

New and significant avifaunal records from Batam and Bintan Islands, Riau Archipelago

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Summary: Observations made during 2000-2003 and 2012, mainly in estuarine and other coastal habitats, increase the list of bird species known from Batam and Bintan islands by 15 (to 137) and two species (to 181) respectively. These records include five species new for the Riau Archipelago (Red-tailed Tropicbird *Phaeton rubricauda*, Cattle Egret *Bubulcus ibis*, Wood Sandpiper *Tringa glareola*, Curlew Sandpiper *Calidris ferruginea* and House Crow *Corvus splendens*). We also present additional records of species previously noted as uncommon or of restricted distribution in the region. Differences between the Riau Archipelago and nearby Singapore in the total number of known bird species (229 and 375 species, respectively) may be partly due to their relative isolation from mainland Southeast Asia, but the much greater survey effort on Singapore over many years must also be a significant factor. Additional, hitherto unpublished, observations by birdwatchers are sought to assess the relative importance of these explanations.

Ringkasan: Kami temukan 15 jenis burung baru untuk Pulau Batam (daftar untuk Pulau Batam meningkat menjadi 137 jenis), dan dua jenis baru untuk Pulau Bintan (meningkat sampai 181 jenis). Sekitar lima jenis (Buntutsate Merah, Kuntul Kerbau, Trinil Semak, Kedidi Golgol dan Gagak Rumah) adalah penemuan baru untuk Kepulauan Riau. Penelitian dilakukan antara 2000-2003 dan 2012, di mana paling banyak ditemukan jenis burung muara dan pantai. Berikut ini kami lampirkan/sampaikan data tambahan spesies yang sebelumnya sudah disebut sebagai spesies yang tidak umum atau jarang ditemui di Kepulauan Riau. Perbedaan jumlah spesies burung yang diketahui (229 dan 375 spesies) antara Kepulauan Riau dan Singapura mungkin disebabkan oleh terisolasinya Kepulauan Riau dari daratan Asia Tenggara. Akan tetapi banyaknya usaha pengamatan (survei) yang dilakukan di Singapura selama beberapa tahun menjadi penyebab utamanya. Sebagai tambahan dikumpulkan observasi-observasi dari pengamat-pengamat burung lainnya untuk menilai pentingnya kedua penjelasan ini.

Introduction

Batam (466 km²) and Bintan islands (1075 km²) lie immediately southeast of Singapore and are the two largest islands in the Riau Archipelago off Sumatra (Rajathurai 1996). Until the 1970s the islands were relatively undeveloped, sparsely populated and largely covered in lowland rainforest, freshwater swamp and mangroves (Oey 1996). Subsequently both islands have undergone rapid transformation as part of an economic “growth triangle” with nearby Singapore and the city of Johore Bahru in Malaysia (Peachey *et al.* 1997). Industrial and tourism developments have sprung up in many areas, and residential growth has been

exponential. Batam's human population increased from 2,000 in 1968, to over 1,150,000 by 2012, while Bintan's population is now approaching 330,000 (Biro Pusat Statistik 2012).

Rapid economic development has inevitably brought with it widespread destruction of primary forest habitat (Hansen *et. al* 2013), as well as increased pollution, hunting and disturbance pressures. The Indonesian Government has designated some forest and mangrove as protected areas on both islands, such as Duriangkang Reservoir, Mata Kucing Nature Reserve and the Sungai Penambi area on Batam (Anon. 1993). Furthermore, freshwater storage reservoirs were developed which are likely to provide new habitats for a variety of resident and migratory birds. However, with development and rapid human population growth, the decline of the islands' rich biodiversity is inevitable.

McKinnon & Phillipps (1993; Appendix 3) provided a checklist of the birds of Riau Archipelago, but they did not separate the individual islands. Rajathurai (1996) provided a valuable update of earlier work by Kelham (1881-1882), Dammerman (1926), Chasen (1931) and Gibson-Hill (1952) on the birds of Batam and Bintan, drawing on his own extensive fieldwork, the findings of surveys by the Nature Society (Singapore) and students from the National University of Singapore, and unpublished records by a number of other observers up to 1996. Thus Rajathurai (1996) increased the checklist for Batam from 64 to 118 species, excluding the Peregrine Falcon *Falco peregrinus*, which he confusingly added to the Batam list based on a report of an unconfirmed sighting, but did not include on the Riau list. The checklist for Bintan was increased from 92 to 176 species. Further records published by Rajathurai (1997), Lim (1997) and Yong & Kasorndorkbua (2008) added another four species to Batam's list and three to Bintan's, increasing the avifaunal checklist for the entire Riau Archipelago to 224 species. While Sodhi *et al.* (2010) reported the results of avifaunal surveys on Bintan (but not Batam) during the late 2000s, they did not record any new species for that island. The present paper provides details of observations of bird species hitherto unrecorded from the two islands, and those of other species reported to be uncommon by previous authors.

Methods

From October 2000 to July 2003 one author (SAS) resided on Batam, while ACC visited Batam eight times and Bintan once, while holidaying from nearby Singapore. Appendix 1 provides a list of locations mentioned in the text and their geographic coordinates. ACC made a further visit to Batam in December 2012. These records represent largely incidental observations from coastal habitats and the airport environs, as the main focus of our field work was to survey shorebirds (Crossland & Sinambela 2005). Optical aids used were 10x42 binoculars and a 25x60 spotting scope. Nomenclature here follows the Kukila Checklist No.2 (Sukmantoro *et al.* 2007).

Results

Our observations added 15 bird species to the avifaunal checklist of Batam and two to the checklist for Bintan, increasing the total number of species to 137 and 181 bird species, respectively (Appendix 2). Five species (Red-tailed Tropicbird *Phaeton*

rubricauda, Cattle Egret *Bubulcus ibis*, Wood Sandpiper *Tringa glareola*, Curlew Sandpiper *Calidris ferruginea* and House Crow *Corvus splendens*) appear to be new records for the Riau Archipelago, and are shown with an asterisk in the list below. The following records comprise new species records for Batam and Bintan (including several small satellite islands), as well as further observations of species noted as uncommon or recently confirmed by Rajathurai (1996).

Annotated list of species of interest

WEDGE-TAILED SHEARWATER *Puffinus pacificus*

Batam: One dark morph bird seen on ferry crossing, flying southwest to northeast, 2-3 km off Pulau Anak Sambu in the Singapore Strait on 23 December 2000. The species was identified by the combination of large size, uniform dark plumage above and below, dark bill, pale legs and distinctive wedge-shaped tail, most evident when the bird was banking. It is distinguishable from the similar Bulwer's Petrel *Bulweria bulweria* by its larger size and different tail shape. Furthermore, it can be distinguished from similar-sized Short-tailed Shearwater *Puffinus tenuirostris* and Flesh-footed Shearwater *Puffinus carneipes*, both of which have been recorded in seas in the region (van Marle & Voous 1988; MacKinnon & Phillipps 1993; Poole *et al.* 2011), by under-wing coloration, tail length and overall "jizz". Both species are very familiar to ACC in the seas around New Zealand.

As with the sighting of a small flock of Wedge-tailed Shearwater between Batam and Singapore by Rajathurai (1996) in October 1989, it was not clear if this bird was in international or Indonesian territorial waters but it was much closer to Batam than Singapore. Colston (1980) reported observing 15 birds in the northern Straits of Malacca on 10 July 1963. Lim (2009) noted three unconfirmed records of this species off Singapore (1989, 1994 and 2008), while Jeyarajasingam & Pearson (2012) noted a record of 100 pale morph birds in the Straits of Malacca in January 1980. More recently, low numbers of Wedge-tailed Shearwater have been recorded during pelagic birdwatching trips in the seas off the western coast of Peninsula Malaysia from April to June (Bakewell & Tan 2010), and in the Sunda Straits between Sumatra and Java during July and September (Poole *et al.* 2011). These observations suggest that the species is likely to be regular to waters of the Riau Archipelago.

***RED-TAILED TROPICBIRD** *Phaethon rubricauda*

Bintan: The first record for Bintan and the Riau Archipelago was of two birds flying in a northerly direction off the east coast of Pulau Beralas Pasir on 27 January 2001. These birds were close inshore and viewed for several minutes through a spotting scope. The combination of almost entirely white plumage, black feathering on the upper surfaces of the wings confined to primaries and scapulars, and red tail streamers eliminated confusion with the superficially similar Red-billed Tropicbird *Phaethon aethereus* and White-tailed tropicbird *Phaethon lepturus*. It would appear this pair were well west of their usual range, the nearest wintering areas being located in the Java Sea (MacKinnon & Phillipps 1993; Strange 2001). Van Marle & Voous (1988) noted several previous Sumatran records including sight records of one bird near Pulau Weh at the northwest entrance to the Straits of Melaka in May 1959, and two birds west of the Sunda Straits in July 1984.

GREAT-BILLED HERON *Ardea sumatrana*

Bintan: There are few previous records of this species from the Riau Archipelago (Van Marle & Voous 1988) and the most recent reports on Bintan were of at least four pairs along the northern coast during 1994/95 (Rajathurai 1996). We found it moderately common on parts of the east coast. One adult at Teluk Bakau, another on Pulau Beralas Pasir, and three adults on adjacent Pulau Beralas Bakau, all on 27 January 2001.

PURPLE HERON *Ardea purpurea*

Batam: First record for the island was one adult bird roosting on a breakwater at Nongsa Point Marina on 4 December 2012.

GREAT EGRET *Ardea alba*

Batam: First island record was two birds on a small mangrove island (Pulau Lima) off the northeast tip of Tanjung Uncang on 6 September 2002.

Bintan: Six were seen along the edge of mangroves opposite the Tanjung Pinang ferry terminal on 26 January 2001. Bare part coloration was not noted so it is unclear if these birds were visitors, or resident breeders.

LITTLE EGRET *Egretta garzetta*

Batam: Previously recorded in October 1993 (Rajathurai 1996). One at Sungai Jodoh on 28 December 2001 and another at the same location on 5 December 2012. All observations were of the yellow-footed *garzetta* subspecies, which is also the form most frequently recorded in Singapore (Lim 2009).

***CATTLE EGRET** *Bubulcus ibis*

Batam: First record for island was three birds flying southwards over the Duriangkang area toward Tanjung Pilol on 5 October 2002. Most Cattle Egrets recorded on Batam are likely wanderers from Singapore where the species is both a winter visitor and an abundant feral resident, dispersing widely to feeding sites all over the island from a large breeding colony at Jurong Bird Park (Lim 2009; Gan *et al.* 2012).

STRIATED HERON *Butorides striata*

Batam: Four birds at Sungai Jodoh and two at Tanjung Riau on 6 September 2002; 12 at Tanjung Jambana on 4 December 2012.

Bintan: The last published record was in September 1982 (Rajathurai 1996). Not unexpectedly, this species was found to be common in suitable habitat on the east coast. Six birds along 5 km of shoreline at Teluk Bakau and Pantai Trikora on 27 January 2001. One at Pulau Beralas Pasir on 27 January 2001.

YELLOW BITTERN *Ixobrychus sinensis*

Batam: First recorded in February 1994 (Rajathurai 1996). One bird flushed at the west end of Sungai Ladi Reservoir on 6 September 2002.

CRESTED HONEY-BUZZARD *Pernis ptilorhynchus*

Batam: One pale morph female over forest edge and scrub in the Nongsa Kapling area of Nongsa Peninsula, northern Batam on 28 January 2001. One pale morph male over open country near Kampung Terih in the southeast corner of Teluk Tering on 4 December 2012. Both birds were of the migratory race, *orientalis*.

WHITE-BELLIED SEA EAGLE *Haliaeetus leucogaster*

Bintan: One at Pulau Penyengat on 26 January 2001; one at Teluk Bakau on 27 January 2001; and one off Tanjung Pinang on 28 January 2001.

WHITE-BREASTED WATERHEN *Amaurornis phoenicurus*

Bintan: First recorded in April 1993 (Lim 1997) and subsequently reported as uncommon by Rajathurai (1996). Two birds on 27 January 2001 at the mouth of Sungai Karobi (east coast). Given that the species is a very common resident in, and migrant to, Singapore, Peninsula Malaysia and Sumatra (MacKinnon & Phillipps 1993; Wells 1999; Jeyarajasingam & Pearson 2012), the paucity of records in the Riau Archipelago may be due to under-sampling, or possibly overhunting. The species is widely hunted in Sumatra (pers. obs.), as well as Timor (C. Trainor, pers. comm.).

PACIFIC GOLDEN PLOVER *Pluvialis fulva*

Batam: Although there is only one previously published record of this species on Batam, eight on 24 October 1993 (Rajathurai 1996), we found flocks of Pacific Golden Plover at a number of estuarine locations. This species would appear to be one of the most abundant migratory shorebirds that visit Batam (Crossland & Sinambela 2005), reflecting its abundance in nearby Singapore where congregations of over 1,000 birds occur during the southward migration period (Gan & Ramakrishnan 2005). As in Singapore, this species seems most numerous during southward migration with counts of 74 at Tanjung Riau, 28 at Sungai Jodoh and eight at Teluk Senimba on 6 September 2002. No Pacific Golden Plovers were seen during shorebird surveys on 17-23 December 2000 and 28 December 2001, and just one was found among a mixed flock of 330 waders at Tanjung Jambana on 4 December 2012.

Bintan: Previously recorded in September 1982 (Rajathurai 1996). Six at Teluk Bakau on 27 January 2001.

LITTLE RINGED PLOVER *Charadrius dubius*

Batam: Reported by Gibson-Hill (1952), but not found by subsequent observers. Its presence was reconfirmed by eight birds at Sungai Jodoh on 28 December 2001, and two on 6 September 2002. Observed foraging over estuarine mudflats and around the edges of muddy pools on open ground in an adjacent construction site.

MALAYSIAN PLOVER *Charadrius peronii*

Bintan: Present and breeding on islands off the east coast. Six birds, including a pair defending two juveniles, were seen on Pulau Beralas Pasir on 27 January 2001.

LESSER SAND PLOVER *Charadrius mongolus*

Batam: The first island record was of 20 birds at Sungai Jodoh on 23 December 2000, with subsequent counts of four on 28 December 2001 and 34 on 6 September 2002. A total of 38 were observed at a high tide roost at Tanjung Riau on 6 September 2002, and 193 were counted feeding along 1.5 km of inter-tidal mudflats at Tanjung Jambana on 4 December 2012, suggesting that this species is a common migrant to Batam. In nearby Singapore it is one of the most abundant and widespread migratory shorebirds (Crossland 2002; Gan & Ramakrishnan 2005; Gan *et al.* 2012).

WHIMBREL *Numenius phaeopus*

Batam: A total of 13 at Sungai Jodoh on 28 December 2001; one at Tanjung Riau on 6 September 2002. On 4 December 2012 nine at Tanjung Jambana, one at Sungai Leli and eleven at Kampung Terih.

Bintan: A total of 16 birds along 5 km of mudflat and dead coral shoreline at Teluk Bakau and Pantai Trikora on 27 January 2001.

EURASIAN CURLEW *Numenius arquata*

Batam: The first island record was of six birds at Tanjung Jambana on 4 December 2012.

BAR-TAILED GODWIT *Limosa lapponica*

Batam: The first island record was of seven birds feeding among Common Redshanks and Lesser Sand Plovers at Tanjung Jambana on 4 December 2012.

COMMON REDSHANK *Tringa totanus*

Batam: The first island records were of 12 birds at Sungai Jodoh on 28 December 2001 and two at Tanjung Riau on 6 September 2002. A flock of 70 birds was feeding on mudflats at Tanjung Jambana on 4 Dec 2012, suggesting that this species is probably common in suitable habitat around the island's coastline.

COMMON GREENSHANK *Tringa nebularia*

Batam: The first island records were of two birds at Sungai Jodoh, four at Teluk Senimba and one at Tanjung Riau - all on 6 September 2002. One bird at Tanjung Jambana on 4 December 2012.

Bintan: Three birds at Teluk Bakau on 27 January 2001.

***WOOD SANDPIPER** *Tringa glareola*

Batam: The first island record was of one bird at Tanjung Jambana on 4 December 2012. This bird was feeding in flowing freshwater habitat in the bed of a shallow mangrove creek at low tide. The inter-tidal mudflats around the mouth of the creek and the adjacent open shoreline held more than 330 waders. In nearby Singapore, the Wood Sandpiper was formerly considered a common winter visitor and passage migrant but with extensive loss of preferred freshwater habitats it has now become rare (Lim 2009; Gan *et al.* 2012).

TEREK SANDPIPER *Xenus cinereus*

Batam: The first island record was of four birds at Tanjung Riau on 6 September 2002. Eleven birds at Tanjung Jambana on 4 December 2012.

***CURLEW SANDPIPER** *Calidris ferruginea*

Batam: The first record for Batam (and the Riau Archipelago) was of two birds at Tanjung Riau on 6 September 2002. Nine at Tanjung Jambana on 4 December 2012. Its occurrence is not surprising given its abundance in nearby Singapore (Gan & Ramakrishnan 2004) and southern Sumatra (Silvius 1988; Verheught *et al.* 1993; Crossland *et al.* 2007).

WHITE-WINGED TERN *Chlidonias leucopterus*

Batam: The first island record was of at least 20 birds in various stages of plumage off Batu Ampar on 22 October 2000. One bird off Sekupang on 29 December 2001.

GULL-BILLED TERN *Gelochelidon nilotica*

Bintan: The first island record was of eight birds at Teluk Bakau on 27 January 2001.

COMMON TERN *Sterna hirundo*

Batam: This species was first recorded off both Batam and Bintan in September 1991 (Rajathurai 1996). A total of ten widely scattered birds feeding off Batu Ampar on 28 January 2001, and one bird at Pantai Nongsa on 4 December 2012. Common Tern is noted as being an uncommon winter visitor and passage migrant to nearby Singapore, where winter counts have consistently totaled less than 30 birds (Wells 1999; Lim 2009).

LESSER CRESTED TERN *Sterna bengalensis*

Batam: First recorded in November 1993 (Rajathurai 1996). At least five birds feeding a short distance off Batu Ampar on 22 October 2000, and four at the entrance of Teluk Senimba on 5 October 2002. Peak numbers in Singapore have been recorded from September to October and in December, with a suspected eastward migratory movement in the strait between Singapore and Batam/Bintan from mid August to mid September (Medway & Wells 1976; Lim 2009).

PIED IMPERIAL PIGEON *Ducula bicolor*

Bintan: Listed as uncommon by Rajathurai (1996). A flock of six birds was seen at Pantai Trikora on 28 January 2001.

LONG-TAILED PARAKEET *Psittacula longicauda*

Bintan: Formerly recorded by Gibson-Hill (1952) and reconfirmed by Rajathurai (1996) who suggested that the form found in the Riau Archipelago is subspecies *defontainei* of the Natuna Islands, rather than subspecies *longicauda*, which is a common resident in nearby Singapore. We observed five birds at the mouth of Sungai Karobi on the east coast, roosting in *Casuarina* trees at dusk on 27 January 2001, but were unable to verify subspecies. As this is a near threatened species (Birdlife International 2013), we encourage future observers to examine Long-tailed Parakeets closely to determine which sub-species are present and to investigate the possibility that subspecies *longicauda* has not yet begun to colonise from Singapore.

ASIAN KOEL *Eudynamys scolopaceus*

Batam: The first island record was of an adult male in mangroves and coastal trees at Kampung Terih on the south-east side of Teluk Tering on 4 December 2012. The bird was very vocal and local residents reported that one or more birds had been present for some time. It is surprising that this species has not been previously recorded on Batam given its conspicuous abundance in Singapore (Lim 2009). A regular brood parasite of the House Crow, the Koel is likely to benefit from the invasion of Batam by that species (D.L. Yong, pers. coms.).

BLACK-CAPPED KINGFISHER *Halcyon pileata*

Bintan: First recorded in November 1994 with several subsequent sightings in 1995 (Rajathurai 1996). Three on Pulau Beralas Pasir on 27 January 2001. It was not reported from Bintan during avifauna surveys in 2006-2008 (Sodhi *et. al* 2010).

BLUE-THROATED BEE-EATER *Merops viridis*

Bintan: Four birds on Pulau Beralas Pasir (east coast) on 27 January 2001 appear to be the first reported in more than 70 years. The only previous records from the island were five males collected in May-June 1930 (Chasen 1931; Van Marle & Voous 1988; Rajathurai 1996). This species has subsequently been recorded on Bintan by Sodhi *et al* (2010). Its occurrence in the Riau Archipelago is expected given that it is a very common breeding migrant and uncommon winter visitor in nearby Singapore (Lim 2009). Breeding populations in Singapore and Peninsular Malaysia breed in April-September then migrate to Sumatra during the non-breeding season (Tan 2001; Jeyarajasingam & Pearson 2012). The earliest date for returning migrants moving north over Singapore is 23 January (Wells 1999; Lim 2009), which correlates closely with the date of our sighting off Bintan.

PADDYFIELD PIPIT *Anthus rufulus*

Batam: The first island record was of one bird at Hang Nadim Airport on 17 December 2000. This bird allowed close approach and was foraging on grass and asphalt between the domestic and cargo terminals. Two more birds were observed at the same location on 11 July 2003. On 28 December 2001, another was seen on bare ground cleared for a construction site beside Sungai Jodoh. Upright stance, size and structure, as well as the mid summer (Northern Hemisphere) date of two of the sightings point to identity of the birds observed as resident Paddyfield Pipit, rather than migratory Richard's Pipit *A. richardi*. This is supported by the fact that Paddyfield Pipit is a common migrant to nearby Singapore, while the occurrence of Richard's Pipit there remains unconfirmed (Lim 2009). It is surprising that pipits of any species have not been hitherto recorded on Batam as there is extensive open ground habitat for them. Prior to the recent revision of the Richard's Pipit species complex, Rajathurai (1996) listed *A. novaeseelandiae* on Bintan, but not on Batam. Subsequent observations on Bintan have confirmed that the pipit found there is in fact Paddyfield Pipit (Sodhi *et al.* 2010). The current Kukila checklist (Sukmantoro *et al.* 2007) does not recognize Paddyfield Pipit and uses the somewhat geographically inappropriate English name of New Zealand Pipit for *A. novaeseelandiae*. We have followed other regional authorities (for example, Robson 2000; Lim 2009; Jeyarajasingam & Pearson 2012) in anticipation that the next official Indonesian checklist will adopt the revised pipit taxonomy and nomenclature.

COPPER-THROATED SUNBIRD *Leptocoma calcostetha*

Bintan: First recorded in April 1993 (Lim 1997), with subsequent sightings in 1994 (Rajathurai 1996). This was found to be the most conspicuous passerine on Pulau Beralas, c.1 km off the east coast of Bintan, on 27 January 2001. It is notable that this species appears not to have been recorded by Sodhi *et. al* (2010) during extensive bird surveys on Bintan in 2006-2008.

BLACK-HEADED MUNIA *Lonchura malacca*

Batam: Rajathurai (1996) indicated old records of this species on Batam without providing details. Its presence was reconfirmed by a flock of at least 15 feeding in long grass on the road from Nagoya to Batu Ampar on 22 October 2000.

WHITE-VENTED MYNA *Acridotheres javanicus*

Batam: First documented on the island in 1989, with a subsequent record in 1994

(Rajathurai 1996), this species presumably colonized from Singapore where it occurs as a widespread feral and from where it has spread northwards through the Malay Peninsula (Jeyarajasingam & Pearson 2012). Small numbers were seen at Hang Nadim Airport on 17 December 2000 and 11 July 2003, and around Batam Centre, Nagoya and Batu Ampar on 3-5 December 2012.

BLACK-NAPED ORIOLE *Oriolus chinensis*

Bintan: Although first recorded in September 1991, and considered uncommon, by Rajathurai (1996), this assessment was disputed by Lim (1997) who found it fairly common in April 1993. We did not encounter this species on the Bintan mainland in January 2001, but sighted one individual on Pulau Beralas Pasir in that month. Black-naped Oriole appears not to have been recorded during ten avifauna surveys on Bintan between November 2006 and March 2008 (Sodhi *et. al* 2010), but the focus of that survey was largely birds of forested habitats. The true status of this species on Bintan is therefore uncertain. In nearby Singapore and Peninsular Malaysia, subspecies *diffuses* is considered an uncommon winter visitor and a passage migrant, while subspecies *maculatus* is an abundant and widespread resident (Robson 2000; Lim 2009; Jeyarajasingam & Pearson 2012). The latter population became established in Singapore during the 1920s, apparently derived from both natural colonisation and cage escapees, and spread northwards through Peninsular Malaysia during the 1930s and 40s (Gibson-Hill 1950; Lim 2009). Monitoring of this species on Bintan is desirable to determine whether one or both races occur on the island.

GREATER RACQUET-TAILED DRONGO *Dicrurus paradiseus*

Batam: Three were hunting from a dead tree on the edge of a narrow forest remnant beside the Sekupang-Airport highway (Jalan Hang Tuah) on 23 December 2000. In Singapore, this species has recently begun to expand its range, spreading from remnant forest patches to open woodland, parkland and peri-urban habitats (Lim 2009). It remains to be seen if it will adapt to similar habitats in Batam.

*HOUSE CROW *Corvus splendens*

Batam: The first island record was of two birds scavenging on a jetty at Sungai Jodoh, Batu Ampar on 4 December 2012. The species is abundant in Singapore, where it became established as a feral species in the 1940s (Lim 2009). It has also been recorded on a number of Singapore's offshore islands (Lim 2009), and its arrival in Batam, just south of Singapore, was almost inevitable.

LARGE-BILLED CROW *Corvus macrorhynchos*

The first confirmed record of *C. macrorhynchos* for Bintan (and the Riau Archipelago) was not until 17 October 1984 (Rajathurai 1996). Crows observed on Batam in 1984 were also thought to be this species, but this was not confirmed until two were satisfactorily identified on 12 May 1991 (Rajathurai 1988). While the Slender-billed Crow *C. enca* has not been recorded on Batam or Bintan, there is a 1920s record from Pulau Galang, less than 20 km south of both islands (Chasen 1925; Van Marle & Voous 1988). In nearby Singapore, Large-billed Crow is considered a common resident both on the mainland and on several offshore islands (Lim 2009). Although there are no acceptable records of Slender-billed Crow in Singapore (Lim 2009), this species is resident and widespread in Peninsular

Malaysia (Jeyarajasingam & Pearson 2012). Any sightings of *C. enca* in the Riau Archipelago would require definitive evidence (i.e. detailed description and/or photographs with details of calls).

Batam: One at Sungai Jodoh on 28 December 2001. One crow at Hang Nadim Airport on 17 December 2000, and two at Sungai Leli on 4 December 2012 were also likely to be this species, but we were unable to identify them with certainty.

Bintan: Following the initial 1984 sighting, Large-billed Crow was seen regularly in the north-west part of the island (Rajathurai 1996). We observed one in mangroves at Pulau Beralas Pasir off the east coast on 27 January 2001. It is surprising that this species was not recorded by Sodhi *et al.* (2010) during ten avifaunal surveys on Bintan between November 2006 and March 2008.

Discussion

This paper adds five species to the published bird lists for the Riau Archipelago, bringing the total to 229 (Appendix 2). New species for Batam were: Purple Heron, Great Egret, Cattle Egret, Lesser Sand Plover, Eurasian Curlew, Bar-tailed Godwit, Common Greenshank, Common Redshank, Wood Sandpiper, Terek Sandpiper, Curlew Sandpiper, White-winged Tern, Asian Koel, Paddyfield Pipit and House Crow. New species for Bintan were Red-tailed Tropicbird and Gull-billed Tern. As speculated by Rajathurai (1996) many of the new records have been migrants, although others seem to be previously overlooked residents (Paddyfield Pipit) or recent colonists (Asian Koel, White-vented Myna, House Crow). Only one species (Red-tailed Tropicbird) can be considered a genuine vagrant. Previous avifaunal surveys have tended to focus on forest habitats, coastal habitats attracting little attention. Many of the hitherto-unrecorded species are of shorebirds and waterbirds that are probably of annual occurrence but were missed on earlier surveys due to sampling bias.

Apart from Batam, Bintan and nearby Karimun, the islands of the Riau Archipelago and nearby Lingga group remain ornithologically poorly explored, despite their proximity to Singapore, with its relatively large population of birdwatchers. With only 229 bird species recorded in the Riau Archipelago, compared to a much larger total of 375 species in nearby Singapore (Nature Society Singapore Bird Group Records Committee 2011), it is clear that many potential migrants and vagrants are yet to be discovered. The sighting of Sumatra's first Himalayan Griffon *Gyps himalayensis* on Bintan in December 2007 (Li & Kasorndorkbua 2008; Zulkifli *et al.* 2012) indicates that the Riau archipelago, strategically located immediately south of the Malay Peninsula, is a likely hotspot for new species records for the Sumatran realm and even potentially for Indonesia. Its geographical location means that the archipelago forms a "bridge" for migrants moving across the Melaka Straits into mainland Sumatra.

That the checklist of Singapore is much larger than that for Riau archipelago can largely be explained by the longer and more continuous history of ornithological exploration in Singapore, dating back to times when the island was better forested. By contrast, the checklists for Bintan and Bantam are mainly based on a three-week survey when the island undoubtedly had better forest cover in the 1930s, during which the commoner species were apparently ignored (B. van Balen *in litt.*).

Rajathurai (1996) gives a brief discussion on this, and perhaps some species had already disappeared before Gibson-Hill surveyed the islands in the early 1950s. Moreover the distance between the Sumatran mainland and the least isolated island in the Riau Archipelago is substantially greater (c. 35 km) than that between Singapore and the Malaysian mainland (1-2 km), providing a formidable sea barrier to the dispersal of sedentary species such as bulbuls and barbets. Although the majority of species recorded in Singapore but not in the Riau islands are probably migrants and vagrants, it is likely that resident species on these islands have been missed because of the paucity of surveys undertaken. Our focus was on birds in coastal habitats, and much remains to be learned about the extant land birds, particularly forest specialists.

In the 18 years since publication of the comprehensive checklist by Rajathurai (1996), it is likely that many other birdwatchers have observed birds in Batam, Bintan and other islands in the Riau Archipelago. Hopefully our paper will encourage others to publish their new, rare or noteworthy species records, and also to study the avifaunal communities of some of the less visited islands. New bird records are likely to come from anywhere in the Archipelago, but particularly from the large estuarine areas of Teluk Bintan on Bintan, where additional wader species can be expected, as well as from relatively undeveloped islands, such as Sugi, Durian, Mesanak, Temiang, Bakung and Buaya, to the south and west, where additional resident and migratory landbird species are likely to be discovered. Unfortunately, the pace of deforestation on the more developed Riau islands is rapid and wooded habitats are being replaced by urban environments and open country. Gains in resident birds on those islands are likely to involve adaptable species colonizing from Singapore and the west coast of Peninsula Malaysia. This process appears to have begun with the recent arrival of highly adaptable species such as White-vented Myna, House Crow, Asian Koel and Cattle Egret.

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Appendix 1. Latitude and longitude of locations mentioned in text

Name	latitude	longitude
Batam		
Batam Centre	1°07'N	104°03'E
Batu Ampar	1°09'N	104°00'E
Duriangkang	1°01'N	104°04'E
Hang Nadim Airport	1°07'N	104°06'E
Kampung Terih	1°09'N	104°05'E
Nagoya	1°08'N	104°01'E
Nongsa Kapling	1°04'N	104°06'E
Nongsa Point Marina	1°11'N	104°05'E
Pantai Nongsa	1°11'N	104°05'E
Pulau Anak Sambu	1°10'N	103°53'E
Pulau Lima	1°05'N	103°52'E
Sekupang	1°07'N	103°55'E
Sungai Ladi Reservoir	1°06'N	104°00'E
Sungai Leli	1°08'N	104°07'E
Sungai Jodoh	1°08'N	104°00'E
Tanjung Jambana	1°09'N	104°08'E
Tanjung Pilol	1°59'N	104°05'E
Tanjung Riau	1°05'N	103°56'E
Teluk Senimba	1°04'N	104°55'E
Tanjung Uncang	1°05'N	103°53'E
Bintan		
Pantai Trikora	1°04'N	104°38'E
Pulau Beralas Bakau	1°03'N	104°40'E
Pulau Beralas Pasir	1°02'N	104°40'E
Pulau Penyenet	0°55'N	104°25'E
Sungai Karobi	1°01'N	104°39'E
Tg. Pinang Ferry Terminal	0°55'N	104°26'E
Teluk Bakau	1°02'N	104°39'E

Appendix 2. Checklist of birds of Batam and Bintan islands, and other islands* of the Riau Archipelago. Sources: CS, new records by authors; R, Rajathurai (1996, 1997); L, Lim (1997); YK, Yong & Kasorndorkbua (2008); SW, Sodhi *et al.* (2010)

* includes Karimun, Kundur, Sugi, Conbol, Bulan, Rempang, Gelang, Mapor, Moro, Selat and Durian.

English Name	Scientific Name	Batam	Bintan	Riau Arch
Wedge-tailed Shearwater	<i>Puffinus pacificus</i>	R		
White-faced Storm Petrel	<i>Pelagodroma marina</i>	R		
Swinhoe's Storm Petrel	<i>Oceanodroma monorhis</i>	R	R	
Red-tailed Tropic-Bird	<i>Phaethon rubricauda</i>		CS	
Lesser Frigatebird	<i>Fregata ariel</i>	R		
Red-footed Booby	<i>Sula sula</i>			R
Great-billed Heron	<i>Ardea sumatrana</i>	R	R	
Purple Heron	<i>Ardea purpurea</i>	CS	R	
Great Egret	<i>Ardea alba</i>	CS	R	
Little Egret	<i>Egretta garzetta</i>	R	R	
Pacific Reef Heron	<i>Egretta sacra</i>	R	R	
Cattle Egret	<i>Bubulcus ibis</i>	CS		
Striated Heron	<i>Butorides striata</i>	R	R	
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	L	R	
Yellow Bittern	<i>Ixobrychus sinensis</i>	R		
Cinnamon Bittern	<i>Ixobrychus cinnamomeus</i>	R		
Osprey	<i>Pandion haliaetus</i>	R	R	
Black Baza	<i>Aviceda leuphotes</i>	R	R	
Crested Honey-buzzard	<i>Pernis ptilorhynchus</i>	R	R	
Black-winged Kite	<i>Elanus caeruleus</i>	R	R	
Brahminy Kite	<i>Haliastur indus</i>	R	R	
White-bellied Sea Eagle	<i>Haliaeetus leucogaste</i>	R	R	
Grey-headed Fish Eagle	<i>Ichthyophaga ichthyaetus</i>	R	R	
Himalayan Vulture	<i>Gyps himalayensis</i>		YK	
Crested Serpent Eagle	<i>Spilornis cheela</i>	R	R	
Japanese Sparrowhawk	<i>Accipiter gularis</i>	R	R	
Grey-faced Buzzard	<i>Butastur indicus</i>		R	
Common Buzzard	<i>Buteo buteo</i>		R	
Booted Eagle	<i>Hieraetus pennatus</i>	R	L	
Crested Hawk-eagle	<i>Spizaetus cirrhatus</i>		R	
Peregrine Falcon	<i>Falco peregrinus</i>		L	
Lesser Whistling Duck	<i>Dendrocygna javanica</i>			R
Cotton Pygmy Goose	<i>Nettapus coromandelianus</i>	R		
Barred Buttonquail	<i>Turnix suscitator</i>	R		
Slaty-breasted Rail	<i>Gallirallus striatus</i>		R	
Red-legged Crane	<i>Rallina fasciata</i>			R
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	R	R	
Watercock	<i>Gallicrex cinerea</i>			R
Common Moorhen	<i>Gallinula chloropus</i>			R
Grey Plover	<i>Pluvialis squatarola</i>	R	R	
Pacific Golden Plover	<i>Pluvialis fulva</i>	R	R	
Little Ringed Plover	<i>Charadrius dubius</i>	R	R	
Kentish Plover	<i>Charadrius alexandrinus</i>		R	
Malaysian Plover	<i>Charadrius peronii</i>		R	
Lesser Sand Plover	<i>Charadrius mongolus</i>	CS	R	
Greater Sand Plover	<i>Charadrius leschenaultii</i>	R	R	
Whimbrel	<i>Numenius phaeopus</i>	R	R	
Eurasian Curlew	<i>Numenius arquata</i>	CS	R	

English Name	Scientific Name	Batam	Bintan	Riau Arch
Far Eastern Curlew	<i>Numenius madagascariensis</i>			R
Bar-tailed Godwit	<i>Limosa lapponica</i>	CS	R	
Common Redshank	<i>Tringa totanus</i>	CS	R	
Common Greenshank	<i>Tringa nebularia</i>	CS	R	
Wood Sandpiper	<i>Tringa glareola</i>	CS		
Terek Sandpiper	<i>CSenus cinereus</i>	CS	R	
Common Sandpiper	<i>Actitis hypoleucos</i>	R	R	
Ruddy Turnstone	<i>Arenaria interpres</i>		R	
Rufous-necked Stint	<i>Calidris ruficollis</i>			R
Curlew Sandpiper	<i>Calidris ferruginea</i>	CS		
Beach Stone-curlew	<i>Esacus neglectus</i>		R	
Pomarine Jaeger	<i>Stercorarius pomarinus</i>		R	
Whiskered Tern	<i>Chlidonias hybridus</i>			R
White-winged Tern	<i>Chlidonias leucopterus</i>	CS	R	
Gull-billed Tern	<i>Gelochelidon nilotica</i>		CS	
Common Tern	<i>Sterna hirundo</i>	R	R	
Roseate Tern	<i>Sterna dougallii</i>			R
Black-naped Tern	<i>Sterna sumatrana</i>	R	R	
Bridled Tern	<i>Sterna anaethetus</i>	R	R	
Little Tern	<i>Sterna albifrons</i>	R	R	
Swift Tern	<i>Sterna bergii</i>	R	R	
Lesser Crested Tern	<i>Sterna bengalensis</i>	R	R	
Aleutian Tern	<i>Sterna aleutica</i>			R
Large Green Pigeon	<i>Treron capellei</i>		R	
Thick-billed Green Pigeon	<i>Treron curvirostra</i>	R	R	
Cinnamon-headed Green Pigeon	<i>Treron fulvicollis</i>		R	
Little Green Pigeon	<i>Treron olax</i>	R	R	
Pink-necked Green Pigeon	<i>Treron vernans</i>	R	R	
Jambu Fruit Dove	<i>Ptilinopus jambu</i>	R	R	
Green Imperial Pigeon	<i>Ducula aenea</i>	R	R	
Pied Imperial Pigeon	<i>Ducula bicolor</i>	R	R	
Common Pigeon	<i>Columba livia</i>	R	R	
Silvery Pigeon	<i>Columba argentina</i>	R	R	
Spotted Dove	<i>Streptopelia chinensis</i>	R	R	
Common Emerald Dove	<i>Chalcophaps indica</i>	R	R	
Long-tailed Parakeet	<i>Psittacula longicauda</i>	R	R	
Blue-rumped Parrot	<i>Psittinus cyanurus</i>		R	
Blue-crowned Hanging Parrot	<i>Loriculus galgulus</i>	R	R	
Large Hawk-cuckoo	<i>Cuculus sparverioides</i>	R		
Moustached Hawk-cuckoo	<i>Cuculus vagans</i>		R	
Hodgson's Hawk-cuckoo	<i>Cuculus niscolor</i>	R	R	
Indian Cuckoo	<i>Cuculus micropterus</i>	R		
Banded Bay Cuckoo	<i>Cacomantis sonneratii</i>		R	
Plaintive Cuckoo	<i>Cacomantis merulinus</i>		R	
Rusty-Breasted Cuckoo	<i>Cacomantis sepulchralis</i>		R	
Violet Cuckoo	<i>Chrysococcyx xanthorhynchus</i>	R		
Asian Drongo-cuckoo	<i>Surniculus lugubris</i>		R	
Asian Koel	<i>Eudynamys scolopaceus</i>	CS	R	
Chestnut-bellied Malkoha	<i>Rhopodytes sumatranus</i>		R	
Lesser Coucal	<i>Centropus bengalensis</i>		R	
Oriental Bay Owl	<i>Phodilus badius</i>		R	
Collared Scops Owl	<i>Otus lempiji</i>	L	R	
Buffy Fish Owl	<i>Ketupa ketupa</i>		R	

English Name	Scientific Name	Batam	Bintan	Riau Arch
Brown Hawk-owl	<i>Ninox scutulata</i>	R	R	
Gould's Frogmouth	<i>Batrachostomus stellatus</i>		R	
Javan Frogmouth	<i>Batrachostomus javensis</i>		R	
Large-tailed Nightjar	<i>Caprimulgus macrurus</i>	R	R	
Savanna Nightjar	<i>Caprimulgus affinis</i>			R
SWIFTLET Sp.	<i>Collocalia sp.</i>	R	R	
Himalyan Swiftlet	<i>Collocalia brevirostris</i>		R	
Silver-backed Needletail	<i>Hirundapus cochinchinensis</i>		R	
Brown-backed Needletail	<i>Hirundapus giganteus</i>	R	R	
Silver-rumped Swift	<i>Rhaphidura leucopygialis</i>		R	
Fork-tailed Swift	<i>Apus pacificus</i>		R	
House Swift	<i>Apus nipalensis</i>	R	R	
Asian Palm Swift	<i>Cypsiurus balasiensis</i>	R	R	
Grey-rumped Treeswift	<i>Hemiprocne longipennis</i>	R	R	
Whiskered Treeswift	<i>Hemiprocne comata</i>	R	R	
Scarlet-rumped Trogon	<i>Harpactes duvaucelii</i>		R	
Common Kingfisher	<i>Alcedo atthis</i>	R	R	
Blue-eared Kingfisher	<i>Alcedo meninting</i>		R	
Oriental Dwarf Kingfisher	<i>Ceyx erithaca</i>			R
Stork-billed Kingfisher	<i>Pelargopsis capensis</i>	R	R	
Ruddy Kingfisher	<i>Halcyon coromanda</i>		R	
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	R	R	
Black-capped Kingfisher	<i>Halcyon pileata</i>		R	
Collared Kingfisher	<i>Halcyon chloris</i>	R	R	
Banded Kingfisher	<i>Lacedo pulchella</i>		R	
Blue-tailed Bee-Eater	<i>Merops philippinus</i>	R	R	
Blue-throated Bee-Eater	<i>Merops viridis</i>	R	R	
Oriental Dollarbird	<i>Eurystomus orientalis</i>	R	R	
Oriental Pied Hornbill	<i>Anthracoceros albirostris</i>	R	R	
Red-crowned Barbet	<i>Megalaima rafflesii</i>			R
Common Goldenback	<i>Dinopium javanense</i>	R	R	
Great Slaty Woodpecker	<i>Mulleripicus pulverulentus</i>	R	R	
White-bellied Woodpecker	<i>Dryocopus javensis</i>	R	R	
Grey-capped Pygmy Woodpecker	<i>Dendrocopos canicapillus</i>			R
Sunda Pygmy Woodpecker	<i>Dendrocopos moluccensis</i>	R		
Greater Goldenback	<i>Chrysocolaptes lucidus</i>		R	
Banded Broadbill	<i>Eurylaimus javanicus</i>		R	
Black-and-yellow Broadbill	<i>Eurylaimus ochromalus</i>		R	
Blue-winged Pitta	<i>Pitta moluccensis</i>			R
Mangrove Pitta	<i>Pitta megarhyncha</i>		R	
Barn Swallow	<i>Hirundo rustica</i>	R	R	
Pacific Swallow	<i>Hirundo tahitica</i>	R	R	
Red-rumped Swallow	<i>Hirundo daurica</i>	R	R	
Forest Wagtail	<i>Dendronanthus indicus</i>		R	
Western Yellow Wagtail	<i>Motacilla flava</i>		R	
Grey Wagtail	<i>Motacilla cinerea</i>	R	R	
Paddyfield Pipit	<i>Anthus rufulus</i>	CS	SW	
Bar-bellied Cuckooshrike	<i>Coracina striata</i>		R	
Pied Triller	<i>Lalage nigra</i>	R		
Ashy Minivet	<i>Pericrocotus divaricatus</i>	R	R	
Black-winged Flycatcher-shrike	<i>Hemipus hirundinaceus</i>		R	
Green Iora	<i>Aegithina viridissima</i>	R	R	
Greater Green Leafbird	<i>Chloropsis sonnerati</i>	R		

English Name	Scientific Name	Batam	Bintan	Riau Arch
Lesser Green Leafbird	<i>Chloropsis cyanopogon</i>		R	
Blue-winged Leafbird	<i>Chloropsis cochinchinensis</i>	R	R	
Black-headed Bulbul	<i>Pycnonotus atriceps</i>			R
Sooty-headed Bulbul	<i>Pycnonotus aurigaster</i>	L		
Yellow-vented Bulbul	<i>Pycnonotus goiavier</i>	R	R	
Olive-winged Bulbul	<i>Pycnonotus plumosus</i>	R	R	
Cream-vented Bulbul	<i>Pycnonotus simplex</i>	R	R	
Yellow-bellied Bulbul	<i>Criniger phaeocephalus</i>		R	
Buff-vented Bulbul	<i>Iole olivacea</i>	R	R	
Hairy-backed Bulbul	<i>Tricholestes criniger</i>			R
Ashy Bulbul	<i>Hemixos flavala</i>		R	
Asian Fairy-bluebird	<i>Irena puella</i>	R	R	
Tiger Shrike	<i>Lanius tigrinus</i>			R
Brown Shrike	<i>Lanius cristatus</i>	R	R	
Long-tailed Shrike	<i>Lanius schach</i>			R
Siberian Blue Robin	<i>Luscinia cyane</i>		R	
Oriental Magpie-robin	<i>Copsychus saularis</i>	R	R	
White-rumped Shama	<i>Copsychus malabaricus</i>	R	R	
Blue Rock Thrush	<i>Monticola solitarius</i>	R		
Eyebrowed Thrush	<i>Turdus obscurus</i>		R	
White-chested Babbler	<i>Trichastoma rostratum</i>	R	R	
Short-tailed Babbler	<i>Malacocincla malaccense</i>	R	R	
Moustached Babbler	<i>Malacopteron magnirostre</i>		R	
Scaly-crowned Babbler	<i>Malacopteron cinereum</i>		R	
Chestnut-rumped Babbler	<i>Stachyris maculata</i>		R	
Striped Tit-babbler	<i>Macronous gularis</i>		R	
"Grasshopper Warbler" sp.	<i>Locustella sp.</i>		R	
Black-browed Reed Warbler	<i>Acrocephalus bistrigiceps</i>			R
Oriental Reed Warbler	<i>Acrocephalus orientalis</i>		R	
Zitting Cisticola	<i>Cisticola juncidis</i>		R	
Yellow-bellied Prinia	<i>Prinia flaviventris</i>			R
Common Tailorbird	<i>Orthotomus sutorius</i>		R	
Dark-necked Tailorbird	<i>Orthotomus atrogularis</i>	R	R	
Rufous-tailed Tailorbird	<i>Orthotomus sericeus</i>	R	R	
Ashy Tailorbird	<i>Orthotomus ruficeps</i>		R	
Yellow-browed Warbler	<i>Phylloscopus inornatus</i>			R
Arctic Warbler	<i>Phylloscopus borealis</i>	R	R	
Asian Brown Flycatcher	<i>Muscicapa dauurica</i>		R	
Yellow-rumped Flycatcher	<i>Ficedula zanthopygia</i>		R	
Mangrove Blue Flycatcher	<i>Cyornis rufigaster</i>		R	
Golden-bellied Gerygone	<i>Gerygone sulphurea</i>	R		
Black-naped Monarch	<i>Hypothymis azurea</i>	R	R	
Asian Paradise Flycatcher	<i>Terpsiphone paradisi</i>		R	
Pied Fantail	<i>Rhipidura javanica</i>	R	R	
Mangrove Whistler	<i>Pachycephala grisola</i>	R	R	
Crimson-breasted Flowerpecker	<i>Prionochilus percussus</i>		R	
Scarlet-breasted Flowerpecker	<i>Prionochilus thoracicus</i>	R	R	
Brown-backed Flowerpecker	<i>Dicaeum everetti</i>		R	
Orange-bellied Flowerpecker	<i>Dicaeum trigonostigma</i>	R	R	
Scarlet-backed Flowerpecker	<i>Dicaeum cruentatum</i>	R	R	
Brown-throated Sunbird	<i>Anthreptes malacensis</i>	R	R	
Purple-throated Sunbird	<i>Leptocoma sperata</i>	R	R	
Copper-throated Sunbird	<i>Leptocoma calcostetha</i>	R	R	

English Name	Scientific Name	Batam	Bintan	Riau Arch
Olive-backed Sunbird	<i>Cinnyris jugularis</i>	R	R	
Crimson Sunbird	<i>Aethopyga siparaja</i>	R	R	
Little Spiderhunter	<i>Arachnothera longirostra</i>	R	R	
Yellow-eared Spiderhunter	<i>Arachnothera chrysogenys</i>		R	
Oriental White-eye	<i>Zosterops palpebrosus</i>			R
White-rumped Munia	<i>Lonchura striata</i>		R	
Scaly-breasted Munia	<i>Lonchura punctulata</i>	R	R	
Black-headed Munia	<i>Lonchura malacca</i>	R	R	
White-headed Munia	<i>Lonchura maja</i>	R		
Java Sparrow	<i>Padda oryzivora</i>	R		
Eurasian Tree Sparrow	<i>Passer montanus</i>	R	R	
Asian Glossy Starling	<i>Aplonis panayensis</i>	R	R	
Daurian Starling	<i>Sturnus sturninus</i>	R		
Common Myna	<i>Acridotheres tristis</i>	R	R	
White-vented Myna	<i>Acridotheres javanicus</i>	R		
Common Hill Myna	<i>Gracula religiosa</i>	R	R	
Black-naped Oriole	<i>Oriolus chinensis</i>	R	R	
Black Drongo	<i>Dicrurus macrocercus</i>			R
Greater Racket-tailed Drongo	<i>Dicrurus paradiseus</i>	R	R	
House Crow	<i>Corvus splendens</i>	CS		
Slender-billed Crow	<i>Corvus enca</i>			R
Large-billed Crow	<i>Corvus macrorhynchos</i>	R	R	
Total no. species	229	137	181	25