

Strengthening CITES processes for reviewing trade in captive-bred specimens and preventing mis-declaration and laundering: A review of trade in Southeast Asian parrot species

Introduction

- The live bird trade in CITES is dominated by parrot species, with almost 90% of all live birds traded being from the order Psittaciformes (Figure 1). More than 80% of parrots traded are reported to be from captive-bred sources.
- The misuse of CITES source codes¹ has been described in two ways, where source codes were being incorrectly applied and where source codes were being deliberately misused to enable trade in specimens which might not otherwise be permitted. This includes where wild-caught specimens are being exported as captive-bred, sometimes referred to as “laundering”.
- Issues surrounding the misuse of source codes/laundering of wildlife in trade have been raised for several CITES listed taxa including: reptiles, birds, amphibians and primates (Nijman *et al.*, 2012; Sigouin *et al.*, 2017; TRAFFIC, 2012).
- More specifically relating to parrot trade, some recent articles have reported fertilised eggs from the wild being smuggled to breeding centres in Europe where they are incubated and hatchlings ringed and mis-declared as captive-bred birds².
- Wild harvesting of endangered species can lead to increased pressure on already sensitive populations and in some cases to extinctions. An example of this is Spix’s Macaw for which habitat destruction and wild collection for trade have been attributed as the two principal factors leading to the species’ classification as Critically Endangered (Possibly Extinct in the Wild) on the IUCN Red List (BirdLife International, 2018b; Butchart *et al.*, 2018).
- In response to concerns surrounding the incorrect application and/or misuse of source codes ([SC62 Doc.26](#)) a Resolution was passed at CoP17 to establish a mechanism and selection process to review trade in animal specimens reported as produced in captivity ([Res Conf. 17.7](#)).
- The selection process identifies species/country combinations of concern using CITES trade data based on six criteria: i) **Significant increases** in trade declared as captive-produced, ii) **Significant numbers** declared as produced in captivity, iii) **Shifts in captive production source codes**, iv) **Source Reporting inconsistencies** by exporting and importing Parties, v) **Incorrect application of source codes**, and vi) **Questions concerning Legal acquisition** of parental stock ([AC29 Doc. 14.1](#)).

¹ Each harvest/management systems used to obtain/produce CITES-listed specimens for international trade has an associated source code for use on CITES permits and certificates, which informs importing and exporting Parties about the source and management system used to produce specimens and thus which provisions of the Convention apply. For example, barring specific exceptions (more at link below), an animal that is born/hatched in the wild should be traded using the source code “W” for wild. There are ten source codes currently used; for a full list see: https://cites.org/sites/default/files/eng/prog/captive_breeding/E-Source%20codes%20booklet%20-%20April%2017.pdf

² See : <https://www.nationalgeographic.com/animals/2019/06/hyacinth-macaw-egg-laundering-for-pet-trade/>

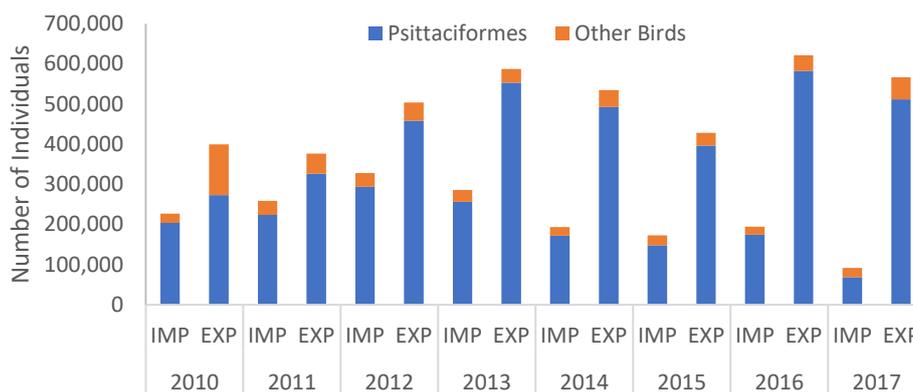


Figure 1 Importer (IMP) and exporter (EXP) reported quantities for all trade in live CITES-listed bird species, separated into parrots and other bird species.

- In order to support the further development of the CITES review of trade in animal specimens reported as produced in captivity, this paper draws attention to additional information that could be considered in selecting species for review. In particular, it highlights ongoing illegal trade and what appears to be misuse of CITES source and purpose codes that could indicate potential laundering. Trade was reviewed for three Southeast Asian parrot species (Palm Cockatoo *Probosciger aterrimus*, Yellow-crested Cockatoo *Cacatua sulphurea* and Eclectus Parrot *Eclectus roratus*) which did not meet the selection criteria for the review of trade in animal specimens reported as produced in captivity, but for which concerns over captive breeding have been raised in discussion with relevant experts. This analysis identifies potential concerns regarding the declared source of specimens in trade, particularly in relation to laundering, and proposes possible amendments to the selection criteria and actions that could identify further species at risk of misdeclaration and/or laundering.

Methods

- Review of CITES trade data and consultation with experts was used to select three species suspected of being subject to misdeclaration and/or laundering in trade: *Probosciger aterrimus*, *Cacatua sulphurea* and *Eclectus roratus*.
- Trade data were analysed to investigate if these species would be selected for review using the current criteria for the review of trade in animals reported as produced in captivity (henceforth referred to as “The Review”). **CITES trade data**³ were downloaded from the CITES trade database (see: <https://trade.cites.org/>) for the three species from 2010 – 2018 and analysed using Microsoft Excel and ArcGIS. Trade statistics and maps presented use exporter reported quantities unless otherwise specified. **Comparison to the selection criteria for The Review (AC29 Doc. 14.1)** was done using CITES trade data for 2013 – 2017, as the most complete recent five-year period) CITES trade data were also analysed to identify potential anomalies in trade reporting. Given that the vast majority of trade in parrots is in live individuals, the term LIV (live) was the only term included in the analyses.
- Further evidence of the potential for laundering and/or misuse of source and purpose codes relating to the three focal species was gathered through an analysis of seizure data. Information on wildlife **seizures** relating to the three focal species compiled by TRAFFIC were downloaded from TRAFFIC’s Wildlife Trade Information System from 2010 onwards⁴. The data were analysed using Microsoft Excel and ArcGIS (please see Annex 2 for a more detailed description of caveats related to the use of seizure data such as this).
- Examples of suspect **online trade** from a study in the Philippines (Sy *et al.*, in prep.) and observations of a Facebook site trading the focal species in Pakistan are provided as further examples of trade meriting further investigation.

³ CITES trade statistics derived from the CITES Trade Database, UNEP World Conservation Monitoring Centre, Cambridge, UK.

⁴ TRAFFIC collate information from open sources to determine species and commodities being illegally traded globally, and to assess the trade routes used.

- Based on the information presented, proposed actions to further refine The Review are made.

Comparison to the criteria used to select species/country combinations for the review of trade in animals reported as produced in captivity

- To qualify for inclusion within The Review based on criteria outlined in AC29 Doc. 14.1 , a combination of trade and threat levels relevant to a particular species/country combination should meet either one of six criteria if Appendix I listed or one of four criteria if Appendix II listed. Criteria i.), ii.), iii.), iv.) and vi.) also contain a trade threshold to be met for the species/country combination to qualify for The Review. Criteria v.) does not require a trade threshold (see Annex 2 for a full explanation of the criteria).
- When the trade threshold was met for any species/country combination, none of the three focal species met any of the criteria for any species/country combination (Table 1).
- *Probosciger aterrimus* (CITES Appendix I) did not meet the threshold level of trade to be compared to any of the criteria. For criteria V, where no trade threshold applies, *P. aterrimus* was not traded using source code 'D'.
- *Cacatua sulphurea* (CITES Appendix I) did not meet the threshold level of trade for criteria i), iv) and vi) and for the remaining three criteria where the trade threshold was met, did not meet the criteria for The Review.
- *Eclectus roratus* (CITES Appendix II) (criteria iv and v are not applicable). For all other criteria, the trade thresholds were met (South Africa qualified for all criteria) but none of the criteria were met.

Table 1 Focal species (*Probosciger aterrimus*, *Cacatua sulphurea* and *Eclactus roratus*) compared to the selection criteria (see annex 1 for a full explanation of the selection criteria) for The Review. Explanations are given as to why each species did or did not meet the criteria.

Species	Selection criteria for the review of trade in animal specimens reported as produced in captivity (see annex 1 for a full explanation of the selection criteria) (AC29 Doc. 14.1)					
	i.)Significant increase	ii.)Significant numbers	iii.)Shifts in source codes	iv.)Reporting Inconsistencies (Appendix I only)	v.)Incorrect source codes (Appendix I only)	vi.)Legal acquisition
Palm Cockatoo <i>Probosciger aterrimus</i>	Trade Threshold (200): Not met for any species/country combination Criteria – Kuwait the only Party that would meet the criteria of the most recent year of data (2017) was >4 times the mean of the preceding five years. OVERALL: Does not qualify as no species/country combination met trade threshold	Trade Threshold (average >50): Not met for any species/country combination Criteria – Not met, no species / country combinations within the top 5% traded within the Order. OVERALL: Does not qualify as no species/country combination met trade threshold	Trade Threshold (average >50): Not met for any species/country combination Criteria – No shifts in source codes for any species / country combination. OVERALL: Does not qualify as no species/country combination met trade threshold	Trade Threshold (>20): Not met for any species / country combination. Criteria – No discrepancy of more than 10% in any of the code pairings OVERALL: Does not qualify as no species / country combinations meet either the trade threshold or the criteria	Criteria – No trade reported in source code “D” OVERALL: Does not qualify as no species/country combination met the criteria	Trade Threshold (1,000): No non-range States reported exports >1,000 units over the most recent 3 years. Criteria – Not applied as no species / country combinations met the trade criteria OVERALL: Does not qualify as no species/country combination met both trade and criteria thresholds
Yellow-crested Cockatoo <i>Cacatua sulphurea</i>	Trade Threshold (50): Not met for any species/country combination Criteria – Not met, no species / country combinations OVERALL: Does not qualify as no species/country combination met trade threshold	Trade Threshold (average >12.5): met for one species country combination, South Africa Criteria – Not met, no species / country combinations within the top 1% traded within the Order OVERALL: Does not qualify as only South Africa met the trade threshold but not the criteria	Trade Threshold (average >12.5): met for one species country combination, South Africa Criteria – No shifts in source codes for any species / country combination. OVERALL: : Does not qualify as only South Africa met the trade threshold but not the criteria	Trade Threshold (>20): Not met for any species / country combination. Criteria – No discrepancy of more than 10% in any of the code pairings OVERALL: Does not qualify as no species / country combinations meet either the trade threshold or the criteria	Criteria – Exports using source code “D” reported from Singapore, but one registered breeding facility. OVERALL: Does not qualify as no species/country combination met the criteria	Trade Threshold (1,000): No non-range States reported exports >1,000 units over the most recent 3 years Criteria – Not applied as no species / country combinations met the trade criteria OVERALL: Does not qualify as no species/country combination met both trade and criteria thresholds
Eclactus Parrot <i>Eclactus roratus</i>	Trade Threshold (200): South Africa is the only species/country combination with average annual trade >200 during the preceding five years. Criteria – Met for three species/country combinations: Azerbaijan, Bulgaria and Denmark OVERALL: Does not qualify as no species/country combination met both trade and criteria thresholds	Trade Threshold (average >50): – six species / country combinations met trade threshold: South Africa, Indonesia, Philippines, Singapore, Mali and the Netherlands. Criteria – Not met, no species / country combinations within the top 5% traded within the Order. OVERALL: Does not qualify as no species/country combination met both trade and criteria threshold	Trade Threshold (average >50): – six species / country combinations met trade threshold: South Africa, Indonesia, Philippines, Singapore, Mali and the Netherlands. Criteria – No shifts in source codes for any species / country combination. OVERALL: Does not qualify, six species / country combinations met the trade threshold, but none met the criteria	Not applicable as species not in Appendix I	Not applicable as species not in Appendix I	Trade Threshold (1,000) – South Africa met the threshold of more than 1,000 live exports in the most recent three years Criteria – South Africa did not meet either criteria vi)(a) or (b). OVERALL: Does not qualify as no species/country combination met both trade and criteria thresholds

CASE STUDIES

Palm Cockatoo – *Probosciger aterrimus*

Background

- Listed in CITES Appendix II in 1975 and transferred to Appendix I in 1987; this species has not been subject to CITES quotas or trade suspensions .
- Range States: Australia, Indonesia, Papua New Guinea
- Assessed as Least Concern on the IUCN Red List with a stable population in Australia of 3,000 individuals. There are no population estimates from the range of *P. aterrimus* in either Indonesia or Papua New Guinea. The population is considered to be declining due to habitat loss and unsustainable levels of exploitation for international trade (BirdLife International, 2016).

CITES Trade

- CITES reported exports show a total of 309 live *P. aterrimus* have been traded internationally since 2010. The Parties reporting the largest exports are South Africa and the Philippines, who between them have reported exports of 251 captive-bred *P. aterrimus* since 2010 (Figure 3).
- Bahrain reported exports of six *P. aterrimus* since 2010 with no source code specified, which is normally assumed to indicate the specimens were wild caught. South Africa reported the import from Bahrain of 45 *P. aterrimus*, all of which were reported as being captive-bred (source code 'C') and for the purpose of breeding (purpose code 'B').
- Exports of 299 from other Parties were reported as bred in captivity (using source code 'C' (captive bred in accordance with Resolution Conf 10.16 (Rev.)) and four using source code 'F' (born in captivity but not meeting Conf. 10.16 criteria).
- The Philippines reported exporting 161 captive-bred (source code 'C') *P. aterrimus* using purpose code 'B' (breeding in captivity) and seven individuals using purpose code 'T' (commercial). Conversely, importers of *P. aterrimus* from the Philippines reported importing 74 live birds using source code 'B' and 107 using source code 'T'.
- There are no registered captive breeding facilities for *P. aterrimus*, so there should be no international trade for **commercial purposes**. Between 2010 and 2018 a total of 72 live *P. aterrimus* were reported as exported from South Africa (42), Syria (10), Uzbekistan (8), the Philippines (7) and Bahrain (5) with trade stated as for **commercial purposes (purpose code 'T')**. All of these exports were reported with the source code 'C' apart from those from Bahrain for which no source code was provided (blank).

Captive breeding

- Available information indicates that this species is difficult to breed in captivity.
- Based on information from the Species 360 database⁵ the median duration (N = 24) of the breeding life of *P. aterrimus* is 2.06 years, with a maximum breeding life observed of 9.30 years (Young *et al.*, 2012). Data from Rotterdam Zoo show that a group of 22 *P. aterrimus* produced ten eggs between 1991 – 2000, of which five hatched and only two chicks were successfully parent-reared (King, 2000).
- In an ideal scenario where all of the basic welfare and health requirements of the species are met and considering that *P. aterrimus* require a particular breeding diet and enclosure setup, one pair could be expected to have an average of one egg per clutch and a maximum of two to four clutches per year (J. Lee (Wildlife Reserves Singapore), personal communication, July 15, 2019).
- Evidence from studies of wild breeding of *P. aterrimus* also suggest that they have one of the slowest life histories of all parrot species, with 81% of nests (N=28) failing to produce a fledgling (Murphy *et al.*, 2003).
- According to the CITES website, there are no CITES-registered captive breeding operations for this species.

⁵ <https://www.species360.org/>

Seizures

- Data collected by TRAFFIC show 105 *P. aterrimus* have been reported as seized since 2010 with seizures occurring in Indonesia (52 birds seized) and the Philippines (53 birds seized). Data relating to seizures of *P. aterrimus* in the Philippines show that all of the birds seized had come from range States, either Indonesia or Papua New Guinea.

Potential indications of mis-declaration, illegal trade, and laundering

- The Philippines has reported the largest number of exports of *P. aterrimus* since 2010 reported as being for commercial purposes, this despite the absence of a registered breeding facility. Although the majority of reported exports from the Philippines have used the purpose code for breeding in captivity, importers report larger numbers of birds that are imported for commercial purposes. Given the slow life history and available information indicating difficulties with captive breeding this species, combined with the number of seizures that take place in the Philippines (of birds from range States), there is a possibility that wild birds could have been exported using incorrect source codes.

There are also strong indications that wild-caught *P. aterrimus* are being sold online, e.g. in Pakistan and the Philippines.

- Online advertisements of *P. aterrimus* have been observed offered for sale on Facebook in Pakistan stating that they are untamed adults, with accompanying photos showing individuals in very poor condition, suggesting that they are wild caught rather than captive bred (Figure 2).
- A yearlong survey of 20 Philippine Facebook groups detected numerous offers for sale of *P. aterrimus*, including one advertisement without accompanying photos offering 50 *P. aterrimus* (Figure 2) (Sy *et al.*, in prep.).
- No Parties have reported exporting any live individuals to Pakistan or the Philippines since 2010, however Thailand reported the re-export to the Philippines of 47 birds for which the Philippines was reported as the country of origin.
- There is anecdotal information to suggest that *P. aterrimus* has been imported illegally into Singapore via the Philippines for domestic sale and onward trade. (A. Jain (BirdLife International), personal communication, August 03, 2019)



PARROTS FOR SALE PHILIPPINES
 Closed Group
 About
 Discussion
 Items for Sale
 Your Items

58 mins

for sale lesser black palm cockatoo 50pcs available.. with papers..80k each not tamed

Like Comment



Figure 2 Palm Cockatoos advertised on Facebook from a vendor in Pakistan (top); offer for sale by a Facebook group in the Philippines (middle); and a photo from a seizure in 2019 in Mati, Davao Oriental, the Philippines (bottom). See: <https://news.abs-cbn.com/news/04/09/19/p250-m-worth-of-exotic-animals-seized-in-davao-oriental> for full article on the seizure.

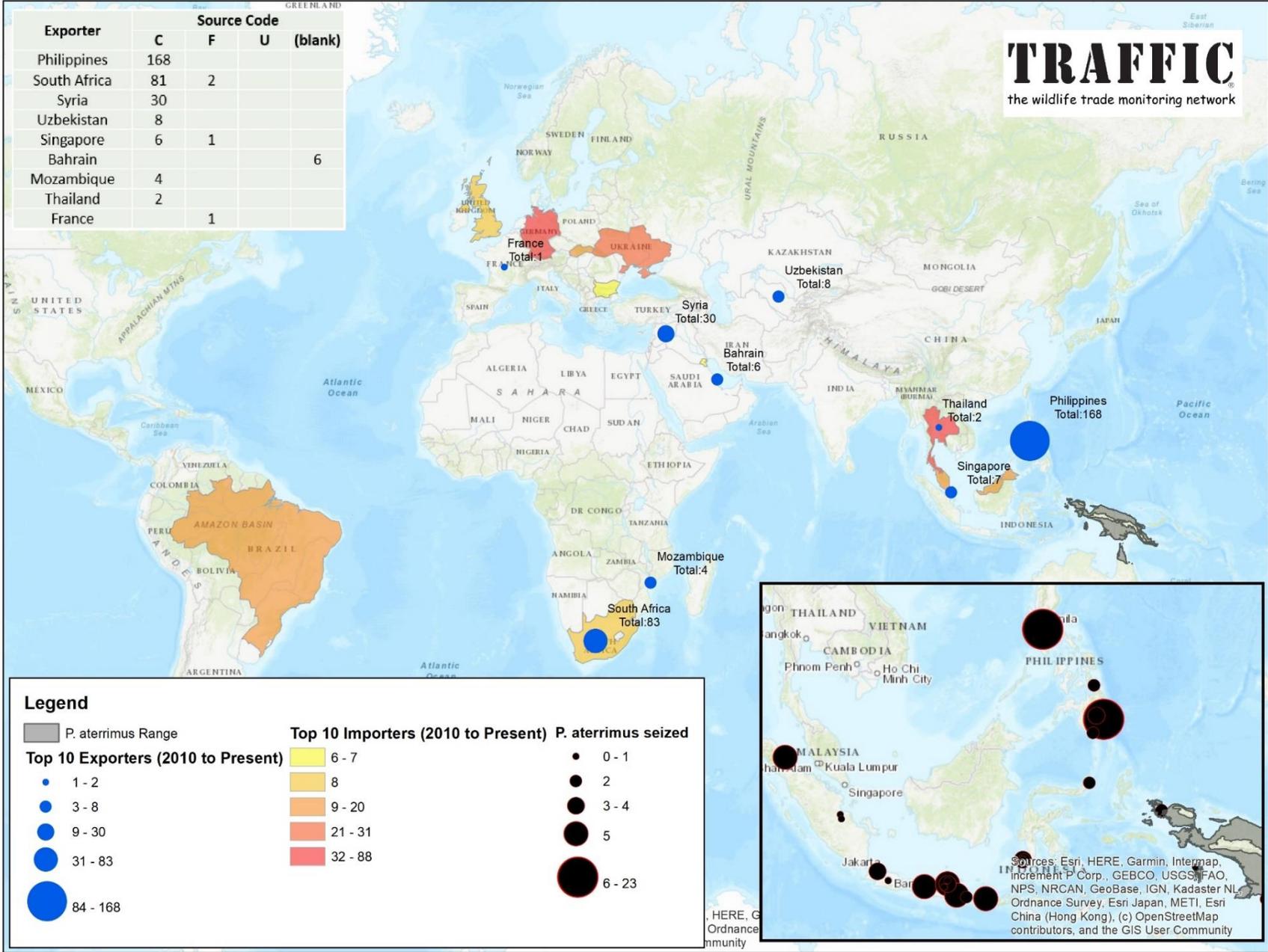


Figure 3 Trade map of the top 10 importers and exporters of *P. aterrimus* since 2010 and locations and amounts of seizures of *P. aterrimus* since 2010 (inset).

Yellow-crested Cockatoo – *Cacatua sulphurea*

Background

- Listed in CITES Appendix II in 1981 and transferred to CITES Appendix I in 2005, *C. sulphurea* was subject to a CITES Standing Committee recommendation to suspend imports from 1993 until its transfer to Appendix I.
- Range States: Indonesia and Timor-Leste (not a Party to CITES)
- Assessed as Critically Endangered on the IUCN Red List with an estimated population of 1,000 – 2,499 individuals with a declining population trend due to habitat loss and unsustainable levels of exploitation for the pet trade (BirdLife International, 2018a).

CITES Trade

- Reported exports of live *C. sulphurea* total 532 individuals since 2010. The four largest exporters of individuals reported as captive-bred were South Africa (338), Singapore (68), Uzbekistan (20) and the Philippines (16).
- A total of 24 Parties have reported exporting live *C. sulphurea* since 2010.
- Singapore has reported export for commercial purposes of 26 live *C. sulphurea* using the source code 'D'⁶ and 42 for the purpose of breeding in captivity using the captive-bred source code 'C'. Singapore has one registered breeding facility for *C. sulphurea*.
- Eleven other Parties have reported exporting live captive-bred *C. sulphurea* for commercial purposes using the source code 'C', none of which have a registered breeding facility listed on the CITES website. According to the guidance developed by IUCN (AC28 Doc. 12 Annex 1) commercial trade in Appendix-I specimens should be reported with the source code "D" providing the specimen was bred at a CITES-registered breeding operation, or if it was not bred at a registered operation the export should not proceed
- The Philippines has reported exporting 16 captive-bred (using source code 'C') *C. sulphurea* since 2010, 12 of these were exported for captive breeding purposes (purpose code 'B'), three for commercial purposes (purpose code 'T') and one for zoological purposes (purpose code 'Z').

Captive breeding

- Limited information was available concerning captive breeding for *C. sulphurea*, however indications are that it can be difficult to breed in captivity. .
- Based on information from the Species 360 database⁷ the median duration (N = 62) of the breeding life of *C. sulphurea* is 2.07 years, with a maximum breeding life observed of 14.06 years (Young *et al.*, 2012).
- In an ideal scenario where all of the basic welfare and health requirements of the species are met and considering that *C. sulphurea* require a particular breeding diet, one pair could be expected to have an average of two eggs per clutch and a maximum of two clutches per year (J. Lee (Wildlife Reserves Singapore), personal communication, July 15, 2019).
- As noted above, there is one CITES-registered captive breeding operation for this species, in Singapore.

Seizures

- Data collected by TRAFFIC show reported seizures of 295 *C. sulphurea* since 2010 in Indonesia (275), the Philippines (19) and the United Arab Emirates (one) (Figure 5).
- Information from a seizure in September 2018 shows that mixed shipment of 38 parrots (including *C. sulphurea*) were seized in Indonesia (a range State) and had an intended final destination of Singapore⁸.

⁶ Appendix-I animals bred in captivity for commercial purposes in operations included in the Secretariat's Register, in accordance with Resolution Conf. 12.10 (Rev. CoP15), and Appendix-I plants artificially propagated for commercial purposes, as well as parts and derivatives thereof, exported under the provisions of Article VII, paragraph 4, of the Convention.

⁷ <https://www.species360.org/>

⁸ See: <https://www.antaranews.com/berita/745076/polisi-gagalkan-penyelundupan-38-kakaktua> for full article.

- Five parrot seizures occurred in the Philippines involving one or more *C. sulphurea* contained birds smuggled from Indonesia.

Potential indications of mis-declaration, illegal trade and laundering

- Exports of *C. sulphurea* from the Philippines and Singapore are not high volume (84 reported captive-bred exports since 2010 between the two Parties) and both Parties have a history of importing this species. But there is evidence of illegal trade of wild caught *C. sulphurea* that have been seized either en route to or in the Philippines and Singapore. This suggests that there is potential for laundering/misuse of source codes should wild-caught birds be illegally transported from Indonesia and re-exported from the Philippines or Singapore and mis-declared as captive bred.
- A recent survey of parrot enthusiasts in Singapore suggested that wild caught birds said to be smuggled through Malaysia and Brunei Darussalam are available in pet shops in Singapore (Aloysius *et al.*, 2019).
- Previous studies have suggested that wild caught *C. sulphurea* have been exported as captive bred from both the Philippines and Singapore (Priyono, 2008).
- A country-wide wildlife survey in the Philippines by the Haribon Foundation in 2005 found *C. sulphurea* being sold by roadside stalls across the Philippines with 90% of stalls having no permits (Baril *et al.*, 2006).
- Only Singapore has a CITES registered breeding facility according to the CITES website, yet 11 other exporting Parties have reported exporting *C. sulphurea* for commercial purposes, indicating that Parties are not adhering to CITES requirements regarding exports of Appendix I captive-bred specimens for commercial purposes.
- There are also indications of illegal offers for sale online. Adult birds (some in poor condition) in cramped conditions were observed being advertised online via Facebook in Pakistan (Figure 4). During a yearlong online survey of 20 Facebook groups in the Philippines, two *C. sulphurea* were advertised for sale (Sy *et al.*, in prep.).

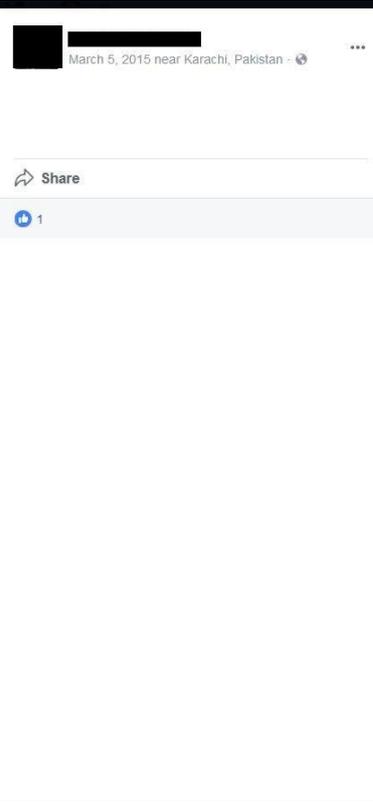


Figure 4 Yellow-crested cockatoos advertised on Facebook from a vendor in Pakistan (top) and a photo from a seizure of 22 Yellow-crested Cockatoos in 2015 in Surabaya, Indonesia (bottom). See: <https://www.merdeka.com/peristiwa/puluhan-kakak-tua-diselundupkan-dalam-botol-air-mineral.html> for full article on the seizure.

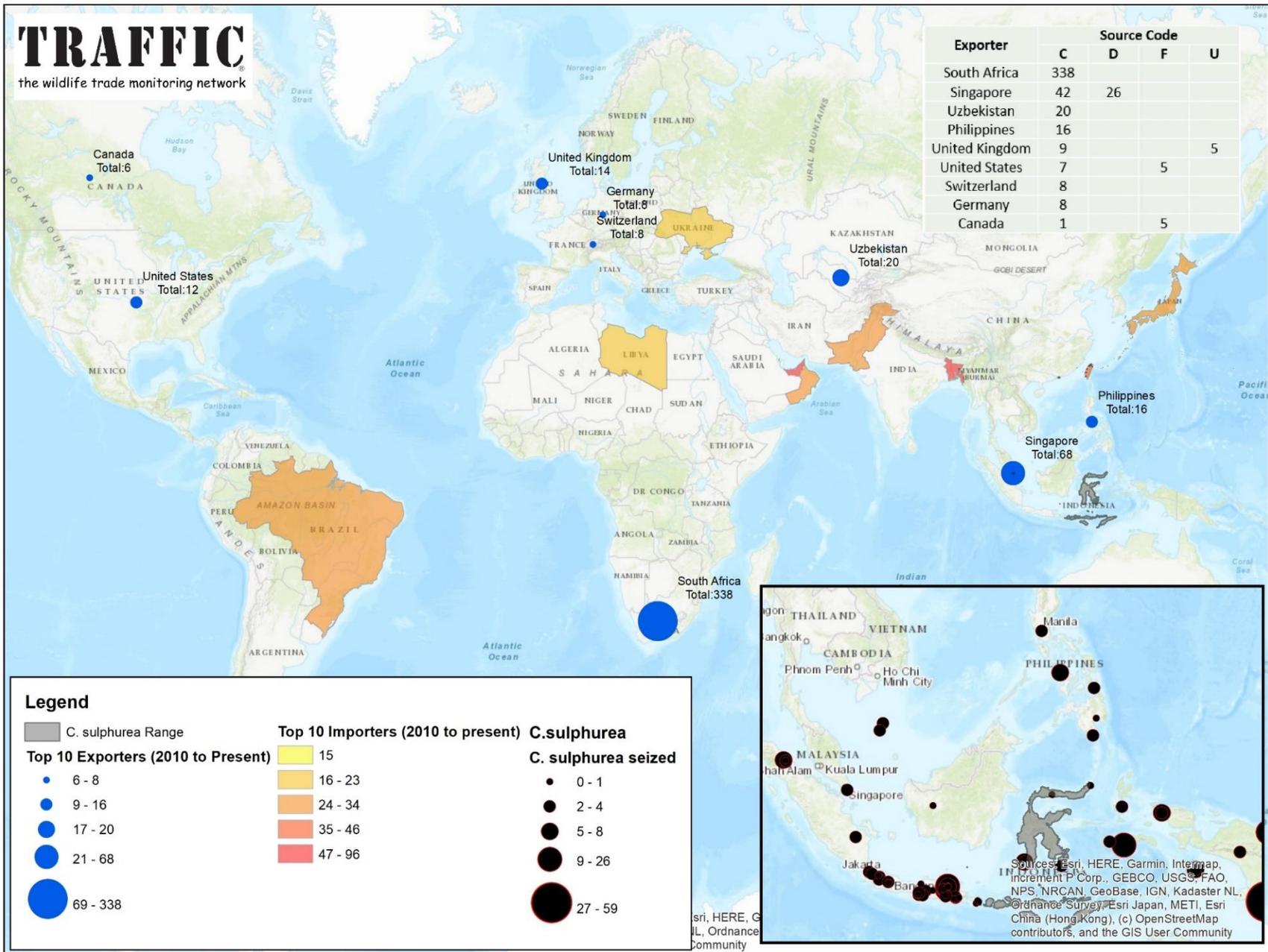


Figure 5 Trade map of the top 10 importers and exporters of *C. sulphurea* since 2010 and locations and amounts of seizures of *C. sulphurea* since 2010 (inset).

Eclectus roratus – Eclectus Parrot

Background

- CITES Appendix II-listed since 1981.
- Range States: Australia, Indonesia, Papua New Guinea and the Solomon Islands
- Assessed as Least Concern on the IUCN Red List and although there is no population estimate, the species is considered to be common in most of its range but with a declining population trend due to habitat loss and unsustainable levels of exploitation for the pet trade (BirdLife International, 2018c).

CITES Trade

- A total of 35,263 live *E. roratus* have been reported in trade by 46 Parties since 2010, 32,462 reported as captive-born or bred (source codes C, D and F), 2,798 reported as wild caught (source codes W and (blank)), two seized specimens and one unreported source).
- The four largest exporters of captive-bred *E. roratus* are South Africa (28,537), Indonesia (963), the Philippines (666) and Singapore (538) who between them have exported 30,704 live individuals.
- Three Parties that are not range States for *E. roratus* have reported direct exports of wild sourced live individuals (this includes source codes 'W' and '(blank)'). These Parties include: South Africa (6), Jordan (10) and Bahrain (8).
- Between 2015 and 2017 the Solomon Islands reported exports of 2,289 wild-caught live *E. roratus* and the importer of all of these birds was given the code 'XV' to denote "various"⁹.

Captive Breeding

- Based on information from the Species 360 database¹⁰ the median duration (N = 138) of the breeding life of *E. roratus* is 2.47 years, with a maximum breeding life observed of 13 years (Young *et al.*, 2012).
- Evidence suggests that it is not difficult to breed *E. roratus* in captivity, with an analysis in the early 1990s showing that 198 pairs of *E. roratus* produced 223 weaned individuals (Allen and Johnson, 1991).
- In an ideal scenario where all of the basic welfare and health requirements of the species are met a pair of *E. roratus* can produce a maximum of 2-3 clutches per year with each clutch containing a maximum of two eggs (J. Lee (Wildlife Reserves Singapore), personal communication, July 15, 2019).
- Using a crude calculation of a pair of *E. roratus* producing a maximum of six eggs per year over a nine-year period, it would take a **minimum** of 601 pairs of *E. roratus* produce the 32,462 reported captive-bred parrots that have been exported.

Seizures

- Data collected by TRAFFIC show 1,610 *E. roratus* reported as seized since 2010 in Indonesia (1,329), Malaysia (one) and the Philippines (280) (Figure 8).
- One seizure in 2016 saw 150 *E. roratus* (amongst other birds) seized in a boat that was travelling from Indonesia to the Philippines¹¹.
- Also in 2016, a seizure in Malaysia of hundreds of birds (including *E. roratus*) took place¹². The seizure was suspected to be of wild birds from neighbouring countries thought to be destined for export to other neighbouring countries. Singapore authorities formed part of the investigative team, and suspected that the parrots may have been destined for Singapore.

Potential indications of mis-declaration, illegal trade and laundering

- During a yearlong online survey of 20 Facebook groups in the Philippines, *E. roratus* was the most regularly advertised bird with 140 individuals advertised (Sy *et al.*, in prep.)¹³. These adverts contained many adult parrots which were advertised as being "not tamed" and having "no papers" (Figure 6 middle). The large number of seizures that have taken place in the Philippines (the fourth largest

⁹ https://trade.cites.org/cites_trade_guidelines/en-CITES_Trade_Database_Guide.pdf

¹⁰ <https://www.species360.org/>

¹¹ <http://news.okezone.com/read/2016/05/09/340/1383931/212-burung-khas-indonesia-gagal-diselundupkan-ke-filipina>

¹² <https://www.thestar.com.my/news/nation/2016/05/25/hundreds-of-birds-seized-in-kluang-house/>

¹³ Duplicate advertisements posted in several groups were removed from the dataset to avoid double counting the same birds

exporter of captive- bred *E. roratus* since 2010) also suggest a need to confirm captive breeding declarations. Images obtained by TRAFFIC (Figure 7) show *E. roratus* being delivered to a government registered breeding facility in the Philippines suspected of being wild-caught, perhaps for use parental stock. The *Philippines Republic Act No.9147* does not specify where parental stock may be sourced from, and allows for possession and trade of wildlife if legal acquisition can be proved (i.e. legal importation or sourcing from DENR-registered breeding farms).

- Trade route mapping by Burung Indonesia in Halmahera between 2009 - 2010 and 2018 – 2019 showed that *E. roratus* poaching levels have remained unabated. The majority of *E. roratus* from Halmahera are believed to exit from the port of Tobelo from where they are exported to the Philippines (A. Jain (BirdLife International), personal communication, August 03, 2019).
- Questionnaire responses from parrot breeders in Singapore indicate that birds that have transited through Malaysia and Brunei Darussalam are available in pet shops in Singapore (Aloysius *et al.*, 2019). *Eclectus roratus* exports from Singapore have been reported as captive-bred, however indications of illegal trade to Singapore suggest a potential for wild-caught birds to be re-exported along with captive-bred specimens.
- Online adverts of *E. roratus* have been found on Facebook in Pakistan show offers for sale of large numbers of untamed, adults and in very poor condition, suggesting that they could be wild caught rather than captive bred (Figure 6 top).
- Evidence of successful captive breeding on a commercial scale does not appear to have eliminated the market for wild-caught *E. roratus*, as evidenced by large-scale seizures. Among the potential incentives for ongoing trade, it may be more profitable for breeding centres to supplement their captive-bred stock with wild caught individuals rather than obtaining stocks from other breeders . This idea has been suggested for other species, such as the Tokay Gecko *Gekko gecko* where it was calculated that producing individuals in captivity in large numbers was not profitable (Caillabet, 2013).

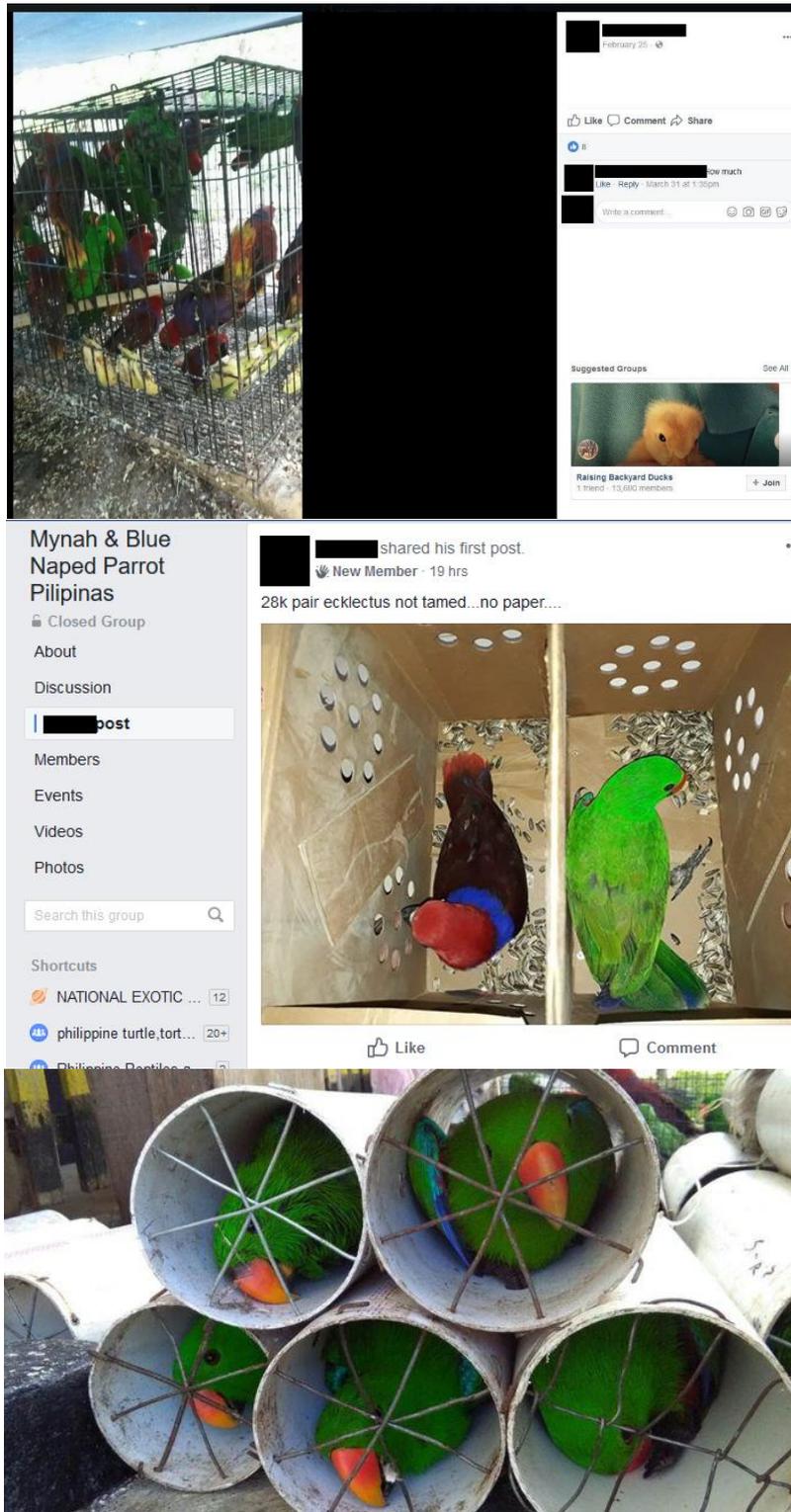


Figure 6 Eclectus Parrots advertised on Facebook by a vendor in Pakistan (top), a group in the Philippines (middle) and a photo from a seizure in 2017 in Eastern Indonesia (bottom). See: <https://www.bbc.co.uk/news/world-asia-42021915> for full article on the seizure.



Figure 7 Images obtained by TRAFFIC showing Eclectus Parrots being delivered to a registered breeding facility in the Philippines and suspected to be wild-caught.

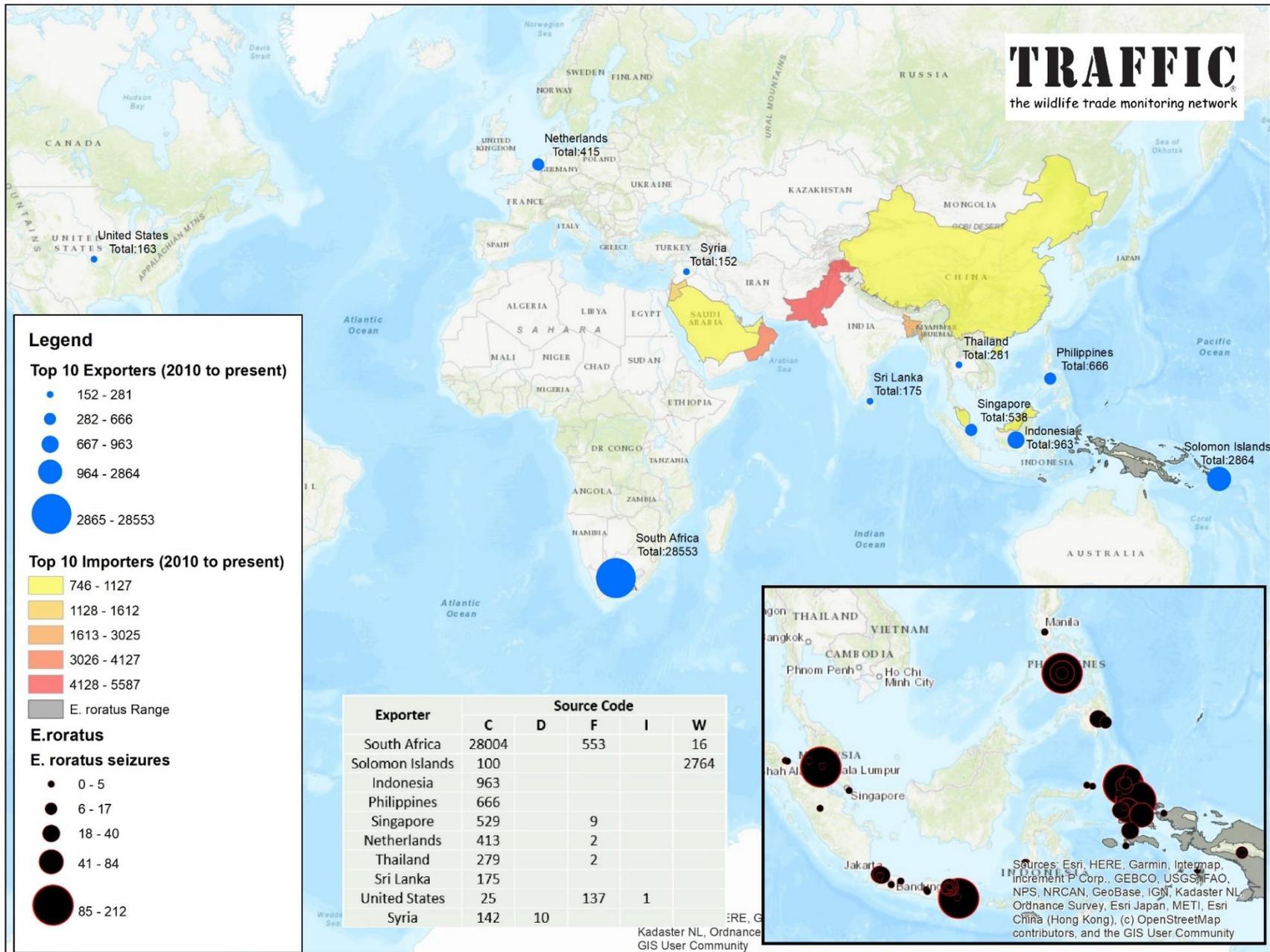


Figure 8 Trade map of the top 10 importers and exporters of *E. roratus* since 2010 and locations and amounts of seizures of *E. roratus* since 2010 (inset).

Discussion

The results from the first iteration of Resolution 17.7 *Review of Trade in Animals Specimens Reported as Produced in Captivity* (presented in AC30 Doc. 13.1) provided insights that will support further development of the process. The intention of this analysis is to further inform the future development of the process used to select species/country combinations for review.

The following suggestions are based on this review, and propose options for refining the selection criteria in future (a full explanation of the criteria can be found in annex 1):

- **Criterion i): Significant increases** in CITES-reported trade (gross exports) look at rapidly emerging trends and could possibly overlook species/country combinations where potential source code misuse has been continuing at a consistent level for a longer period of time. Southeast Asian parrots have been traded and kept as pets for a considerable time and may not be prone to such rapid surges in trade. It may be advisable to add an additional measure to assess trends: to compare the most recent five-year mean with mean for the previous 15 years. The three case studies here give examples of species potentially being mis-declared as meeting CITES captive breeding and reporting requirements but that do not meet the thresholds to be considered under criterion i). A reduction in the trade thresholds could also potentially identify further species where the incorrect application of source codes is taking place.
- **Criterion ii):** Application of this criteria, which relates to **significant numbers** of specimens declared as produced in captivity, can be skewed if trade in a particular order, e.g. Psittaciformes, is dominated by a single country. Trade in Southeast Asian parrot species, and in parrot species in general, is dominated by South Africa. For the focal species presented here, when any species met the trade criteria, South Africa was an ever-present as a country combination. Further consideration could be given to a measure for selecting countries where reported trade is lower but nevertheless at significant levels.
- **Criterion ii):** Requiring that a species falls within either the top 1% or top 5% of species/country combinations for the Order (dependent on IUCN Red List classification) leads to only species traded in high numbers being selected. It may potentially be useful to add a weighting similar to that of species classified as globally threatened, which would include species that are single country/island endemics or have a restricted range. This would add an additional workload to what it is currently a somewhat automated process but may identify species which are particularly susceptible to overharvesting.
- **Criterion iii):** Reviewing **shifts in source codes** for the previous five years may not be sufficient to identify potential mis-declarations. When looking at parrot trade in general, investigating recent shifts in use of source codes may not lead to parrot species meeting criterion iii). This is because an expected shift in use of source codes may have already occurred, e.g. in response to the EU ban on imports of wild birds¹⁴ (and also captive-bred birds unless they come from authorized breeding facilities/countries) that has been in place since 2007.
- **Criterion iv):** When looking at **reporting inconsistencies**, it may also be relevant to look for reporting inconsistencies that relate to purpose codes as well as source codes for Appendix-I listed species. Evidence from trade in *P. aterrimus* shows that the Philippines is reporting large exports using the purpose code 'B' (breeding in captivity), but importers are reporting that birds are imported for commercial purposes (purpose code 'T'). If Appendix I-listed species are exported for breeding purposes, it does not require breeding facilities to be registered, but if importers are reporting that the imports are for commercial purposes, this suggests that exporters may be using the 'B' purpose code to circumvent the need to register their facilities.
- **Criterion v):** Rather than only include source code 'D' in the criteria for **incorrect application of source codes** for Appendix I-listed species, this criterion should be expanded to include reporting of source code 'C' for Appendix I-listed species which are traded for commercial purposes. In the above examples of *P. aterrimus* and *C. sulphurea* (both Appendix-I species) there were reports of source code 'C' being used for commercial trade. It is recommended that Criterion v be expanded to include any Appendix-I listed species/country combination where direct trade for commercial purposes (purpose code 'T') has

¹⁴ See: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R0139&from=EN>

been reported under source code 'C'. This could then be cross-checked with the list of CITES Registered Breeding Operations as per the current text in Criterion v.

Additional data which could be added to the criteria which may help in the identification of potential cases of mis-declaration, illegal trade and/or laundering could include:

- **Seizure data:** If a Party is an exporter of a captive-bred species but has also experienced seizures of the same species in recent history (potentially the past five years and arriving from a range State), that may indicate that wild birds are being illegally imported for subsequent re-export, potentially mis-declared as captive bred specimens. A section on seizures using data from sources could include (but are not limited to): CITES annual illegal trade data and UNODC Worldwise, EU TWIX, AFRICA TWIX, SADC TWIX.
- **Reproduction data:** Using *P. aterrimus* as an example of a species with a slow life history that is difficult to breed in captivity, zoo captive breeding data from Species360¹⁵ alongside the opinions of experts could be used to estimate the volume of parental stock required to produce the number of exported individuals for a given species, or the likelihood that it is possible to produce that many captive-bred individuals. Although this would not form part of an automated process, it would provide evidence as to the possibility of producing large numbers of captive bred individuals.
- **Emergence of exports from a Party with no history of trade:** Using CITES trade data to compare exports of a given species from species/country combinations over a longer time period could identify Parties where captive-bred exports have emerged recently. If exports of specimens declared as captive-bred over the last five years are a given magnitude greater than exports from the 15 years prior to that combined, that could elude to mis-declaration and/or laundering. Results that indicate an emergence of captive breeding from a Party could be legitimate, indicating that captive breeding facilities have successfully developed their breeding to a good state of production, something that could be confirmed through this analysis. The example of the Middle East as an emerging market and exporter is illustrative: Bahrain, Oman and the UAE have emerged as significant importers and more recently exporters of, not only the three focal species of parrots, but of a wider number of parrot species in general (C4ADS, 2018). Relating to trade in the focal species both the UAE and Bahrain are in the top ten exporters of *P. aterrimus* (45 and 18 birds, respectively) with Bahrain and Oman also significant exporters of *E. roratus* (289 and 307 birds, respectively) according to **importer reported quantities (Error! Reference source not found.)**. None of these Parties have CITES registered breeding facilities for either *P. aterrimus* or *C. sulphurea* (Appendix-I listed species). Importers have also reported importing live *E. roratus* from Bahrain (14 live imports) and Oman (164 live imports) that have been imported using the '(blank)' source code which is normally assumed to be wild caught individuals.

Other actions which may improve The Review include:

- **Financing the review process:** Currently the review of trade in animal specimens reported as produced in captivity is not a core funded activity and relies on external funding. Granting the review funding from the CITES Trust Fund will ensure that it is undertaken on a regular basis and is taken seriously by all Parties.
- **(Independent) verification of captive breeding facilities:** Currently responses to questions that arise from the review of trade in animal specimens reported as produced in captivity are directed to the Parties. Some form of review (preferably independent) to verify the answers to these questions may help to strengthen the process, potentially performed on the bases of site visits.
- **Production of guidance and/or techniques for differentiating wild-caught and captive-bred parrots:** As more of a preventative measure it may be advisable to produce a manual for the differentiation of captive-produced and wild-caught parrots, much like the manual that was produced for turtles and tortoises (Staerk *et al.*, n.d.). Hong Kong University researchers have developed a genetic technique using a sample from a feather(s) which provides a signature of the parrot's diet – which will be diverse for a wild caught bird and more homogenous for a captive bred bird (Anderon *et al.*, in prep.). This method is still under development but could be useful for the production of any guidance.

¹⁵ <https://www.species360.org/>

During the initial planning phase of this document and during discussions with experts, further Southeast Asian parrot species were also identified as being potential concerns over mis-use of “C”. Those species were:

- Black-capped Lory *Lorius lory*
- Chattering Lory *Lorius garrulus*
- Coconut Lorikeet *Trichoglossus haematodus*
- Moluccan Cockatoo *Cacatua moluccensis*
- Pesquets’ Parrot *Psitttrichas fuldigus*
- Red Lory *Eos rubra*
- Tanimbar Corella *Cacatua goffiniana*
- White Cockatoo *Cacatua alba*

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Annex 1 Tables explaining the criteria for the review of trade in animals reported as produced in captivity

Table 2 Data included for the criteria in paragraph 2 a) of Res. Conf. 17.7.

	Criteria i), ii) and iii)	Criteria iv) and v)	Criterion vi)
CITES Trade Database report type	Direct trade only (re-exports are excluded) Report type is dependent on the criterion: <ul style="list-style-type: none"> • Criteria i) & ii): Gross exports¹ • Criterion iii): Exporter-reported data only 	Direct trade only (re-exports are excluded) Report type is dependent on the criterion: <ul style="list-style-type: none"> • Criterion iv): Exporter- and importer-reported data; • Criterion v): Exporter-reported data only 	Direct and indirect trade <u>into</u> the focal country, but species/country combinations were selected on the basis of direct trade <u>from</u> the focal country. Gross exports were analysed for Criterion vi)
Appendix	Appendix I & II	Appendix I only ²	Appendix I & II
Year range	2011-2015 provided in the output <i>[Data from 2008-2015 used in the analysis/selection process]</i>		
Source codes³	Criteria i) – iv) & vi): C, D, F, R Criteria v): D only <i>[For Criteria iii) and vi), trade in wild specimens (W= wild, U = unknown, and no source reported) was also used in the analysis in order to assess shifts or differences in reporting between wild to captive-produced sources.]</i>		
Purpose codes³	All Purposes		
Terms included	<i>Selected terms⁴:</i> baleen, bodies, bones, carapaces, carvings, caviar, cloth, eggs, egg (live), fins, gall and gall bladders, horns and horn pieces, ivory pieces, ivory carvings, live, meat, musk, plates, raw corals, scales, shells, skin pieces, skins, skeletons, skulls, teeth, trophies, and tusks.		Live only <u>into</u> the focal country, but selected on the basis of trade exported for any of the selected terms listed for i) – v)
Units of measure	Number (unit = blank) <i>[Trade in other units of measure (e.g. kilograms, metres, etc.) were excluded]</i>		

Table 3 Overview of methods for selecting candidate species/country combinations for consideration based on the six criteria defined in paragraph 2 a) of Res. Conf. 17.7.

Criteria	Aim	Methods	Illustration / Remarks
Criterion i) Significant increase	To detect significant increases in trade in the most recent year with near-complete data.	<p>The most recent year of trade data was compared to average trade levels over the previous five years, with the aim of identifying potential emerging trends towards higher volumes of captive-produced trade in species/country combinations. Species/country combinations met this criterion if:</p> <ul style="list-style-type: none"> The volume of direct gross exports for the most recent year of data (2015) was >4 times the mean of the preceding five years (2010-2014); and Threshold: Average annual trade over the most recent five years (2011-2015) was >200 (or >50 if the species is considered CR, EN by IUCN, or endemic according to Species+). Including a minimum threshold was necessary to produce a manageable output. <p><i>This methodology aligns with the "sharp increase" criterion of the Review of Significant Trade process, although here the selection is at the level of species/country combination.</i></p>	
Criterion ii) Significant numbers	To detect captive-produced species that were being exported at significant volumes.	<p>To identify representative species traded at high volumes across taxonomic groups, the most highly traded species/country combinations within each order were selected. Species/country combinations met this criterion if:</p> <ul style="list-style-type: none"> Average annual trade (based on gross exports) over the most recent five years was >50 (or >12.5 if the species is considered CR, EN or endemic); and Threshold: It was within the top 5% of species/country combinations traded within the order over the five most recent years or within the top 1% (after adjusting for globally threatened species) if the number of species/country combinations within the order was >200. For globally threatened species, a more precautionary approach was taken with the average trade volume for species considered globally threatened⁵ was first multiplied by 10 before the 5% or 1% thresholds were applied. <p>Inclusion of only the top 5% of trade by order and a minimum threshold for trade was necessary to produce a manageable output.</p> <p><i>This methodology aligns with the "high volume" criterion of the Review of Significant Trade process, although here the selection is at the level of species/country combination.</i></p>	<p>See Box 1 for a more detailed explanation</p>

Criteria	Aim	Methods	Illustration / Remarks
Criterion iii) Shifts in source codes	To identify notable shifts in source codes over time as reported by countries of export.	<p>Volumes of trade from different source codes were compared to identify instances where there was a substantial change (“shift”) in the reported source code over time. This methodology focuses specifically on shifts from wild sources to captive-produced sources, as follows:</p> <ul style="list-style-type: none"> • Wild (W, U, source unreported) ➡ captive-produced/ranched (C, D, F, R combined) • Ranched (R) ➡ captive-produced (C, D, F combined). <p>Species/country combinations met this criterion if:</p> <ul style="list-style-type: none"> • Exporter-reported trade in one source code or a set of source codes in a focal year (2013-2015) increased to more than double the mean of the previous 5 years; • There was a corresponding decrease in trade in another set of sources for the same focal year; and • Threshold: Average annual trade over the most recent five years for both sets of source codes >50 (or >12.5 if the species is considered CR, EN or endemic). <p>Including a minimum threshold was necessary to produce a manageable output for the Animals Committee.</p>	
Criterion iv) Reporting inconsistencies	To identify notable discrepancies in reported source codes between countries of export and import.	<p>Reported volumes of trade in Appendix I species from different source codes were compared between importers and exporters to identify instances where overall volumes of trade were similar (<25% difference), but source codes differed between reporting Parties (exporter vs importer) for the same species. Species/country combinations met this criterion if:</p> <ul style="list-style-type: none"> • The sums of total exporter- and importer-reported trade in the most recent three years (2013-2015) differed by <25% (for wild and captive source codes combined); • Trade in one set of sources differed by >10% between exporter and importer in the most recent three years; • There was a corresponding difference of >10% in another set of source codes between importer and exporter; and • Threshold: Sum of trade over the most recent three years for both sets of source codes >20. <p>Inconsistencies in reporting were checked between the following source code pairings:</p> <ul style="list-style-type: none"> • Wild (W, U, source unreported) and captive-produced/ranched (C, D, F, R combined) • Ranched (R) and captive-produced (C, D, F combined). <p><i>Instances where importers and/or exporters had not submitted annual reports in some years were removed to avoid false positives. For the output, only trade data for 2011-2015 included.</i></p>	<p>In this illustration, total volumes are similar, but importers primarily reported the trade as ranched, whereas exporters reported as captive-produced.</p> <p>Note: Some discrepancies may be accounted for by differences in reporting (e.g. actual trade or permits issued); or “year-end trade” (trade that is reported on by an exporter in one year, and an importer in the following year).</p>

Criteria	Aim	Methods	Illustration / Remarks
Criterion v) Incorrect application of source codes	To detect the potential for incorrect application of codes by countries of export (e.g. 'D' without a registered facility).	Species/country combinations met this criterion if direct trade was reported as source code 'D' in the most recent three years (2013-2015) for an Appendix I species with no current CITES registered facility in the country of export. There was no threshold applied for this criterion. For this criterion, exporter-reported trade [Appendix I / source D] was cross-checked with the list of CITES Registered breeding operations downloaded from the CITES website ⁶ : www.cites.org/eng/common/reg/cb/summary.html .	With respect to the first part of this criterion, as reflected in the Resolution (relating of misreporting source code 'A' for animals), it is not possible to undertake an informative analyses on trade reported for animals using source code 'A' within the CITES Trade Database. CITES annual reports are checked for errors by UNEP-WCMC before they are entered into the database and any non-compatible taxon-term codes such as 'A' for animals are corrected to source code 'C' as part of the quality assurance process. In general, this discrepancy does not arise often in the data checking process.
Criterion vi) Legal acquisition	To detect cases where there may be concerns about whether the founder stock was legally acquired.	Where species were being exporting from non-range States at high volumes, the CITES trade data were searched for evidence of a founder stock being either directly or indirectly imported into that country/territory from a range State. Species/country combinations met this criterion if exports were reported from non-range States during the most recent three years exceeded a <u>threshold</u> of 1000 units (based on gross exports) and either: (a) There was no evidence of any <u>live imports</u> (of any source) into the country from any range State for the species since 1975; and No evidence of any indirect imports from a non-range State (this accounts for imports into the EU28 as a regional economic integration organisation) since 1975; or (b) If there have been live imports from a range State, this was subsequent to the first export from the non-range State.	It is important to note that this criterion is based only on CITES trade data, and there are many reasons why there may be no evidence of the original import in the CITES Trade Database (see Section 2.3.3 on p. 27 for further details) .

Annex 2 Disclaimer for the use of data from TRAFFIC's Wildlife Trade Information System (TRAFFIC, 2019)

Use of seizure data

The datasets used to collate this information consist of reported wildlife trade seizures. Whilst seizure data is a vital source of information, it should not be inferred that there is a direct correlation between seizures and the overall illegal wildlife trade or that information over time is consistent.

The ability and willingness of a country to target illegal wildlife trade may vary over time due to a variety of factors. The volume of seizures is therefore not in direct proportion to the amount of illegal wildlife trade. There are additional biases in the data caused by the way the information is collected. Although TRAFFIC endeavours to only use reports it believes to be reliable, seizure data is collected from media reports which may be skewed, as media reporting of seizures may vary by country, by species and over time. In addition, TRAFFIC focuses its collection efforts on specific geographical regions and target species, and its capacity to collect data and monitor information across different languages has changed over time.

Reported seizures are therefore an imperfect proxy for the volume of illegal wildlife trade, though they do give a good insight into what is being seized.