



**INTERNATIONAL SINGLE SPECIES ACTION PLAN
FOR THE CONSERVATION OF THE YELLOW-
BREASTED BUNTING (*EMBERIZA AUREOLA*)**

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International Single Species Action Plan for Conservation of the Yellow-breasted Bunting (*Emberiza aureola*)

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This action plan summarizes recommendations from the International Workshop on Yellow-breasted Bunting *Emberiza aureola* convened at Sun Yat-sen University, Guangzhou, China, 2-4 November 2016, subsequent national workshops and meetings in Russia (Tver, 28-29 January and 1 February 2018), Japan (Niigata, 14 September 2018), Myanmar (Yangon, 26 February 2019), China (Changchun, 9 August 2019), Thailand (Bangkok, 8 September 2019), Cambodia (Phnom Penh, 11 September 2019), and the Round Table Discussion at the 27th International Ornithological Congress (Vancouver, Canada, 23 August 2018), plus other suggestions sent to the editors.

While this action plan basically focuses on the Yellow-breasted Bunting, a species listed as Critically Endangered on the IUCN Red List of Threatened Species), the actions recommended will also be beneficial to conservation of other migratory bunting species in Asia, which are also believed to be declining. For instance, the Rustic Bunting *Emberiza rustica*, that had been listed by IUCN as a globally Vulnerable species since 2016. Many other species of buntings in Asia are also believed to be suffering severe decline in the past decades, notably the Chestnut Bunting *Emberiza rutila*. Overhunting, agrochemical use and habitat degradation are likely to be the major causes of their decline.

During compilation of this action plan, a network of researchers and conservationists from most of the Yellow-breasted Bunting range countries was formed and some recommended actions such as survey, monitoring, study of wintering and breeding biology, securing land for protection, are being done under a good information exchange mechanism. From our experience on the implementation of three previous migratory waterbird action plans developed under the aegis of CMS (CMS Technical Report Series No. 21 Chinese Crested Tern, No. 22 Black-faced Spoonbill and No. 23

Spoon-billed Sandpiper), the mechanism that encourages information and experience exchange will ensure the success of the action plan.

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Executive summary

The Yellow-breasted Bunting *Emberiza aureola* was once regarded as one of the most abundant passerines in Eurasia. Its global population was estimated to be at least several million birds and its breeding range was expanding westward into Europe prior to the 1980s. The decline was firstly detected when breeding birds in Japan started to decrease in the 1990s. A comprehensive study published in 2015 revealed an 84.3 to 94.7% decline of the population in about three decades. It was regarded as globally Least Concern before 2004 but since 2017 it has been listed as Critically Endangered on the IUCN Red List. The main threats it faces are uncontrolled hunting of birds during migration passage and winter, mostly for food consumption. Habitat loss or degradation, use of agricultural chemicals, and other pollution factors are also likely to be main causes of decline. This action plan summarizes suggestions of actions to be taken proposed by researchers and conservationists from most of the range countries. Apart from improvement of law enforcement and a higher awareness on the demise of this species and other migratory passerines to the stakeholders of all levels, more studies on its distribution, migration and biology are needed. International cooperation on action implementation and a network of researchers and conservationists will facilitate a quick knowledge and experience transfer to all range countries. Success in conservation of the Yellow-breasted Bunting will benefit more than one single species and other passerine species face similar threats.

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The library of Yamashina Institute for Ornithology at Abiko, Japan has kindly allowed the editor-in-chief to search for old literature related to Yellow-breasted Bunting on 21 April 2017. We want to express our gratitude to the generosity, particularly to Ms Tsurumi Miyako of the Institute.

The compilation of this action plan would not have been possible without the workshops and meetings arranged between 2016 to 2019. We want to thank Dr Liu Yang and Mr Huang Qin for the support in securing approval from the Sun Yat Sen University in Guangzhou as the venue on 2 to 3 November 2016, and to the Hong Kong Bird Watching Society and Dr Billy Hau for arranging the seminar at the Hong Kong University in the evening of 4 November 2016; also to Birds Russia, Biodiversity and Nature Conservation Association (BANCA), Bird Conservation Society of Thailand (BCST) and BirdLife International Cambodia Programme for organizing the national workshops, particularly to Yury Anisimov, Thirisandar Zaw, Thattaya Bidayabha, Nancy Gibson, Ayuwat Jearwattanakanok, Srey Sunleang, Eang Phallis, Taing Porchhay, and Tang Punleu. Vicky Yeung, Lai Nga-yee, Bud Wing-sum, and Kato Kazuaki have supported our team with recordings and preparation of reports. For arrangement of the special seminar section and Round Table Discussion at the China Ornithological Congress in Changchun on 9 August 2019, Lei Fumin, Ding Ping, Lu Jun, Sun Yuehua, Zhang Zhengwang and Li Xianda had all given us good support and advice.

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Last but not least, we started the discussion on the issue of decline of Yellow-breasted Buntings and other migratory passerines in Asia since the late 1990s. Advice and

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Basic data of the Yellow-breasted Bunting

Taxonomy:

Yellow-breasted Bunting (English). *Emberiza aureola* Pallas 1773 (Type locality: Siberia, Russian Federation). It is sometimes referred as *Ocyris aureolus* or *Schoeniclus aureolus*.

Subspecies recognized:

- *Emberiza aureola aureola*: northern ranges: formerly from Finland to Bering Sea
- *Emberiza aureola ornata*: Amur region, Kamchatka, Sakhalin, NE China, Japan and DPR Korea.
- In the Russian Federation, the populations in Kamchatka (*Emberiza aureola kamtschaticus*) and Sakhalin/Kuril Islands (*Emberiza aureola insulanus*) are regarded as distinctive subspecies. The Japanese population is most likely to be closest related to the Sakhalin/Kuril population.

Based on the preliminary result of DNA analysis of Yellow-breasted Bunting samples from Hokkaido, Sakhalin and eastern Mongolia, these three populations showed no significant difference in terms of genetics. It should be noted that the result is based on an analysis of only about 650 base pairs of mitochondrial DNA barcoding regions (Saitoh Takema unpublished).

Principal range states:

Breeding in northern Asia and eastern Europe: the Russian Federation, Kazakhstan, Mongolia, China, Democratic People's Republic of Korea and Japan. Prior to 2010, the Yellow-breasted Bunting was also listed as a breeding bird in Finland, Belarus and Ukraine. As of 2020 it is extinct as a breeding bird in these European countries: only two observations in Finland since 2006. According to European Breeding Bird Atlas 2 (Keller et al 2020), the species disappeared also from Belarus and Ukraine (last observation 2013; Teemu Lehtiniemi in litt.)

During migration, it principally passes through eastern Asia as this species is very seldom recorded in south-west Asia and much of the Central Asia, but the exact routes, with the exception of the breeding population at the Amur Region, eastern Russian Federation (Helm et al 2020), are still unknown. As researchers have started to use geolocators in more populations of this species to track its migration, the main migratory routes will probably be known within a decade.

Wintering mainly in the following countries: China, Viet Nam, Lao PDR, Cambodia, Thailand, Myanmar, Bangladesh, Nepal, and northern India. Uncommon winter visitor to Malaysia, the Philippines (only one record in 1894), Singapore, Brunei Darussalam and Indonesia. Not yet recorded in Bhutan (Sherub and Tshering Phuntsho in litt.) but should occur.

Other countries that Yellow-breasted Bunting has been recorded in the wild: Bahrain,

Belgium, Cyprus, Czech Republic, Denmark, Egypt, Estonia, France, Germany, Greece, Iran (Islamic Republic of), Ireland, Israel, Italy, Jordan, Latvia, Malta, Netherlands, Norway, Pakistan, Poland, Portugal, Saudi Arabia, Spain, Sweden, Syria, Türkiye, United Arab Emirates, United Kingdom and United States (IUCN Red List of May 2017). Recorded in Cocos Island (to Australia) in the Indian Ocean in December 2020 (Choubey 2021).



Principal distribution of the Yellow-breasted Bunting *Emberiza aureola*. BirdLife International and Handbook of the Birds of the World (2022) Bird species distribution maps of the world. Version 2022.2. Available at <http://datazone.birdlife.org/species/requestdis>.

Populations covered by the plan: All

Red List status:

- 2017 – Critically Endangered (CR)
- 2013 – Endangered (EN)
- 2012 – Vulnerable (VU)
- 2008 – Vulnerable (VU)
- 2004 – Near Threatened (NT)
- 2000 – Lower Risk/least concern (LR/lc)
- 1994 – Lower Risk/least concern (LR/lc)
- 1988 – Lower Risk/least concern (LR/lc)

International protection measures:

Appendix I of the Convention on the Conservation of Migratory Species of Wild Animals (CMS).

List on the appendix of the migratory bird bilateral agreements between the Russian Federation and the People's Republic of China. And it is one of the priority species highlighted by both countries for conservation actions.

List on the appendix of the migratory bird bilateral agreements between the Russian Federation and Japan. And it is one of the priority species highlighted by both countries for conservation actions.

List on the appendix of the migratory bird bilateral agreements between the Russian Federation and the Republic of Korea.

List on the appendix of the migratory bird bilateral agreements between People's Republic of China and Japan. And it is one of the priority species highlighted by both countries for conservation actions.

List on the appendix of the migratory bird bilateral agreements between People's Republic of China and Republic of Korea.

Yellow-breasted Bunting (North-East Asian population, which is found in the Arctic Region) is included as a focal species to the workplan of Arctic Migratory Birds Initiative (AMBI) of the Arctic Council's Working Group on Conservation of Arctic Flora and Fauna (CAFF).

Yellow-breasted Bunting, together with other bunting species in Asia, is listed as focal species under the East Asian Land Bird Monitoring Scheme (as of 2021, countries under the scheme are the Russian Federation, the People's Republic of China, the Republic of Korea and Japan)

Not listed on the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

Estimated population:

It was regarded as one of the most numerous passerines in the Old World before the massive decline of its population since the 1990s. From a Chinese source it was estimated formerly that about 1.5 million birds passed through Guangdong but the number declined to less than 300,000 birds by early 2000s (Zhao Xuemin 2005)

The European population (almost entirely located in the Russian Federation) is estimated at 600-1,200 breeding pairs (Keller et al 2020).

Deduced from the number of birds confiscated in recent years (e.g., about 12,000 birds found at an illegal fattening centre in Tangshan in September 2019) there should be at least a few tens of thousands of birds in the wild. This is probably about 10% of the population prior to the 1980s as studies revealed a decline by 84.3 – 94.7% between 1980 and 2013 (Kamp et al 2015). From this rough estimation the global population of Yellow-breasted Bunting prior to the 1980s could have been at least several hundred thousand.

National accounts

Russian Federation

Until the 1980s (before the decline of the global population), the Yellow-breasted Bunting (hence also referred to as ‘YBB’) was still recorded being spreading westward into Europe. This has been proven by ornithological research in the Russian Federation since the late 19th century.

In the European part of the Russian Federation, it is mostly extinct or exists in very low numbers. For instance, in the Moscow region in the 1980s several colonies (total number of about 60-80 pairs) could still be found but they were not recorded since 2010. Local populations still exist in the north of the European part of the Russian Federation (Arkhangelsk and Vologda regions, Perm Territory and Komi Republic), while in the mid-1980s they could be found even in Kaliningrad Region, the westernmost tip of the Russian Federation. Based on the results of surveys for the European Breeding Bird Atlas 2, the total population in the European part of the Russian Federation was estimated at 600 – 1,200 breeding pairs, which corresponds to the total European population (Mischenko 2020).

The species has been regarded as a common breeding and migratory species on Sakhalin in the 1970s and 1980s with a more or less even distribution (Nechaev 1991). Numbers have been declining since the 1990s. From a breeding survey in 2016 it was revealed that the species was almost extinct in the south, rare in the middle and the highest number recorded was on northern tip of the island. Baikal Lake population has declined a lot but still exists in Selenga River Delta. The Chukotka population is extinct in coastal areas (Khatryka River basin) but still exist in several locations inland in Anadyr River basin. Some remaining YBB locations are still registered in Yakutia and the best status for the species for the whole country is probably registered in several locations of Kamchatka Peninsula. Declines there were very prominent but not as sharp as in other parts of the Russian Federation.

Along the Amur River (Russian Far East) the species has also severely declined since the 1980s, but is locally still one of the most common breeding birds (e.g., 415–1249 singing males at Muraviovka Park in 2017, Richter et al. 2020).

Yellow-breasted Bunting and Rustic Bunting have recently (2020) been included to the highest level of protection on national level (Russian Federation Red Data Book). The only other species of bunting of this status is the Jankowski's Bunting *Emberiza jankowskii* that has been listed for a long time.

(Principal information provided by Evgeny Syroechkovskiy, Yuri Gerasimov, Pavel Ktitorov, Sergey Kharitonov, Alexander Mishchenko, Yury Anisimov, Valdimir Yakovlev, Tom Noah, Wieland Heim et al)

Kazakhstan

Breeding country. In the early 21st century YBB was regarded as ‘has apparently decreased but still locally common’ (Aye et al 2012). The present situation is unknown, but numbers have been likely greatly reduced (judging from the status in neighbouring western Siberia and Xinjiang).

Mongolia

Regarded as an abundant breeding bird in Mongolia in the middle of the 20th century. It is nowhere common now. Good breeding habitat still remains in many parts of Mongolia.

(Principal information provided by Batmunkh Davaasuren, Nyambayar Batbayar)

Democratic People's Republic of Korea (DPRK)

Tomek (2002) notes that this species is a passage migrant in DPR Korea and a probable breeding species in northern provinces. It is found in the northern area close to the border with China and Russia and may still breed there (Won and Pak 2011)

Yellow-breasted Bunting could breed at Hwanghaenam Province as young birds were seen in July 2019 (Ri Un-chol pers. comm.)

More than 40 Yellow-breasted Buntings were observed (some banded) at Daecheong Island of Republic of Korea, which is less than 60 km away from the southwestern tip of DPRK, in early May 2021. This indicates that the Yellow-breasted Bunting must be a passage migrant along the west coast of DPR Korea, although the number and population trend are still unknown (Nam Hyun-young, Choi Chang-yong and Park Se-young in litt.)

Republic of Korea

YBB was regarded as an “abundant passage migrant”, most numerous in early May and September (Gore & Won 1971) but currently regarded as a “scarce passage migrant” (Lee, Koo and Park 2020). A nationwide census programme indicated a significant, steady but weak decline in its occurrence (- 0.23%/year) from 1997 to 2012 in RO Korea (Choi et al. 2020) but this result may suggest that the migrating population in RO Korea already collapsed before the 1990s.

YBB migrates through RO Korea, presumably from eastern China across the Yellow Sea as this species does not winter in Japan. Islands on the west coast of Korea are important for passage of migratory Yellow-breasted Buntings. For example, on Heuksan Island of Sinan County, Jeollanam Province where a banding site is based, a total of 262 Yellow-breasted Buntings were banded during both autumn and spring migrations from 2006 to 2018 (Park et al 2019 and Park et al 2020). Associated routine daily counts showed a decreasing pattern in observed numbers between 2006 and 2016 but the number appeared to slightly recover after 2017 (Park et al 2019, Park et al 2020).

Listed as an Endangered Bird Species (Grade II) in 2012 (NIBR, 2012).

Japan

YBB is only found regularly breeding in Hokkaido, with rare breeding records in northern Honshu: Aomori Prefecture (1976) and Akita Prefecture (1982) (Tamada

Katsumi unpub. data). Since 2016 only one breeding population in Japan has been remaining: at Sarobetsu in northern Hokkaido (Hasebe Makoto unpublished data).

On passage, it can be found every spring (late April to early May) but not autumn on Tsushima Islands, although the number has declined considerably in recent years (Kawaguchi Makoto per. comm. in October 2017). It has also been recorded on Hegurajima Island, Mishima Island, Honshu along the coast of Sea of Japan, Awashima Island, Shikoku, Kyushu, Danjo Islands, Iwo Islands, Tokara Islands, Amami Island, and Ryukyu Islands. It is regarded as a vagrant on Hachijojima Island and Chichijima Island (The Ornithological Society of Japan 2012).

Line census and birdwatching event data showed a drastic decline in both density and distribution of this species from 1970s and 1980s to 2000s and 2010s (Tamada et al 2014). One example is the drastic decline at Lake Utonai Bird Sanctuary, Tomakomai City in southern Hokkaido. The Yellow-breasted Bunting remained common until 1997, but declined seriously thereafter (Tamada et al 2017). The species was last seen at Lake Utonai in 2011.

YBB was not listed on the Japanese National Red List in 1991 but listed as a NT species in 1998. In 2002 it remained listed as NT (Kanai 2002). In 2007 it was upgraded to CR because of the decline observed from surveys in 1998 to 2002 (Tamada 2014).

YBB is protected in Japan as a Special Protected Species since 2017.

China

The species is very widespread in China. According to one reference the nominate subspecies *Emberiza aureola aureola* has been recorded in all provinces and autonomic regions except Tibet and Hainan, and the Amur subspecies *Emberiza aureola ornate* has been recorded in all provinces and autonomous regions except Xinjiang, Qinghai and Yunnan (Zheng Guangmei 2011). However, it has been once recorded in Tibet: Frank Ludlow obtained a specimen at Gyala that was “shot out of a very large flock” on 1 May in the mid-1920s (Vaurie 1972).

Gansu, Ningxia, Qinghai and Xinjiang were not included in the distribution chart prepared in the 1980s (Fan Zhongmin 1990) and not in relevant avifauna references of Gansu (Wang Xiangting 1991) and Ningxia (Wang Xiangting 1990). This suggests that the Yellow-breasted Bunting does not normally migrate through these provinces and autonomous regions. There was a Yellow-breasted Bunting found at Liupan Shan of Ningxia on 18 May 2020, which was the first record in Ningxia (Liupan Shan Nature Note No.8 on Web, 2020. Qi Lin in litt.).

It was recorded as very abundantly breeding bird in North-East China prior to the 1960s and still regarded as common in the 1980s.

Both subspecies migrate through Heilongjiang and birds showed a mixture of plumage pattern (Wildlife Institute of Heilongjiang Province 1992).

In a survey at Huzhong District of Da Hinggan Ling Mountains in 1998, Yellow-breasted Bunting was regarded as a common summer visitor (Liu Bowen et al 2000).

In many places such as Zhalong Nature Reserve in Heilongjiang Province, the number declined drastically and in recent years it has become very rare during the breeding season (Su Liying per. comm.).

It is a summer breeding bird in Heilongjiang and Jilin Provinces and passage migrant in Liaoning. Arriving from early to mid-March and departing from the end of September to early October. Flocks up to several hundred birds were often seen during migration (Zhao Zhengjie 1988).

YBB is a rather common breeding bird in Jilin in the 1980s. It arrives in mid-April and departs in late September to early October (Zhao Zhengjie 1984). It is rather common in grassland habitats by river valley and marshes at Hunchun area where more than five birds could be encountered in an hour's survey (Zhao Zhengjie 1985).

The Amur subspecies *Emberiza aureola ornata* breeds in North-East China and could reach Weichang County of Hebei Province (Cai Qikan 1987).

In the early 20th century, it was a very common migrant to Hebei Province during both passages (end of April to end of May; August to September) (Shaw 1936). Until 1990 flocks of at least 300 birds were still recorded at Beidaihe during southward migration (Williams 2000).

The results of banding at Qinhuangdao Banding Station from 1999 to 2019 indicated that the population of Yellow-breasted Bunting fluctuated in a four-to-five-year cycle and decreased by 97.7% in the past 21 years (annual rate of – 17.3%) (Yang Jinguang et al 2021). However, it should be noted that coastal Bohai region (where Beidaihe and Qinhuangdao are located) is not the only migratory route of Yellow-breasted Buntings; therefore, more studies on migration are needed.

YBB was migrating through eastern China in large number (as shown by the number of confiscated birds during autumn until recent years). Sai Daojian (2017) noted that all Yellow-breasted Buntings specimens collected in Shandong were *Emberiza aureola aureola*, the Amur subspecies *Emberiza aureola ornata* was not found in Shandong until 1982.

It was commonly found during migration in farmland of lower altitudes at Qinling Mountain in central China (mainly Shaanxi Province), particularly near the Han Jiang River in southern Shaanxi (Cheng Tso-hsin 1973).

Observation in Wuhan during spring migration of 1959 by Jia Xianggang: small flocks of 4 to 5 Yellow-breasted Buntings were first seen on 17 April. Migration reached its peak in early May when flocks of 500 to 1,000 birds were commonly seen. In wheatfields big flocks of 2,000 to 10,000 birds were sometimes seen. Numbers declined from 15 May and no YBB were seen after 25 May (Fu Tongsheng et al 1998).

Regarded as a rare passage migrant to Wuyi Shan Nature Reserve, Jiangxi Province (Cheng Songlin et al 2011).

La Touche (1925) noted that this species had its moult at the lower Yangtze basin at the end of August and September. Moffett (1912) also mentioned when Yellow-breasted Buntings arrived at the Yangtze Delta they still maintained their summer plumage and began to moult when they arrive. This species was very numerous in the early 20th century; during autumn and spring migration one could not fail to see them.

Thousands were netted as pets that “for several weeks in autumn half of the little boys on the street have them caged or tethered to a string” (Moffett 1912).

Regarded as an abundant agricultural pest and hunted during migration in farmland of southern China. Very commonly caught by thousands in one harvest (Agricultural Medical Division of Guangdong Province Science Committee et al 1983).

Yellow-breasted Buntings used to be caught by dozens to hundreds in one net in the Pearl River Delta in Guangdong. However, since the 2000s there was an obvious decline of birds found to be caught illegally. In two cases of birds confiscated in late October to early November 2003 at Yingde County, Yellow-breasted Buntings accounted for 6.3% (90 birds) and 2.4% (16 birds) respectively. However, larger number of Chestnut Buntings (*Emberiza rutila*, 174 birds and 137 birds), Little Buntings (*Emberiza pusilla*, 529 birds and 140 birds) and Black-faced Buntings (*Emberiza spodocephala*, 383 birds and 117 birds) were found among confiscated birds (Gao Yuren 2003).

Even in days when Yellow-breasted Buntings were regarded as a common species, the number of wintering birds in Hainan was fewer when compared to the Pearl River Delta (Guangdong Institute for Entomology et al 1983). YBB has been regarded as a rare winter visitor to Dongzhaigang Nature Reserve near Haikou, Hainan due to massive hunting in Guangdong (Liang Bin et al 2015). However, on 14 January 2017 the Hainan Bird Watching Society counted about 500 Yellow-breasted Buntings during a waterbird census and that was the highest count in Hainan for many years (Zheng Xi in litt.)

YBB was regarded as a common wintering bird in many locations in Yunnan between 500 to 2,200 m asl (Yang Lan & Yang Xiaojun 2004). Since the 2000s, the Yellow-breasted Bunting has been regarded as a Near Threatened species in Yunnan in an analysis of status of birds in the province (Yang Xiaojun 2009).

In Xinjiang (north-western China), the subspecies *Emberiza aureola* is both a summer bird and passage migrant: summer birds are found in the northern part and may breed in Altay region. There are records at Shihezi in October and Changji in winter (Ma Ming 2011). However, it was not found during the survey in the Altay from 2013-16 (Ma Ming in litt. 30 Sept. 2016). In recent years, the Xinjiang Bird Watching Society has identified breeding sites near the Altai region (Gou Jun per. comm.)

It has been listed in a low-level protection list since 2000: Protected as a nationally protected species on the list of ‘Wildlife Species with Beneficial or Important Economic and Scientific Research Value’ with 706 other bird species (a lower level of protection that bulk catching of more than 20 individuals would be regarded as a criminal offence).

On the attached List of Key Protected Species of Wildlife in China (announced on 5 February 2021) of the revised National Wildlife Conservation Law (in force since 1 January 2017), the Yellow-breasted Bunting is listed as a First Class Protected Species. It is also a species listed on the appendices of bilateral agreements on migratory bird protection between China and the Russian Federation, Japan and Republic of Korea.

Taiwan (Province of China)

Swinhoe (1863) regarded the Yellow-breasted Bunting as a winter visitor to Taiwan but not common.

It is a rare passage migrant to Taiwan (Province of China) (Severinghaus et al 2012). During migration it is mainly found on offshore islands (Penghu, and Jinmen at coastal Fujian). According to birdwatcher's report, in 2001-2002 Yellow-breasted Buntings were not very rare at the site of Jibei, Penghu; 10-20 birds can be found during spring migration at Penghu; numbers declined since 2003 and no birds have been recorded since 2007. According to the bird census result in 2014, most of the birds were seen in April and May, main sites of record being Taipei, Matsu, Ilan and Penghu (Wild Bird Society of Taipei, Yuhina Post, June 2016)

The Yellow-breasted Bunting has been protected as a Second Class Protected Terrestrial Animal since 2019.

Hong Kong, Special Administrative Region (SAR) of China

In Hong Kong SAR of China, it is a passage migrant. In 1959 about 3,000 birds were recorded but the figure dropped to several hundred in the 1990s. After 2000 the annual maximum count has been about 25 birds. 254 birds have been ringed at Long Valley between 2017 and 2020 during autumn migration (Hong Kong Bird Watching Society unpublished data)

Like all other bird species, the Yellow-breasted Bunting is protected in Hong Kong SAR.

(Principal information provided by The Hong Kong Bird Watching Society).

Macau, Special Administrative Region of China

Uncommon passage migrant.

Like all other bird species, the Yellow-breasted Bunting is protected in Macau SAR of China (Leung Va in litt.).

Viet Nam

In the 1960s, the Yellow-breasted Bunting was regarded as a winter visitor that was often found in large flocks in open bushy country and it was found throughout South Vietnam (Wildash 1968). Now it is a rare passage migrant in Viet Nam, mainly recorded along the coast (from East Tonkin to Central, recorded during spring migration at Cochinchina). From 2015 to 2021 a monitoring data set has shown a slight sign of increase from three birds in 2015 to 13 birds in 2020 (Le Manh Hung in litt.)

This species was not protected until 2019 when it was listed in appendix IIB of Decree No. 06/2019/ND – CP, dated 22 January 2019 of the Viet Nam Government on Management of rare and threatened Fauna, Flora and implementation of CITES.

Lao People's Democratic Republic

Big flocks across Xiangkhouang and Savannakhet Provinces were recorded prior to the 1950s (Duckworth et al 2002).

About 100 Yellow-breasted Buntings were recorded in harvested paddy fields at Ban Phapho (Xe Pian NBCA) in southern Lao PDR in December 1992 – January 1993 (Thewlis et al 1995, Duckworth et al 2002). At least 350 were recorded along the Mekong bank and in paddies 4 km upstream of the Lao-Thai bridge of Vientiane on 11 April 1999 (Duckworth et al 2002).

Not protected in Lao PDR.

Cambodia

Historically, the Yellow-breasted Bunting was noted as common in the central plain but now is scarce away from the Tonle Sap area. It is still recorded in all other regions in very small numbers. A winter visitor and spring passage migrant in rice fields, scrub, grasslands and marshes in lowlands. Occasionally at meadows and pools in dry deciduous forest. Present between November and April, with latest date 15 May. The preference habitat including floodplain rice field where left unused in the dry season. Rice and patches of not dense scrub found next to the field is likely important for shelter, roosting and foraging. There was also a record at south of Kratie province (Mekong River) where about 250 birds recorded in January 2014 (Tom Gray unpublished data). In March 2016, about 50 YBBs were recorded in Bakan of Pusat province (part of Tonle Sap floodplain) (Robert Van Zalinge unpublished data). No detailed survey has been undertaken in Cambodia. However based on observations by Frederic Goes, it was estimated that around 1,000 – 2,000 YBBs have been wintering annually in Cambodia.

From Boeung Prek Lapouv, Takeo, up to 13 Yellow-breasted Buntings were recorded in the winter of 2015-2016. From late December 2020 about 20 Yellow-breasted Buntings were recorded and the number increased during the monitoring of the site. The maximum number recorded was 2,780 individuals on 21 March 2021. Up to four individuals were still recorded at the Boeung Prek Lapouv headquarter at the end of April 2021 (BirdLife Cambodia 2021 unpublished data).

YBB is not protected in Cambodia.

(Principal information provided by Bou Vorsak, Frederic Goes, Robert van Zalinge and Tom Gray)

Thailand

Once regarded as common and numerous around Bangkok where flocks of several thousand were once commonly found in paddyland (Aagaard 1930). In 1974, H. Elliot McClure reported an estimate of more than 2,000,000 individuals poached during winter for the mercy releasing at temples or for consumption. Their numerical abundance can be judged by 40,000 individuals estimated at a wetland roost in Chaiyaphum Province in NE Thailand on 25 January 1984 (Data held on file by Round, P.D.).

Though nowhere common now, YBB is still widespread in agricultural lowlands as a non-breeding visitor (and probably still more numerous than realised: no recent counts at nocturnal roosts). Roosts may be dispersed in sugar cane fields, used transitorily as well as reedbeds and wetland habitats. Recent information from capture for ringing suggests that birds may be dispersed in smaller daytime roosts/loafing areas, close to feeding areas in paddies, within which turnover is high (absence of recaptures or resightings of previously ringed birds). These locations are different from the much larger and concentrated nocturnal roosts.

It is protected by law in Thailand.

(Principal information provided by Bird Conservation Society of Thailand, Ayuwat Jearwattanakanok, Kaset Sutasha, with input from Philip D. Round and Suthee Suparatthavikorn)

Myanmar

Used to be an abundant winter visitor to the plains of Myanmar, arriving in October and leaving in May. It is also found in hills up to about 1,370 m (chiefly on passage). Large numbers of birds may be seen as dusk fighting to roost in a favourite clump of bushes fringing a stream (Smythies 1953). Geolocation studies revealed that breeding birds from the Russian Far East spend their winter in Myanmar (Heim et al. 2020).

In Myanmar, Yellow-breasted Bunting was commonly recorded in Indawgyi Lake and Tanai (northern Myanmar), Inle Lake and Kalaw (eastern Myanmar), Bagan (central Myanmar), Natmataung (western Myanmar) and Tante (southern Myanmar) in 2003-2009. According to the records, the counts were decreasing from 343 birds recorded in 2003 to 58 birds in 2009. In Myanmar, the population has declined due to hunting with the traditional traps and birds are sold for food consumption or releasing for traditional merit (BANCA. 2019 Workshop Report)

The Yellow-breasted Bunting is not included in national protected species list by Ministry of Natural Resources and Environmental Conservation. But it was protected by the strategy of the national biodiversity conservation plan. (BANCA. 2019 Workshop Report).

(Principal information provided by Thiri Dae We Aung, Thet Zaw Naing and Joost van der Ven)

Nepal

In the past it was regarded as fairly common. It could be found in loose parties of more than 200 birds (Fleming et al 1979) and was a common winter visitor and passage migrant, from the lowlands up to 1,370m. Enormous flocks were reported flying to roost in March and April 1982: about 3,500 at Chitwan and over 7,000 at Kosi forest clearings (Inskipp and Inskipp 1991). It was regarded as common below 1,370 m in the 1990s (Grimmett et al 1998); it still exists in Nepal as a winter bird but the population is estimated to have declined by 30-70% when compared with the 1980s-90s.

A recent survey conducted at four major locations in Nepal (Bhusal et al 2020) showed Pokhara Valley appeared to be the stronghold of this species in Nepal, with 612 birds counted at four roosts from 28 December 2019 to 4 January 2020. From 11 to 18 March 2020, a census was conducted at three roosts of Pokhara Valley with 245 birds counted. In a similar count in the year 2020/2021 448 birds were recorded.

It is not protected in Nepal.

(Principal information provided by Ishana Thapa and Krishna Bhusal)

Bangladesh

Still exist as a wintering bird but the population is believed to have declined over 70% when compared to that of the 1980-90s. It is uncertain if the distribution of this species has also been reduced. YBB is now an uncommon winter visitor to Bangladesh; it occurs in the wetlands of Chittagong, Dhaka, Rajshahi and Sylhet Divisions (Siddiqui et al 2008).

Recent notable records of Yellow-breasted Bunting from Bangladesh include about 150 individuals from a rice field of Noria village (Boro Haor), Moulvibazar, Sylhet, NE Bangladesh on 11 Nov 2015 and about 60 from a 1 km² grassland inside a Tea Garden in Moulvibazar, Sylhet, NE Bangladesh in Nov-Dec 2016.

Oriental Bird Club representative Paul Thompson's observation from Baikka Beel, Hail Haor (one major wetland in NE Bangladesh) indicates that Yellow-breasted Bunting was seen on 66% of 9 visits to Hail Haor during the period 1986-2000, and on 4% of 51 visits during the period 2001-2012. In the same period Baya Weavers have remained generally numerous in winter flocks in the area.

YBB is protected by law in Bangladesh.

(Principal information provided by Sayam U. Chowdhury)

India

In India it is reported as a winter visitor and formerly known to occur in the flood plains along the Himalayan foothills, specifically commoner to the eastern parts of the country including the Brahmaputra plains, occurring in flocks and sometimes numbering up to 700 individuals, mainly in the states: Sikkim, West Bengal, Assam, Arunachal Pradesh, Meghalaya and Manipur. It has also been recently seen in Uttar Pradesh in northern India. It was regarded as a common and abundant winter visitor to the easternmost parts of South Asia but scarce elsewhere (Ali and Ripley 1983). Yellow-breasted Buntings are known to inhabit mainly farmlands with hedgerows, grasslands, reedbeds, rice fields and arable land with scrubs. The Yellow-breasted Buntings wintering in India are reported to belong to the nominate subspecies *Emberiza aureola aureola*, though Rasmussen and Anderton (2005) state that male specimens from the region are identifiable with the subspecies *E. a. ornata*. It is therefore likely that both subspecies may winter in India, and on migration the *aureola* subspecies likely enters from the western flanks of the Himalayas while *E. a. ornata* arrives through the northeast region.

Given the drastic population declines in the species, only few sight records of this bunting are now known from their wintering grounds in India. Predominantly, most records of the species in recent times are from West Bengal. The flood plains of the river Teesta and Mahananda in the State of West Bengal in particular are reported to still support small populations of wintering Yellow-breasted Buntings. A notable record of Yellow-breasted Buntings in recent times comes from near Fulbari town in Jalpaiguri district where around 30 to 40 individuals have been sighted every winter for the last five years. Here, the Yellow-breasted Buntings were observed to forage in the harvested “Boro rice fields” and roost in the adjoining reed beds of the river Mahananda. Another notable report of a small flock of 15 to 20 Yellow-breasted Buntings comes from the Mollarber grasslands in the Hoogly district; they were seen every winter between 2012 to 2015. Thereafter, this grassland was lost to urbanisation and as a result the wintering population has dwindled to just 2 to 5 individuals, and they are now observed in other fragmented grassland patches adjoining the area. Loss of such suitable grassland habitats of the species in the Indian region is likely a matter of concern. Records of the species wintering elsewhere are from Tinsukia in Assam, Bishnupur in Manipur, Bijnor in Uttar Pradesh, Kannur in Kerala, and from the distant South Andaman in Andaman & Nicobar Islands, though all these sightings are only of single or few individuals.

Despite its Endangered Status in India, this species has not been systematically surveyed or frequently reported by local birdwatchers in Indian Federal States where it occurs. It appears that there is no recent data available on Yellow-breasted Bunting population trend over the previous years for this species wintering in India.

A proper survey is urgently required to know the current status and threats to this species in India. The Bombay Natural History Society aims to undertake systematic surveys and spread awareness for this species in the coming winters.

Yellow-breasted Bunting is a protected species in India and is listed under Schedule IV of the Indian Wildlife (Protection) Act, (1972). All trade and trapping of native birds are banned in India since 1990-91 (except House crow *Corvus splendens*, which is listed as Vermin). Despite of that, in eastern India a few reports of hunting do exist, specifically from eastern Uttar Pradesh, Bihar and parts of Jharkhand where the Yellow-breasted Bunting has been reported being trapped along with Red-headed Bunting.

(Principal information provided by the Government of India, and by Rajat Bhargava)

Finland

Currently extinct as a breeding bird. In the 1980s it was regarded as “probably increasing slowly” in the west of the range. In Finland, a rapid increase was recorded in the middle of 20th century with an estimated population of 300 pairs in the 1980s (Cramp and Perrins 1994). Last observations originated from 2007 and 2019 (males for one day at a site not suitable for breeding). In the 1970s, when the population in Finland was largest, there were hundreds of breeding pairs. The population decreased first little by little but dived deeply in the late 1990s. There were still annual records in the first years of this century until the species completely disappeared. Threats in Finland are regarded as very low, so the causes of extinction were probably external.

It is protected by law in Finland.

(Information provided by Teemu Lehtiniemi)

Sweden

This species has been found at a total of 34 occasions in Sweden. But behind this figure hides the fact that it appeared to be on track to establish itself as a breeding bird in the north-eastern parts of the country during the final decades of the 20th century.

The first observation in Sweden was of a singing male in the northernmost parts (Lapland) in June 1957. At that time, the species was recently established in northern Finland and bred with a smaller population close Oulo, about 120 km from the Swedish border. Until the mid-1990s Yellow-breasted Bunting was seen quite regularly in Sweden, of which about ten observations were made during the nesting season in the northern parts of the country.

However, during the latest 20 years, only two observations have been made, an adult male in June 2001, and a young bird (ringed at Falsterbo Bird Observatory) in August 2012, both in the southern parts of the country. At the same time the species has declined in Finland, and it disappeared as a breeding bird in the early 2000s.

(Information provided by Anders Wirdheim)

Other countries (where the YBB is regarded as an uncommon visitor or vagrant)

The Philippines: Only one record at Catanduanes southeast to Luzon on 24 September 1894 (Kennedy et al 2000).

Malaysia: Rare and localized winter visitor at low elevations in Peninsular Malaysia (Jeyarajasingam 2012) but it has not been found for many years (Allen Jeyarajasingam in litt.) Previous erratic high records include about 200 birds in northwest Selangor on 6 March 1978, and about 100 birds in the last week of January 1985 at the same site (Wells 2007).

A rare straggler to northern Borneo (MacKinnon and Phillipps 1993). Vagrant recorded in Kuching of Sarawak and Papar of Sabah (Phillipps and Phillipps 2009).

Singapore: Rare and local winter visitor at low elevations (Jeyarajasingam 2012).

Brunei Darussalam: Vagrant. Recorded in Wasan several times. (Phillipps and Phillipps 2009).

Indonesia: not recorded in Sumatra (Muhammad Iqbal in litt.) and apparently other parts of Indonesia. Records from Sabah, Sarawak and Brunei Darussalam suggest they might occur in Kalimantan (but not recorded).

Pakistan: Rare vagrant. Only a single record of a specimen collected on the Makran coast at Ormara on 14 November 1901 (Roberts 1992).

Kyrgyzstan: Rare migrant in the east of the country (van der Ven 2002). Not recorded on the list of eastern Issyk-Kul region (Kasybekov 1993).

Threats

Threats (summary; listed according to significance)

1. Taking of birds (via hunting, trapping, use of mist nets, poisoning) for various uses (food, religious release, gaming, recreation, pets) in both national and international trade
2. Insufficient legal protection and outdated conservation status
3. Unsustainable agriculture (unintentionally killing of birds by the use of pesticide and insecticides) and change in agricultural practices
4. Other pollutant and contaminants in the ecosystem.
5. Habitat change (may be due to change in agriculture, human disturbances and climate change)
6. Climate change (possible effects in addition to habitat changes, e.g. ecological mismatches, behavioural changes, physiological changes)
7. Insufficient attention by range state authorities/responsible conservation agencies and lack of international coordination instrument
8. Insufficient public awareness and education
9. Insufficient basic knowledge on the migration route and the basic biology of YBB
10. Human disturbances (e.g., fire, cattle grazing, collection of firewood) leading to habitat change

The prioritization of individual actions addressing these threats is reflected in the ranking included in the action framework tables in the chapter *Actions proposed*, below.

Drivers which facilitate the population decline in the past 15 years

- Globalization, improvement in transportation, facilitate the (live) bird trade
- Economic development in China, the economy in Guangdong flourishes, people thought the local practice in Guangdong (e.g., eating YBB) is trendy and a luxury, many people would like to follow such practice and thus fueling the industry
- Availability of cheap mist nets and loudspeakers on the market and internet, applied to attract and capture the birds
- Increasing power of advertising on the internet leading to greater sales of birds

Information which could facilitate the formulation of YBB conservation measures

- Outline the migration routes and important stopover sites of the YBB within each country, such that a bigger picture can be formed at the international level
- Establish focal point of data collection (existing knowledge and data, more surveys) within each country, for more effective and comprehensive sharing and collection of data, for a better decision-making process
- Study habitat use of Yellow-breasted Buntings at breeding, staging and wintering areas. The result of a baseline analysis of 10 remaining breeding sites shows flexibility of habitat use of YBB which might allow the species to recover fast if the current limiting factors can be eliminated (Beermann et al 2021)

Threats highlighted in range countries

China

The Yellow-breasted Bunting was regarded as a major agricultural pest. Throughout the 20th century, harvest for food in Guangdong was regarded as a suitable way of controlling the numbers (Fu Tongsheng et al 1998). Yellow-breasted Bunting consumption has a long history in Guangdong. La Touche (1925) noted in the early 20th century immense numbers were netted and sold as food, either eaten fresh or potted and tinned. In other parts of China, Yellow-breasted Buntings were caught for other reasons; Moffett (1912) reported that this species was netted heavily at the Yangtze Delta in early 20th century as a pet bird but not for food.

Herklots (1967) noted in the early to the middle of the 20th century that “rice birds” were prized by Europeans and Chinese alike in the Pearl River Delta area, and not only did the rich natives at Guangzhou consumed large quantities but many were tinned and exported to Singapore and USA for overseas Chinese. Apart from the Yellow-breasted Bunting, other small birds were also sold as “rice birds” and there was a case of two hundred Eastern Grey Wagtails *Motacilla cinerea* served as food in Macao.

Hunting of Yellow-breasted Bunting had been a localized activity until the 1980s, when China experienced economic reforms and Guangdong became wealthy. From records of Sanshui Food Market near Guangzhou, about 50,000 Yellow-breasted Buntings were harvested in 1984; the number dropped to about 35,000 in 1985 and only about 10,000 birds in 1987. The decline was probably due to habitat changes at Sanshui as the paddy fields area declined in the 1980s. It was estimated that 70,000 to 80,000 could be harvested annually at the Pearl River Delta (Deng Juxie et al 1989). Decline in catch in Guangdong triggered trade from other provinces, notably localities near Tianjin. An annual “Rice Bird Food Festival” held at Sanshui in the suburb of Guangzhou from 1992 to 1997 attracted about ten thousand tourists every year. It was estimated several hundred thousand Yellow-breasted Buntings were harvested annually at Sanshui alone in the 1990s (Gao Yuren 1996). In 1996, it was recorded that several million “rice birds” were traded at the Rice Bird Food Festival. Since the 2000s, the harvesting of Yellow-breasted Buntings shifted to northern China, particularly near the cities of Tianjin and Tangshan near Beijing. Unlike birds caught in Guangdong previously, birds caught in northern China were normally quite thin. There have been reports that YBB were kept at illegal ‘fattening centres’ before sending them to the main market in Guangdong (Wang Haiyan & Huang Ziyi 2018).

The China Wildlife Conservation Association conducted a market survey in 2001 which revealed an annual consumption of about 100,000 birds in 22 cities in China. 80% of birds netted illegally were sold as food. The number of “rice birds” (mostly Yellow-breasted Buntings) in Guangdong had declined from the previous population of about 1.5 million to less than 300,000 birds (Zhao Xuemin 2005). From results of geolocator tracking of migratory Yellow-breasted Buntings from mainland Far East of the Russian Federation, it was found that tracked birds used the same autumn stopover area in northern China as an individual ringed in Kamchatka. The wintering sites of the geolocator-tagged birds from Far East of the Russian Federation located in Myanmar and on the Myanmar-Thailand border are close to the recovery sites of ringed Yellow-breasted Buntings from the northernmost and westernmost of its breeding region. Therefore, it seems likely that all populations of the Yellow-breasted Bunting use the

same migration corridor in East Asia, and it could explain why unsustainable harvest in China has led to a disproportionately wide-range decline of this species (Heim et al 2020).

Heim et al (2021) summarized some important cases of confiscated Yellow-breasted Buntings since 2014. Although protected by law, many illegal hunting cases were reported. Tangshan is a hub of fattening centers for birds caught before transported to markets in southern China: about 6,100 birds were confiscated on 5 September 2016, 7,000 on 1 September 2017 and 12,000 on 13 September 2019.

From news of confiscated 'Rice Birds' from 2016 to 2019 all over China, the following bunting species were often found sold instead of Yellow-breasted Buntings: Chestnut Bunting *Emberiza rutila*, Little Bunting *Emberiza pusilla*, Black-faced Bunting *Emberiza spodocephala*, Yellow-browed Bunting *Emberiza chrysophrys*, Tristram's bunting *Emberiza tristrami* and also Common Rosefinch *Carpodacus erythrinus* (from reports of Let Birds Fly Fund and other web news).

Viet Nam

Trapping of buntings was frequently found in rural areas but seems not as common in recent years (Le Manh Hung in. litt.).

Lao PDR

Hunting pressure is probably high in Lao PDR.

Cambodia

In Cambodia, YBB was historically regarded as common in the central plain, and a well-known delicacy, killed in great numbers after it fed on the spring rice crop in the vicinity of Prey Veng (Thomas & Poole 2003).

In 1994, it was sold in very large numbers (transported by the sackful) in Phnom Penh and other towns as food (Mundkur et al. 1994). In addition to being targeted for food, the species is also trapped for the merit-bird release trade. A weekly count on the Phnom Penh riverfront during 1995-1996 (37 visits) recorded 2,276 birds, 12% of all merit-birds traded, of which the Yellow-breasted Bunting accounted for one third, as well as the most common migrant species (56%) (van Zalinge 1999). Contrastingly, a more intense monitoring study in 2006-2007 at the two main merit-bird markets of the capital involving 353 visits (almost daily over 13 months) counted only 542 birds, with the species representing less than 0.1% of the sample (Gilbert et al. 2012). Although this difference may be due to highly variable winter abundance, it more likely results from a steep decline over ten years in the Mekong-Bassac floodplain where most merit-bird trappers operate. This is supported by the absence of records from the southeast since the late 1990's, suggesting the species is now very rare and perhaps close to extirpation there. As the species roosts in large numbers, it is particularly susceptible to netting (Bird et al. 2006). Large flocks are still occasionally recorded on the Tonle Sap floodplain, and these may become targeted by trappers as populations are depleted elsewhere. In addition to hunting, the recent conversion of dry season rice fields in order to multi-cycle cropping is also a main cause of losing YBB key habitat around Tonle Sap floodplain. All of these factors mean the species qualifies as nationally Threatened.

Thailand

A survey conducted in the late 1960s at the Sunday Market of Bangkok revealed Yellow-breasted Bunting accounted for 14% of birds sold in the market (the second highest next to the Spotted Munia which was 14.2%). The total number found from November 1966 to December 1968 was 87,209 birds, mostly sold from November to March (McClure & Chalyaphun 1971).

Yellow-breasted Buntings were still being legally exported for *yakitori* until 1982, when the law was changed to offer complete protection (Round, P.D. in litt.).

YBB is believed to have declined over 70% by number. Hunting is not a serious threat to Yellow-breasted Bunting in Thailand now although it was quoted to be serious in the past. There were reports of former high officers who imported Yellow-breasted Buntings from China for consumption and parties (700 Bahts per bird).

Other factors like change of agriculture practice are probably not the main reason for the decline of YBB.

In Thailand, a survey at U-Thong District of Suphanburi (believed to be the main centre of high-level exploitation of communally roosting small land birds) was conducted in March 2020. From interviews with local communities, it was found that large scale netting of small birds for food have not been known for many years, the nets found in agricultural areas nowadays are mostly for protection of crop and fish or shrimps from predators. Probably because of the decline of the population of the Yellow-breasted Buntings, nowadays there are probably no trappers targeting on catching Yellow-breasted Buntings like in the past (Rongrong Angkaew in litt.)

Myanmar

No data exists on the cause of decline of Yellow-breasted Bunting. However, the principal threats are thought to be habitat loss and degradation, particularly rice and crop cultivation. Hunting is likely to be a threat as well; bird hunters catch passerine birds by using nets for selling as food at markets and for mercy release at pagodas.

Nepal

Trapping for sale to restaurants is a major threat to this species e.g., at Koshi. Yellow-breasted Bunting is also threatened by changes in agricultural practices since the 1980s, notably sharp increases in pesticide use (Inskipp and Baral 2011). Habitat loss due to conversion of farmlands into human settlements is also posing a serious threat to the species.

Bangladesh

Hunting is not a high risk to Yellow-breasted Bunting but drainage of wetland, farmland conversion, intensified agriculture and destruction and conversion of seasonal grassland are believed to be important factors responsible for the decline of the Yellow-breasted Bunting in the country.

India

In India bunting meat is widely referred to as *bageri*. During winters in certain parts Red-headed Bunting *Emberiza bruniceps* are purposely trapped in thousands along with some Black-headed Bunting *Emberiza melanocephala* by traditional trappers. In

certain areas on the Indo-Nepal border, the distribution of this bird falls well within the trapping belt of buntings, the consumers of buntings are many and the trade remains largely undocumented. Most likely, the Yellow-breasted Bunting is also trapped along with the Red-headed Buntings.

Actions proposed

This International Single Species Action Plan is valid from 2023 to 2032, following its adoption by the respective governing bodies. Towards the end of its validity in 2032, it should be assessed for either retirement, or for extension, and in the latter case be revised consequently. An interim review after five years, and especially under certain circumstances which result in additional significant negative impact on the conservation status of the species, can be undertaken before the next scheduled review.

Reporting on the implementation status of activities outlined in this action plan through National Reports from Parties to meetings of the CMS Conference of the Parties (COP), and from other Range States through relevant frameworks, as appropriate, is encouraged.

Legend:

Time scale:

S: short-term, suggested to be done within 5 years after the publication of the action plan

L: long-term, suggested to be done beyond 5 years after the publication of the action plan

Priority

H: high

M: moderate

L: low

1. Legal status

- a. Strengthen the legal status of the Yellow-breasted Bunting throughout its range, especially with regard to controlling or banning taking/hunting of this species and other migratory passerines; and restricting trade of this species.

Countries concerned: all range countries

Programme	Activity	Implementation	Time scale	Priority
Yellow-breasted Bunting to be listed as a national protected species	Officially listed as protected species in the countries that it is not protected, such as: Viet Nam, Lao People's Democratic Republic (Lao PDR), Cambodia, Myanmar, and Nepal	Advocacy to relevant government agencies and launch an awareness programme in the country	S	H
National protection status of Yellow-breasted Bunting is upgraded.	In countries such as the Russian Federation and Mongolia, raise its protection status to the highest level.	Advocacy to relevant government agencies and launch an awareness programme in the country	S	M
Protection of other bunting species (to avoid by-catch of YBB)	Review the status of related species (other buntings and small land birds)	Government to work with ornithologists to evaluate the status of other bunting species	L	H
		The East Asia Land Bird Monitoring Scheme (the Russian Federation, China, Republic of Korea and Japan) take the lead in investigating and analysing data of related bunting species.	S	H

National Action Plans developed	All range countries develop action plans according to information collected on priority actions for the conservation of the Yellow-breasted Bunting	Establishment of national working groups or task forces.	L	M
Good management and control on religious mercy release is in place	Adopt legislation on management and control of animal release	Can refer to the revised Wildlife Law in China announcement in 2017. The legislation should involve conservation and religious organizations	S	H
Stop consumption of wild birds	Adopt legislation to ban consumption of wild birds	Can refer to the revised Wildlife Law in China announcement in 2017. The legislation should involve conservation and traders.	S	H
YBB is listed on CITES to stop international trade	Propose listing this species to the CITES appendix to stop possible trade.	Initiate international investigation.	S	M
Evaluation of production and sale of mist nets within range countries is conducted	Cooperation and coordination between different government agencies	Results should be reported to range country governments	S	H
Control or ban on hunting equipment such as mist nets and bird glues is adopted	Law drafted in all countries where mist nets and bird traps are openly for sale without regulations	The experience of how Japan restricted mist net production and trade can be used as an example	S	H

2. Conservation planning: Distribution, migratory pathways and hotspots

a. Monitoring of population and habitats

Countries concerned: all range countries

Programme	Activity	Implementation	Time scale	Priority
Land bird monitoring programme in Asia		Develop the land bird monitoring scheme in breeding countries with good civil society participation	S	H
		Use standardized count methods at wintering and stopover sites.	L	H
Synchronized breeding survey			S	H
Monitor distribution range and breeding success, and habitat			L	M
Study and monitor the use of agrochemical (fertilizers, pesticides and herbicides) at known ranges (breeding, staging and wintering)			L	H
Study and monitor other contaminants			L	H
Study and monitor land use changes			L	M
Study and monitor the scale of spring fire in northern breeding countries			L	M
IBA monitoring programmes			L	M

b. Migration

Countries concerned: all range countries

Programme	Activity	Implementation	Time scale	Priority
National migration study plans	Range countries establish or strengthen their banding and migration study plans on Yellow-breasted Bunting and other grassland birds	Set up a 5-10 year plan in China	M	H
Exchange of data and information	Convene regular communication and occasional workshops	Set up a network or mailing list for communication	L	H
Migration study to locate wintering and stopover sites	Use of geolocators or GPS data loggers	Deploy geocator/GPS logger on Yellow-breasted Buntings, at sites where the birds have demonstrated site-fidelity	S	H
		Study the migration route of the Xinjiang, western China population	L	H
		Study the migration route of the Hokkaido/Sakhalin population	L	H
		Study the migration route of the western Russian population	L	H
Migration study to locate wintering and stopover sites	Use stable isotope analysis	Capture individuals at breeding grounds and collect feathers for stable isotope study,	S	M
		Use samples from confiscated birds to identify and link them to breeding grounds via stable isotope analysis	L	H
	Use colour bands	Coordination of colour banding scheme of Yellow-breasted Bunting and other bunting species (also see below)	L	H
		Identify and establish banding stations along the flyway	L	H
		Continue Colour banding at Baikal Nature Reserve, Russia	L	H
	Field survey	After results from geocator/ isotope / colour band resightings obtained.	L	H
Increase banding efforts.	Organize bird banding training courses	For Myanmar	L	M
		For Cambodia	L	M
		For Viet Nam	L	M
	Create a regional bird banding group	Identify a coordinator and group members	L	M
	Color code for color bands used in participating countries	Good communication with the coordinator and range countries	L	H
	Coordination of colour banding	Russian Banding Scheme in Moscow currently coordinates color banding of Yellow-breasted Buntings	L	H
	Establish national banding scheme: Cambodia		S	M
	Establish national banding scheme: Myanmar		S	M

c. Identify important sites

Countries concerned: all range countries

Programme	Activity	Implementation	Time scale	Priority
Construction of models of favorable habitats to identify potential sites for Yellow-breasted Buntings	Construct models of favorable habitats to identify potential sites for Yellow-breasted Buntings		L	H
Identify and protect important breeding sites to the Yellow-breasted Buntings.	Identify important breeding sites in the Russian Federation, Mongolia, China and DPR Korea for protection or improved management.	Consult all stakeholders (field officers, researchers, ex-poachers, birdwatchers etc) for information. Survey potential areas	L	H
	In big countries like the Russian Federation, Mongolia and China where some breeding sites may not be documented, conduct surveys involving the civil society.		L	H
	Continue the survey and study on Sakhalin, the Russian Federation.		L	H
	Establish the survey and monitoring programme in Chukotka, the Russian Federation	BirdsRussia in cooperation with CAFF/ AMBI and other collaborators	L	H
	Start survey and study in Kamchatka, the Russian Federation	BirdsRussia in cooperation with CAFF/ AMBI and other collaborators	L	H
	Survey for breeding grounds in Mongolia, China and Kazakhstan	Produce awareness material and involve local stakeholders	L	H
	Explore possibilities of survey for breeding Yellow-breasted Bunting in DPR Korea		L	M
	Evaluation of existing protected areas on their importance to Yellow-breasted Bunting and other bunting species in China		S	H
Identify and protect important migratory bottlenecks to the Yellow-breasted Buntings.	Identify important migratory sites in the Russian Federation, Mongolia, China Republic of Korea and DPR Korea for protection or improved management.	Consult all stakeholders (field officers, researchers, ex-poachers, birdwatchers etc) for information. Survey potential areas	L	H
Identify and protect important wintering grounds to the Yellow-breasted Buntings.	Identify important wintering sites in China, Viet Nam, Lao PDR, Thailand, Myanmar, Bangladesh, India, Bhutan and Nepal for protection or improved management.	Consult all stakeholders (field officers, researchers, ex-poachers, birdwatchers etc) for information. Survey potential areas	L	H
		Detailed survey in Kratie Province, Cambodia.	L	H
		Priority sites identified in Myanmar for further survey, threat assessment and development of banding scheme: Warkhema-pantanaw (Ayeyarwady Delta), Tante-Village – U Do (Yangon Region), Bago-Pha-yar-gyi (Bago Region), Law-kanandar (Bagan), ADPA between Kyaukmyang (Mandalay), Natmataung (Chin Region), Inle-Kalaw (Shan Region), Indawgyi, Hukaung, Tanany (Kachin Region), Chatthin Wildlife Sanctuary, Palei (Sagaing Region), Myintkyinna Township.	L	H
		Baseline study of wintering Yellow-breasted Buntings in Lao PDR	S	H

Identification of the main nocturnal roosts of Yellow-breasted Buntings, wagtails, etc and monitoring their numbers	At known migratory stop-over and wintering sites		S	H
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d. Protected areas and habitats

At the time of development of this action plan, there was almost no protected area established especially for the protection of the Yellow-breasted Bunting, although many existing nature reserves may hold a good population of breeding and wintering Yellow-breasted Buntings. It is important to identify and protect sites important to the Yellow-breasted Bunting. These sites will also protect many other migratory passerines.

Countries concerned: all range countries

Programme	Activity	Implementation	Time scale	Priority
Evaluation of existing protected areas on their importance to Yellow-breasted Buntings/other bunting species	Evaluate existing protected areas on their importance to Yellow-breasted Buntings /other bunting species		L	M
Compilation of a detailed distribution map for Yellow-breasted Bunting	Compile a detailed distribution map for Yellow-breasted Bunting		L	H
Environmental Impact Assessment (EIA) process of site development	For sites within the range of Yellow-breasted Bunting breeding grounds, EIA process must be taken	Draft guidelines on EIA related to conservation of breeding areas of Yellow-breasted Bunting	S	H
Promote sustainable agricultural model and integrated pest management	Explore feasibility of organic and wildlife friendly farming	Examples such as Long Valley in Hong Kong SAR of China	L	H
Support management plans of important protected areas		Development of conservation plan of Nizniaja Kama National Park, Russian Federation	S	H
Special sites of importance to be protected		Bakan Flood Plain area and Roneat Land to be designated as protected areas in Cambodia	S	H

e. Develop population model

Programme	Activity	Implementation	Time scale	Priority
Developing population model	Develop population model		L	L

3. Direct threats & mitigation measures

a. Status of exploitation

Countries concerned: all range countries, particularly in those where exploitation of Yellow-breasted Bunting is severe.

Programme	Activity	Implementation	Time scale	Priority
Investigation of the present scope of large-scale trapping for food	Market and field investigation. Not just for Yellow-breasted Bunting but record all other bird species found.	In China, investigation in areas near Tangshan and Tianjin, the present hub of illegal fattening centers	S	H
		In Cambodia, pioneer projects at Tonle Sap, Cambodia (birds caught for mercy release)	S	H
		Identification of project sites in other Asian countries	S	H
Tracking the sale/marketing of small birds for food in markets	Found out where the birds are being sold and who are the buyers		S	H
Study the communities of the illegal hunting black spot (i.e high intensity of illegal take) to understand how to change behavior of poachers	Identify black spots. Field survey and interview of local communities.	Report with recommendation on tackling the issue. Organize some local meetings	L	M
Study on the effectiveness of providing alternative livelihoods to individual hunters			L	H
Clarifying economic values through conducting eco-economics study with a focus on eco-system services provided by YBB			L	H
Understanding motivations of the poachers	Funded Management projects:	Step 1: find hotspots; step 2: Improve habitat; Step 3: train local people to be bird watching guides & eco-rice; Step 4: Education and eco-tourism	S	H
Study the status and effects on illegal hunting on Yellow-breasted Bunting and other small passerine in China			L	H
Study on mortality rate of released birds	Monitor survival and mortality rates	Up-to-date tracking techniques in consultation with experts and under approved projects	L	M
Preventing irresponsible mercy release	Talk to religious communities and influential leaders		S	H
Market survey on mercy releasing	Identify of hot spots, number of birds and specoes composition	Identification of hotspots for better law enforcement	L	H
Studies on bird-exclusion nets in agricultural areas to reduce predation by birds.	Study the impact of bird-exclusion nets in agriculture areas and alternative measures such as compensation to farmers	This should be done with awareness projects to local farmers (see education and awareness below)	L	H

b. Ban or control on taking/hunting

Because Yellow-breasted Buntings migrate and roost in big flocks at stopover sites and during the winter, they are targets of trapping in many places, particularly as pest control and for food consumption. In some countries they are also known to be trapped for 'mercy release' based on a belief that releasing animals bring good luck.

Countries: Practically all range states but in countries where taking of and hunting small passerines for food, pet or pest are rampant more actions should be taken.

Programme	Activity	Implementation	Time scale	Priority
Study on the effects of hunting on Yellow-breasted Bunting and other small passerine species in Asia	Investigate the effects of hunting on Yellow-breasted Bunting and other small passerine species in Asia	AMBI of CAFF, and range countries	L	H
Identification of hot-spots of illegal taking/hunting	Identify hot-spots of illegal taking/hunting		L	H
Establish protocol on procedures on what to do with confiscated birds			S	H
Enforcement of the ban	Control hunting equipment such as mist nets and bird glues		S	H
	Establish hotline on reporting illegal hunting and selling in each country		S	H
	Establish working relationship with police stations and develop joint protocol about what to do with confiscated birds		S	H
	Employ former poachers to tackle the poaching problem		L	M
	Use remote sensing and satellite images to identify the location of mist nets		S	H
	Train public to patrol in the field and help to report the catching of YBB		L	H
	Promote networking with forestry police and local police force on countering illegal hunting in China		S	H
Analysis of the lessons learnt from the illegal taking	Produce a report; organize workshop(s)		L	M

c. Ban and control on consumption

As hunting for food seems to be the major cause of decline of the Yellow-breasted Bunting since the 1990s, legislation, enforcement and public

awareness programmes on the consumption of small migratory birds are needed in many countries. China has revised the wildlife conservation law making consumption of Yellow-breasted Bunting illegal. This could set a good example to many countries showing that eating of wildlife is still a problem.

Countries: Practically all range states but countries where consumption of wild birds is rampant.

Programme	Activity	Implementation	Time scale	Priority
Establishing working relationship with police stations and forest departments and develop joint protocol about what to do with confiscated birds			S	H
Analysis of the lessons learnt from the trade of other wild animals			L	L
Training of the public to patrol in the market or restaurants and help to report the selling of YBB			L	H
Report selling on internet	Collaborate with the national/local authorities, including police as well as internet companies, promote zero-tolerance approach towards sale of illegal wildlife products on the internet		L	M
Cyber police, to actively search for illegal selling and buying of wildlife and related product			L	M
Listing the Yellow-breasted Bunting on CITES			L	M
Pioneer project on stopping consumption of small wild birds in Guangdong			S	H

4. Habitat preferences & restoration, management of population

a. Breeding biology and gentic diversity

Countries concerned: all breeding countries (the Russian Federation, Kazakhstan, Mongolia, China, Japan and probably Democratic People's Republic of Korea (DPR Korea), and Finland)

Programme	Activity	Implementation	Time scale	Priority
DNA analysis		Develop a protocol and coordination network of field biologist and laboratories	S	H

	Collection of feathers and blood samples and genetic analysis.	Catching birds at breeding season for sample collection and banding. Remember taking into consideration the breeding site and possible effect on nestlings.	L	M
		Collect samples from most if not all representative breeding areas (e.g. Eastern Europe, Central Asia, NW China, Kamchatka etc)	L	M
Song analysis of different populations	Collection of songs from different populations	Field work and communication between researchers	L	L
Breeding biology	Study on breeding ecology of Yellow-breasted Bunting	Field work and communication between researchers	L	L
Foraging preference of breeding birds	Study the food preference of breeding Yellow-breasted Bunting	Field work and communication between researchers	L	L

b. Habitat studies

Countries concerned: all range countries

Programme	Activity	Implementation	Time scale	Priority
Studies on habitat use at breeding grounds	Study habitat use at breeding grounds		L	H
Studies on habitat use at wintering grounds and stopover sites	Study habitat use at wintering grounds and stopover sites	Conduct habitat preference study of wintering Yellow-breasted Buntings in southern China	S	H
Study on agricultural practices relevant to Yellow-breasted Buntings	Research on the negative impacts of agricultural practices on Yellow-breasted Bunting	Identify the bad practices. Analyze examples and existing knowledge, select specific locations for research and studies to generate useful data	L	M
	Study the relationship between livestock grazing and breeding site preference of the Yellow-breasted Bunting		L	M
	Study site habitat preference of Yellow-breasted Buntings in farmland for recommendation of agricultural practice		L	M
	Study the effect of farmland conversion		L	M
	Review on rice paddy fields in range countries and link it to Yellow-breasted Bunting distribution changes etc.	Land use changes using remote sensing images	S	H
Study on the effects of climate change on food supply for YBB	Study the effect of climate change to the status of rice paddy along the flyway of the Yellow-breasted Bunting.		L	M
Study on the effects of agro-chemicals to migratory passerines	Chemical analysis of birds/bird feathers		L	H
Study on the succession of grassland			L	L
Study on impact of climate change to natural succession			L	L

c. Actions relevant to other species of buntings and land birds

Programme	Activity	Implementation	Time scale	Priority
Studies on ecological relationship between YBB and other bunting species.			L	M
Development of species and site research/conservation projects on other bunting species and grassland birds			L	H
Comparative analysis of trends of land birds in East Asia			L	H

d. Restoration and management of populations and habitat

Countries concerned: all range countries, particularly countries where this species is extinct or on the verge of extinction.

Programme	Activity	Implementation	Time scale	Priority
Restoration of the Hokkaido population	Captive breeding of YBB in Japan, only as the last resort in case they go extinct		L	H
Restoration of disappeared breeding population in China in the long run			L	H
Promotion of good habitat management experience	Identify the best practice of management at protected areas or managed sites of the Yellow-breasted Bunting	Identify the best practice in the Russian Federation and recommend to other sites	S	H
Proper management of the habitat established	Draw attention to the Irkutsk Butter and Fat Plant on the ploughing and other activities on wetland and grasslands in Tambovsk district of Amur Region		S	H
Promoting sustainable agricultural model and integrated pest management in China	Promote sustainable agricultural model and integrated pest management in China		S	H

5. CEPA: Communication, Education and public awareness

a. Education and awareness

Countries concerned: all range countries

Programme	Activity	Implementation	Time scale	Priority
Awareness raising on the need for conservation of the YBB	Raise awareness through politics or through media with well-known people/celebrities	Communication and collaboration with Agricultural Ministries/Bureaus to include conservation elements in agriculture, keep the discussion at a national level and then to the international level	L	H

Awareness raising to general public and schools		Breeding Ground: Promote what is happening in southern countries+YBB story	S	H
		Whole flyway: video promotion -- This bird belongs to the flyway, with message "Not your bird"; "message2 "do not eat it until it is extinct", through youtube/social media	S	H
	Promote appreciation of bird: advantages to have birds in the wild; biodiversity		S	H
	Promote the Long Valley, Hong Kong SAR of China experience of bird friendly agriculture		S	M
	In countries where mercy release at temples is popular, develop an awareness strategy to change people's attitude on this practice.		S	H
Promoting hotline number to public to report illegal hunting and eating YBB			S	H
Programme on mercy release	Promote „do not release” in Buddhist organization		S	H
	Promote „do not release” to the general public		S	H
Programme on bird exclusion nets in agricultural areas (nets for production of crops and fish/shrimps but not primarily for catching birds)	Promote awareness in areas where potential important roosts of Yellow-breasted Bunting are located. Discussion with local authorities on alternative ways and compensation to farmers		L	M
Dissemination of promotional materials (leaflets, poster, stickers etc. In different languages)			S	H
Mass Media	Establish on line platforms		S	H
Survey and census handbooks in languages of different countries are prepared and discussed			L	H
Website to report sighting of banded YBB is established			L	H

b. Capacity building

Countries concerned: all range countries. Particularly relevant to countries with less experience in bird research and management.

Programme	Activity	Implementation	Time scale	Priority
Training provided for monitoring of bird and habitat in (2.a.)	Establish national and regional programmes and training material		S	H
Bird Banding training for students and interested volunteers conducted	Establish national and regional programmes and training material		S	H
Capacity building at different levels on law enforcement conducted	Establish protocol for enforcement officers to deal with hunters/poachers		S	H
	Analyse successful court case to recommend key actions for enforcement officers to ensure effective implementation of the law/legislations at the front-line		L	M
	Organize training for volunteers on how to report cases to assist enforcement		S	H
	Provide tools and information to assist the enforcement/customs officers to identify endangered species and detect illegal trade		S	H
	Bird identification training to wildlife rangers and conservation groups in Cambodia		S	
Training the public to patrol in the field/market or restaurants and help to report the selling or catching of YBB			L	M

c. Information and database

Countries concerned: all range countries

Programme	Activity	Implementation	Time scale	Priority
Datacentres and archives of information and study papers related to Yellow-breasted Bunting research are established			L	M
Data on distribution of Yellow-breasted Bunting			S	H
Collecting information on trap sites and number of			S	H

birds captured annually				
Database compilation	Compile the existing data from published information and unpublished data.		S	H
	Compile the existing data from published information and unpublished data. Simple excel spreadsheet can be used to compile the data from individual birdwatchers, e-bird, and etc		L	M
	Collect life history data (food habit, behaviour, breeding, sex ratio) from China and southern regions and compare it to current information		L	M

6. International cooperation and networking

a. International cooperation and networking

Countries concerned: all range countries

Programme	Activity	Implementation	Time scale	Priority
Establishing Data Sharing and coordination	Identify Focal points		S	H
	Establish colour banding protocol and coordination		S	H
	Gather information to tackle illegal hunting and trade		L	H
Sharing of experience	Analyse the lessons learnt from enforcement on hunting ban / mist net production and sell regulations in other countries		L	H
Establishing International Task Force or Working Group		Explore the opportunities to include this task force or working group into existing framework and/or covering relevant activities through synergies with existing groups/mechanisms/instruments (e.g. CMS Action Plan and Working Group on African-Eurasian Migratory Landbirds, IUCN or NE Asia Land Bird Monitoring Scheme)	S	H
Establishing International Task Force on tackling illegal killing of migratory birds		Incorporate action plan implementation and its dedicated activities on Yellow-breasted Bunting in the workplan of the CMS Intergovernmental Task Force on Illegal Hunting, Taking and Trade of Migratory Birds in the East Asian-Australasian Flyway	S	H
International framework of networking	Format a regional network for migratory land bird species in Asia similar to the East Asian-Australasian Flyway Partnership.	Start as a framework under existing bilateral agreements then expand to cover all countries along the flyway (probably most of Asia except SW Asia)	L	H
Establishing international census of Yellow-breasted Bunting		Suggested to be held at least once every five years	L	H
Encouragement of international joint		The Russian-German cooperation at Amur Province should be continued and expanded	S	H

studies and publications		to serve as a example to other range countries.		
Joint fund-raising activities			S	H
Establishing a Monitoring network on census and protection at important sites in China			L	H
International symposia and workshops	Hold international symposium or workshop on the study and conservation of Yellow-breasted Bunting (and other threatened land birds) in major range countries		L	H
	Make sure all conservation / zoological / ornithological conferences have Yellow-breasted Bunting and other land bird species in the agenda		L	H
	Make sure all the conferences, symposia, workshops are well connected and coordinated		L	H

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Appendix 1

List of participants to workshops and meetings leading to compilation of the International Yellow-breasted Bunting Action Plan

Participants to the Guangzhou workshop (2-4 November 2016):

Thet Zaw Naing, Thiri Dae We Aung , An Kaiwen, Yury Anisimov, Nyambayar Batbayar, Bou Vorsak, Simba Chan, Fion Cheung, Batmunkh Davaasuren, Deng Nü, Ding Changqing, Helen Fong, Vivian Fu, Haa Van Nghia, Hasebe Makoto, Hayama Seiji, He Qijing, Wieland Heim, Borja Heredia, Huang Qin, Kami Hui, Harrision Ikhumhen, Johannes Kamp, Sergey Kharithonov, Dong-won Kim, Jin-han Kim, Pavel Ktitorov, Jonathan Martinez, Pan Lau, Li Fanghua, Liu Yang, Lo Wai Yan, Ozaki Kiyooki, Peng Hong, Shi Menghua, Kaset Sutasha, Evgeny Syroechkovskiy, Ivan Tze, Ueta Mutsuyuki, Nelson Wan, Wang Haibin, Wei Qian, Chuan Woo, Wu Biyun, Wu Kansong, Wu Yuchun, Xing Xiaoying, Vicky Yeung, Yu Yat Tung, Cindy Yuen, Zeng Jiesui, Zhang Jiejun, Zhang Qiang, Zhang Xiaoxi, Nemo Zheng, Zhong Qiao

Participants to the Russian National Workshop (Tver, 28-29 January and 1 February 2018):

Yuriy Anysimov, Pavel Ktitorov, Evgeniy Syroechkovskiy, Yaroslav Red'kin, Alexander Mischenko, Vladimir Yakovlev, Sergey Kharitonov, Mikhail Kalyakin, Aleksey Antonov, Yuriy Gerasimov, Pavel Amosov, Yuriy Durnev, Oleg Burskiy, Alexander Ananin, Anastasiya Grin'kova, Rinur Bekmansurov, Olga Sukhanova, Vasiliy Kolbin, Vladimir Melnikov, Sergey Smirenskiy, Ekaterina Preobrazhenskaya, Elena Krasnova, Irina Kharitonova, Olga Val'chuk, Olga Anisimova, Valentina Anisimova, Alexander Nazarenko, Sergey Surmach, Anton Morkovin, Igor Sedletskiy, Stefania Sedletskaya, Aleksander Kuzmich, Andrey Gorovenko, Johannes Kamp, Wieland Heim, Ozaki Kiyooki, Simba Chan

Participants to the International Ornithological Congress Round Table Discussion (Vancouver, Canada, 23 August 2018):

Pavel Ktitorov, Johannes Kamp, Jerome Ko, Lin Ruey-shing, Olivier Biber, Richard Fuller, Caroline Dingle, Ding Changqing, Jiang Hongxing, Jia Chenxi, Ye Yuanxing, Saeedeh, Lou Yingqiang, Sun Yuehua, Choi Chang-yong, Nagata Hisashi, Ueda Keisuke, Kitazawa Munehiro, Ozaki Kiyooki, Yu Yat-tung, Vivian Fu, Simba Chan

Participants to the Meeting of the Ornithological Society of Japan Round Table Discussion (Niigata, 14 September 2018):

Ichikawa Tomoko, Tamada Katsumi, Hayama Seiji, Matsui Shin, Yoshino Tomoo, Tomioka Tatsuyuki, Sadakuni Toshio, Sato Eri, Saitoh Takema, Ozaki Kiyooki, Oohata Koji, Kuroda Haruo, Higuchi Hiroyoshi, Kato Hiroko, Kobayashi Sayaka, Ueta Mutsuyuki, Tsujimoto Daichi, Odaya Yoshiya, Tokita Kenichi, Tanaka Satoshi, Takaoka Kanata, Mizumura Haruka, Ikenaga Hiroshi, Simba Chan

Participants to the Myanmar National Workshop (Yangon, 26 February 2019):

Dr. Thiri Dae We Aung, Dr. Than Than Sein, Daw Thiri Sandar Zaw, U Hla Than, U Naing Lin, U Ngwe Lwin, U Zayar Soe, Dr. Thein Aung, U Thaung Htut, U Moses, Dr. Nyo Nyo Aung, Dr. Myo Sandar Win, Dr. Khin Maw Maw Myint, Dr. Nwe Nwe Aung, Dr. Nay Myo Hlaing, U Lay Ko Ko, U Win Myat, U Thaw Phyo Swe, U Min Thiha Zaw, Daw Chit Su Wai, Daw Khin Ma Ma Aung, U Myat Moe Aung, Daw Pyae Phyo

Lin, Daw Khine Khine Soe, U Aung Aung, U Tun Tun Thein, Eang Phallis, Wieland Hein, Hui Shuk Kwan (Kami Hui), Lau Sin Pang (Pan Lau), Yeung Lee Ki (Vicky Yeung), Simba Chan

Participants to the China Ornithological Congress Round Table Discussion (Changchun, 9 August 2019):

Wang Yi, Yu Jiangping, Li Tiansong, Yang Haiming, Li Zhe, Deng Wenyong, Fu Changjian, Li Xiang, Pan Kaijun, Wu Aiming, Wang Changcao, Tang Shiyi, Guo Yangyang, Chen Shicheng, Li Xianda, Ding Peng, Li Min, Jia Ru, Chang Jiang, Zhao Gerltu, Qian Fawen, Li Fanghua, Tian Li, Yao Wang, Zhou Bo, Jimmy Choi, Yury Anisimov, Tseveenmyadag Natsagdorj, Batmunkh Davaasuren, Ozaki Kiyooki, Hayama Seiji, Hasebe Makoto, Vicky Yeung, Simba Chan

Participants to the Thailand National Workshop (Bangkok, 8 September 2019):

Thattaya Bidayabha, Nancy Gibson, Ayuwat Jearwattanakanok, Philip D. Round, Roongroj Jukmongkol, Suthee Supparatvikorn, Uthai Treesucon, Khemthong Tonsakulrungruang, Vattikorn Sophonrat, Natthaphat Chotjuckdukul, Kasem Tangsongsak, Bussara Tirakalyanapan, Vicky Yeung, Simba Chan

Participants to the Cambodia National Workshop (Phnom Penh, 11 September 2019):

Ou Serey, Pal Holly, Eang Phallis, Srey Sunleang, Lim Vat, Tuy Sarouen, Roern Vanthet, Srang Mony, Som Chomnet, Bou Vorsak, Phat Chandara, Hong Phearak, Mork Bora, Pain Thearat, Ly Sreng, Kong Sereyroth, Ea En, Yi Vichka, Long Sreypeng, Ren Sarem, Samon Vireak, Sam Sovannary, Mogn Pech, Sam Sokchou, Michael Meyerhoff, Pech Sotheary, Sin Kong, Loeav Makara, Chhen Sonear, Meng Neathmory, Sum Phearun, Sok Ko, Mey Phanny, Bou Sinrothanak, Ung Sam Oeun, Pech Moran, Pan Rachana, Bun Sina, Pen Tharn, Oun Salor, Tang Punleu, Ly Samphors, Taing Porchhay, Taing Kimlong, Sin Ting Lam, Kami Hui, Vicky Yeung, Simba Chan



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