repetek</b>	<b>TURKMENISTAN</b>	<b>38.33</b>	<b>63.10</b>
Kuhak	Sistan	30.49	61.45	Rezvan-Shahr	Gilan	37.33	49.08
Kuh-e Aik	South Khorasan	33.36	59.56	Riku	Baluchestan	25.56	61.33
Kuh-e Asmari	Khuzestan	31.42	49.36	Robat-Karim	Tehran	35.28	51.05
Kuh-e Kalleh-Menar	Khorasan-e Razavi	35.26	59.53	Rostam-Abad	Gilan	36.52	49.29
Kuh-e Murghak valley	Baluchestan	28.17	60.20	<b>Rotha marsh NE of Qurn</b>	<b>IRAQ</b>	<b>31.16</b>	<b>47.40</b>
Kuh-e Taftan	Baluchestan	28.36	61.08	Rud-e Ahangaran, upper	South Khorasan	33.22	60.08
Kuh-e Taftan	Baluchestan	28.37	61.08	Rud-e Bampur near Bam	Baluchestan	27.11	60.29
Kukhar	Baluchestan	27.05	60.50	Rud-e Kahir nr Parak	Baluchestan	25.29	60.33
Kulmahak	Lorestan	32.37	48.33	Rud-e Kiagur (near	Baluchestan		
Kulam-Haji-Ali	Golestan	36.25	54.37	Bazman)		27.45	60.20
Kund Lake	Baluchestan	29.29	60.54	Rud-e Sarbaz	Baluchestan	26.40	61.15
Kurin valley	Baluchestan	28.56	60.23	Rud-e Shur (near Robat-	Tehran		
Kurt-Severdeh pass	Khorasan-e Razavi	37.35	58.37	Karim)		35.27	51.04
Kush-Gardan	Baluchestan	27.13	60.05	Rud-e Sistan near Kuhak	Sistan	30.49	61.45
Ladiz	Baluchestan	28.54	61.18	Rud-Sar	Gilan	37.34	49.10
Larim-Sara wetlands	Mazandaran	36.45	53.01	<b>Rukhn-Abad</b>	<b>TURKMENISTAN</b>	<b>36.41</b>	<b>61.09</b>
Lark/Larak Island	Hormozgan	26.51	56.21	Sadaki	Sistan	31.17	61.41
Lekubal	Baluchestan	25.21	60.49	Sakht-Sar	Mazandaran	36.54	50.41
Leva pass	Golestan	37.25	55.40	<b>Salah-ad-Din province</b>	<b>IRAQ</b>	<b>34.20</b>	<b>43.45</b>
Mand, west of -	Baluchestan	26.06	61.48	Sanandaj	Kordestan	35.19	47.00
Maragheh	West Azarbaijan	37.25	46.13	Sangan	Khorasan-e Razavi	34.26	60.15
Mareshk	Khorasan-e Razavi	36.48	59.33	Sarab	East Azarbaijan	37.56	47.32
Marish river	Khorasan-e Razavi	36.53	59.32	Sarakhs	Khorasan-e Razavi	36.32	61.09
Marivan	Kordestan	35.31	46.10	Sardab-Rud	Mazandaran	36.28	51.06
<b>Masandan Peninsula</b>	<b>OMAN</b>	<b>26.00</b>	<b>56.30</b>	Sari	Mazandaran	36.33	53.03
Mashhad	Khorasan-e Razavi	36.16	59.34	Sari – Tir-Tash plain	Mazandaran	36.45	53.25
<b>Mashkai valley</b>	<b>PAKISTAN</b>	<b>27.08</b>	<b>65.35</b>	Sarkhun	Bakhtiari	31.45	50.33
Mashkel lake	Baluchestan	29.29	60.54	<b>Sevan Lake</b>	<b>ARMENIA</b>	<b>40.25</b>	<b>45.12</b>
Miankaleh sandspit	Mazandaran	36.53	53.44	Shahdad	Kerman	30.25	57.43
Mir-Bazar	Baluchestan	25.35	61.06	Shah-Godar	Hamedan	35.41	48.08
Mirza Mohamad-Hosein	Sistan	31.07	61.20	Shahrak-e Tahlab	Baluchestan	28.43	61.40
Mishun	Fars	29.59	50.57	Shahr-e Now	Khorasan-e Razavi	35.00	60.15
Mohammad-Abad (near	South Khorasan	33.28	60.07	Shahrestan	Sistan	25.35	61.03
Ahangaran)				Sheikh Shoeyb Island	Hormozgan	26.45	53.15
Molla-Kola	Mazandaran	36.39	52.24	Shiraz	Fars	29.36	52.32
<b>Mosul/Al-Mawsil</b>	<b>IRAQ</b>	<b>36.21</b>	<b>43.08</b>	Shitvar/Sheedvar Island	Hormozgan	26.47	53.24
Mozhn-Abad	Khorasan-e Razavi	34.07	60.06	Shushtar	Khuzestan	32.02	48.51

Locality	Province (Iran) or country (in capital)	x°:y' N	x°:y' E	Locality	Province (Iran) or country (in capital)	x°:y' N	x°:y' E
Sibek-Bala	Khorasan-e Razavi	35.25	60.06	Tomogaon	Kerman	28.50	58.05
Sinkuran	Baluchestan	27.11	60.43	Torbat-e Jam	Khorasan-e Razavi	35.16	60.36
Sistan Basin	Sistan	31.05	61.25	Tuman-Aqa	Khorasan-e Razavi	34.54	61.02
Sumbar River, upper	North Khorasan	38.12	56.33	Greater Tunb	Hormozgan	26.15	55.17
Taasuk	Baluchestan	29.50	60.52	Lesser Tunb	Hormozgan	26.14	55.07
Tabas	South Khorasan	32.48	60.14	Varamin	Tehran	35.19	51.40
Tabas Basin	South Khorasan	32.48	60.14	Vatana	Golestan	36.43	53.58
Tabriz	East Azarbaijan	38.04	46.18	Wasit Province	IRAQ	32.30	46.00
Tajan/Tedzhen valley	Khorasan-e Razavi	36.40	61.08	Yazd	Yazd	31.54	54.22
Takht-e Malek	Baluchestan	26.26	60.03	Zabol	Sistan	31.00	61.32
Tedzhar	Semnan	36.30	54.42	Zahedan	Baluchestan	29.32	60.54
Tehran	Tehran	35.40	51.25	Zai	PAKISTAN	28.27	65.19
Tersakan	TURKMENISTAN	37.10	55.56	Zinjanab	East Azarbaijan	37.51	46.20
Ti	Lorestan	33.19	49.05	Zubaran	Khorasan-e Razavi	37.13	58.28
Tir-Pol	AFGHANISTAN	34.35	61.16				

**Appendix II.** List of hypothetical species perhaps occurring in Iran during the period 1860s–1960s.

#### **Flesh-footed Shearwater *Puffinus carneipes***

Occasionally noted during July–November in the Gulf of Oman in the 1960s (Tuck 1974), and thus may be expected to occur off SE Iran. A large shearwater seen resting at sea on 26 Feb. 2000 in the Hormoz Straits (Dubois *et al.* 2000) may have been this species or was Cory's Shearwater *Calonectris diomedea*.

#### **Bald Ibis *Geronticus eremita***

A bird once widespread in dry steppe country near rock walls, now extinct in southern Europe and over much of North Africa and the Middle East, small colonies left only in Morocco and Syria and a semi-captive population in southern Turkey. Birds from the Turkish and Syrian colonies, still thriving in the early decennia of the 20<sup>th</sup> century have reached Iraq (e.g. observed Kirkuk 21 Jan. 1921) (Ticehurst *et al.* 1926), but no proof of occurrence in Iran, though rock walls at the border of the plains in Kermanshah, Ilam, and Khuzestan seem suitable habitat.

#### **Snow Goose *Anser caerulescens***

Although listed by Zarudny (1911) for the South Caspian region, he might have referred to old records in Azerbaijan Republic.

#### **Falcated Duck *Anas falcata***

Two birds have been collected in neighbouring countries, but none within Iran territory: a male from Bala-Morghab (NW Afghanistan) was collected on 28 Dec. 1884 by Captain Heath and is now in the NHM in Tring (UK) (Sharpe 1889), and another male was shot on the river near Hanna (Iraq) on 19 Mar. 1916 by Mr Thornhill, who used the bird for dinner (Ticehurst *et al.* 1921–3); no locality 'Hanna' was found in Iraq and one may wonder whether the record refers to Hanna (31°11'N, 51°43'E) in Esfahan Province. According to Zarudny (1911), a rare winter bird in the Hari-Rud valley, Seistan, the Kuhestan-Kerman area (the area between Yazd, Bam, Birjand, and Tabas) and northern Baluchestan, but this was apparently based on information acquired from local hunters, as the bird is not listed in his travel reports for these areas (Zarudny 1900, 1903, 1916).

#### **Lesser Florican *Syphotides indicus***

This bustard was listed as vagrant by Zarudny (1911) for the Khuzestan plains and for the coastal strip between Bushehr and south Baluchestan. Evidence uncertain: the species is not listed in the diary of Zarudny's travel in southern Baluchestan in Apr.–May 1901 (Zarudny 1916), and the results of his journey in the Khuzestan plains (Izeh-Ahwaz-Shushtar-Khorram-Shahr, 27 Dec. 1903 to 6 Mar. 1904) have never been published. Zarudny may have seen one as a hunting trophy somewhere, or the record rests on hearsay evidence. Not acceptable as long no proof is available.

#### **Common Noddy *Anous stolidus***

A few seen and one collected by A.E. Butler between Jask (Baluchestan) and Pasni (Pakistan Balochistan) in the late May 1877 (Ticehurst 1926–7); not with certainty within the border of Iran, though two-thirds of this transect is in Iran: Pasni is 190 km east of the Iran/Pakistan border, Jask 390 km west. Five birds were collected by W.D. Cumming at Ormara (300 km from the border in Pakistan) on 4 Apr. 1901 after a cyclone (Ticehurst 1926–7).

#### **Arctic Tern *Sterna paradisaea***

No record for Iran, but several records between 22 May and 12 Jun. during 1995–2006 at the head of the Persian Gulf in Jahra Bay (Kuwait), 100 km from the Iran border (Al-Sirhan 2007). As for *Stercorarius* skuas, these terns probably cross Iran on their way to the arctic breeding grounds.

#### **Hume's Owl *Strix butleri***

This species was described as new for science by A.O. Hume (1878), based on a specimen obtained from a Mr Nash living in Ormara (Pakistan Balochistan). For almost a century no other specimens of the species came to knowledge, and this bird was considered to be an extremely rare taxon supposedly restricted to the Makran coast, including that of Iranian Baluchestan. Since the 1970s, the species became better known, and it is now known as a resident in wadis in SE Egypt, the Sinai, the Arava valley north to the Dead Sea basin, and the Arabian peninsula. No bird has been found again on the Makran coast, and likely the type specimen was brought to Ormara over sea from Arabia.

#### **Indian Nightjar *Caprimulgus asiaticus***

Collected by Aitchison at Tir-Pol on 14 Apr. 1885 (male) and at Kohsan on 16 Apr. 1885 (female) (Sharpe 1889). Both these localities are on the Afghan side of the Hari-Rud River, 18–27 km away from the border of Iranian Khorasan-e Razavi. In 1939, Walter Koelz described a new subspecies from a bird wintering in Gurgaon, India, which was much paler than the (rather variable) populations of this species known to breed in the Indian peninsula (Koelz 1939). This form *gurgaoni* was supposed to

be similar to the birds collected by Aitchison. Thus, the Hari-Rud valley appears to be inhabited by a local endemic breeding taxon *gurgaoni*, well-isolated from the remaining populations of *C. asiaticus* occurring east from the Indus valley in Pakistan (Vaurie 1965). However, Vaurie's view is apparently not taken over by other authors, as neither *gurgaoni* nor the two specimens show up in the literature: they are not listed in Cleere & Nurney (1998), Dickinson *et al.* (2003), or Rasmussen & Anderton (2005). Search for the specimens and a check of the validity of a local endemic form seems necessary. The evidence for occurrence of *C. asiaticus* in Iran is weak. Zarudny (1911) listed the bird for Iran as a possible rare breeder for the Paropamisus area (what equals the Hari-Rud/Tajan valley), apparently because of the specimens of Aitchison: he does not list the bird in his own reports made after visits to the Hari-Rud valley on 17–27 Apr. and 1–5 Nov. 1898, 12–18 Nov. 1900, or 9–14 Aug. 1901 (Zarudny 1901, 1903, 1916). The observation of 'a *Caprimulgus* not yet known to me' at Ladiz (Baluchestan) on 10 Sep. 1898 (Zarudny 1903) is no valid reason to admit any *C. asiaticus* prior to 1970, though this bird was perhaps the base for listing it as 'rare vagrant in southern Baluchestan' (Zarudny 1911).

**Plumbeous Water Redstart *Rhyacornis fuliginosa***

A grey bird with a red tail (not being *Phoenicurus*) was found on Kuh-e Taftan on 7 Sep. 1898; it was provisionally identified as *Rhyacornis* (Zarudny 1903), but Zarudny himself was very uncertain about the identification and the record can better be neglected.

**Mountain Chiffchaff *Phylloscopus sindianus***

Birds supposed to belong to nominate *sindianus* from west-central Asia were encountered by Blanford on 10 Mar. 1872 at Kalagan and on 25 Mar. 1872 at Davar-Panah (both Baluchestan) (Blanford 1876); also, listed as migrant for northern and southern Khorasan (Zarudny 1911). Because birds of the Chiffchaff complex are sometimes difficult to identify and full extent of variation of the various forms was not known then, identification is doubtful.

**Yellow-breasted Tit *Parus (cyanus) flavipectus***

A male specimen in worn plumage of the subspecies *carruthersi* in the NHM (Tring) is labelled 'Mashhad (Khorasan), 22 Feb. 1922'; wing length 62.5 mm (Vaurie 1957). However, as this bird was from the collection of R. Meinertzhagen its provenance is doubtful (cf. Knox 1993, Rasmussen & Collar 1999).

**Cirl Bunting *Emberiza cirlus***

Listed as vagrant for the Zagros area by Zarudny (1911), so probably observed or collected December 1903 or April 1904 when Zarudny crossed these mountains, but his travel report for this area has not been published and no details are known. One observed at Alireza-Abad on the Moghan plain in East Azarbaijan on 15 Aug. 1954 (Misonne 1955), but this record is rejected as being unlikely by Schüz (1959).

**Black-breasted Weaver *Ploceus benghalensis***

Zarudny found typical retort-shaped weaver nests with long entrance pipes hanging in a tree above water near Lekubal (Baluchestan) on 22 or 23 Mar. 1901; two nests inspected contained black, brown, and yellow feathers, conforming a weaver, but the colony appeared deserted and the species was not with certainty established, though *P. benghalensis* appeared to most likely candidate (Zarudny 1911).

**Indian Golden Oriole *Oriolus kundoo***

Listed by Zarudny (1911) as a very rare migrant in the Hari-Rud valley. Not listed in his travel reports, but occurrence in Iran is not unlikely as this species breeds in the Hari-Rud valley of Herat Province in nearby Afghanistan (Paludan 1959) and large numbers migrate to and from the breeding ground in west-central Asia to the winter grounds in India over Afghanistan.