

NOTES and INFORMATION

ONLINE TRADE OF GIANT SALAMANDERS (Cryptobranchidae: *Andrias* Tschudi, 1837) IN THE PHILIPPINES

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ABSTRACT – Giant salamanders (*Andrias* Tschudi, 1837) are among the world's largest amphibians and are listed in CITES Appendix I since 1975. Despite international and national legal protection, the illegal trade for these species persists. This study documents the online trade dynamics of giant salamanders in the Philippines through the online survey of social media and e-commerce platforms, analysis of wildlife seizure records, and review of open-source new articles. A total of 27 individuals, comprising *Andrias davidianus* and *A. japonicus*, were offered for sale on Facebook by a trader based in the National Capital Region. Prices ranged from PHP4,000 for a juvenile to hundreds of thousands of Philippine Pesos for a live sub-adult specimen. The review of wildlife seizure records from 2010–2024 revealed only one case involving giant salamanders. The lack of CITES trade records for giant salamanders in the Philippines for the past 50 years strongly suggests that individuals for sale on Facebook were illegally imported and traded. This study underscores the role of online platforms in facilitating illegal wildlife trade and highlight gaps in enforcement, prosecution, and platform self-regulation. Stronger coordination among Philippine authorities, enhanced online monitoring, and stricter accountability for digital marketplaces are critical to curbing illegal wildlife trade and protecting these critically endangered amphibians.

Keywords: CITES, e-commerce, Facebook, smuggling, social media

INTRODUCTION

The illegal wildlife trade (IWT) constitutes a multibillion-dollar industry and is regarded as one of the most profitable illegal trades globally (Sy, 2021). Wild animals are increasingly being traded legally and illegally through social media platforms and e-commerce platforms. Several studies have documented the growing scale of online wildlife trade in the Philippines particularly involving reptiles, birds, arachnids, and other threatened taxa (Canlas et al., 2017; Raymundo et al., 2024; Sy, 2018; Sy et al., 2022; Sy and Lorenzo, 2023). Among the threatened taxa involved in international and online trade are the giant salamanders (Cryptobranchidae: *Andrias* Tschudi, 1837) which are exploited for food, traditional medicine, aquaculture, and exotic pet trade (Browne et al., 2020; Turvey et al., 2021).

Giant salamanders are among the most distinctive amphibians involved in the international wildlife trade. They are the largest living amphibians, reaching up to 2 m in total length and 60 kg in weight.

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They possess a broad, flattened head, robust body with lateral skin folds that enhance cutaneous respiration, and short limbs. Giant salamanders are primarily aquatic, nocturnal, and inhabit cool, unpolluted streams and rivers with rocky substrates and crevices (Browne et al., 2014; Browne et al., 2020; Dai et al., 2010; Nickerson, 2004).

The genus *Andrias* was traditionally considered to include only two species: Chinese Giant Salamander (*A. davidianus* [Blanchard, 1871]) (Fig. 1) and Japanese Giant Salamander (*A. japonicus* [Temminck, 1836]). However, molecular studies indicate that *A. davidianus* is a species complex (Marr, 2024). The Chinese Giant Salamander populations show deep genetic divergence, but understanding the natural distribution and genetics was made more complicated by farming practices that have resulted in human-mediated hybridization and introduction to new locations via escapees (Murphy et al., 2000; Tao et al., 2005). Recently described Chinese giant salamander species include the South China Giant Salamander (*A. sligoi* [Boulenger, 1924]) (Turvey et al., 2019), Jiangxi Giant Salamander (*A. jiangxiensis* Lu, Wang, Chai, Yi, Peng, Murphy, Zhang, and Che, 2022) (Chai et al., 2022), and Qimen Giant Salamander (*A. cheni* Xu, Gong, Li, Jiang, Huang, and Huang, 2023) (Gong et al., 2023). However, several additional clades remain undescribed (Liang et al., 2019; Yan et al., 2018).

Despite their ecological and taxonomic significance, giant salamanders have long been subjected to fragmentation and overexploitation leading to their population decline. Chinese giant salamanders have been harvested as a delicacy and medicinal resources since 1700 BC and continue to be poached despite legal prohibitions (Browne et al., 2020; Tapley et al., 2021). High market demand has fueled the expansion of aquaculture, with many unlicensed farms sourcing breeding stock from the wild. Captive-bred individuals and hybrids are then traded to farms, restaurants, and black markets (Browne et al., 2020; Cunningham et al., 2015; Dai et al., 2010; Yan et al., 2018). Live giant salamanders are also exploited for the pet trade. While Japanese Giant Salamanders are occasionally kept as pets, the Chinese Giant Salamanders are exported in significant numbers via domestic and international networks (Browne et al., 2020).

National laws provide legal protection to giant salamanders in their native ranges. In Japan, the Japanese Giant Salamander is accorded a Special Natural Monument under the law for the protection of cultural properties (Kuwabara et al., 1989), while in China, the Chinese Giant Salamander is included in the Class II state key protected species (Browne et al., 2020). Both countries maintain breeding and reintroduction programs and have designated protected habitats (Dai et al., 2010; Wang et al., 2004; Turvey et al., 2019).

The International Union for Conservation of Nature (IUCN) Red List of threatened species currently classifies *Andrias japonicus* as Vulnerable (Matsui et al., 2022), while *A. sligoi* and *A. davidianus* are listed as Critically Endangered (Cunningham et al., 2023a; 2023b). The two recently described species, *A. cheni* and *A. jiangxiensis*, remain unassessed.

The genus *Andrias* has been included in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) since 1 July 1975, thereby prohibiting the international commercial trade of wild-caught individuals (CITES, 2025). Since this listing, no legal importations of giant salamanders into the Philippines have been recorded (UNEP-WCMC, 2025).

The proliferation of online marketplaces has introduced new challenges by expanding accessibility to wildlife trade (Canlas et al., 2017; Krishnasamy and Stoner, 2016; Sy, 2018). The giant salamanders are not native to the Philippines and a prior study on the trade of non-native amphibians did

not record their presence in the Philippine pet trade (Sy, 2014). However, the Philippine National Police–Anti-Cybercrime Group (PNP–ACG) arrested a suspected wildlife trafficker and seized two Chinese Giant Salamanders in the National Capital Region on 10 February 2022 (PNP, 2022).

This study was conducted to describe the online trade dynamics of giant salamanders by compiling information from an online trade monitoring of social media and e-commerce platforms, wildlife seizure records, and open-source news articles in the Philippines.

METHODS

We conducted an online survey from 1 October 2024 to 30 June 2025 on the social media platform Facebook (www.facebook.com) and e-commerce sites Shopee (www.shopee.ph), Lazada (www.lazada.com.ph), and TikTok (www.tiktok.com). All posts or advertisements offering to sell giant salamanders between 1 January 2022 and 30 June 2025 were recorded. Search queries included the keywords *Andrias*, giant salamander, Chinese salamander, and Japanese salamander, which were used to identify posts and advertisements of giant salamanders. For each listing, the species, quantity, price, location, and transaction method were recorded. Duplicate entries—defined as posts or advertisements with identical photos and descriptions—were counted only once to avoid inflating the number of available specimens. Listings from traders based outside the Philippines were documented but excluded from the estimated quantity of specimens available in the Philippine pet market.

Additionally, we reviewed published and unpublished wildlife seizure records involving giant salamanders, covering the periods 2010–2019 (Sy, 2021) and 2020–2024 (TRAFFIC Wildlife Trade Information System, unpubl. data; Sy, unpubl. data). To complement these datasets, we also collated open-source news articles to provide supplementary information on reported trade and seizure incidents.

The exchange rate of the Philippine Peso (PHP) to the United States Dollar (USD) fluctuated between 2022 and 2025, but we used the rate of PHP 56.3841 = USD 1 in this report for consistency (www.oanda.com/currency-converter/en as of 30 June 2025).



Figure 1. A Chinese Giant Salamander (*Andrias davidianus*) exhibited at Ocean Park, Hong Kong. Photo © Emerson Y. Sy

RESULTS

Online Trade

During the study period, we documented a total of 27 live giant salamanders offered for sale on Facebook. These comprised three juvenile *Andrias davidianus* and 24 juvenile to sub-adult *A. japonicus* (Fig. 2A–B; Table 1). All specimens were advertised by a single trader based in the National Capital Region (NCR).

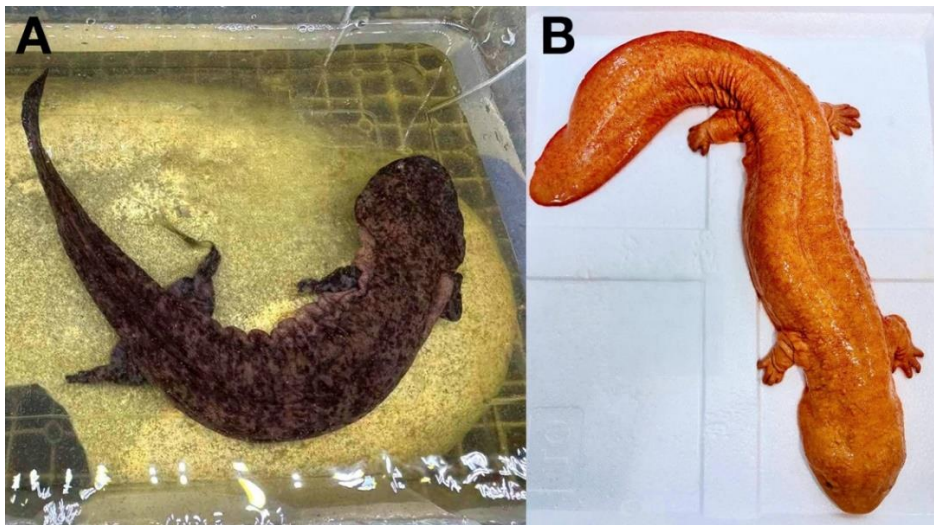


Figure 2A–B. Screenshots depicting a normal (A) and an albino (B) Japanese Giant Salamander (*Andrias japonicus*) offered for sale on Facebook. Screen captured by TRAFFIC.

The retail price of a juvenile Chinese Giant Salamander was PHP 4,000 (USD 71). Although the trader did not disclose the exact selling price of Japanese Giant Salamanders, juveniles were reportedly valued in the tens of thousands of Philippine Pesos, while sub-adults were priced in the hundreds of thousands.

Among the three surveyed e-commerce platforms (Shopee, Lazada, and TikTok), only Lazada featured advertisements for giant salamanders, which were marketed either as pets or as food items. Prices ranged from PHP 1,400 (USD 25) to PHP 9,800 (USD 174) per individual (Table 1). All five Lazada sellers were based overseas, indicating that the specimens would be shipped from outside the Philippines rather than being locally available. Considering that international shipments of items to the Philippines typically take 4–7 days, live animals are unlikely to survive transit, and food items requiring refrigeration would probably arrive in degraded condition or spoiled upon delivery.

Table 1. Summary of documented giant salamander trade from online platforms.

Platform	Link	Commodity Type	Price
Facebook	www.facebook.com	Live	PHP 4,000 to at least PHP 100,000
Lazada	www.lazada.com.ph	Possibly live / Frozen meat	PHP 1,400 to PHP 9,800

Seizure records

Between 2010–2024 (15 years), we identified nine documented seizure incidents involving amphibians, of which only one case involved two giant salamanders (Fig. 3; Table 2). One incident involved the East Asian Bullfrog (*Hoplobatrachus chinensis*), which was intended for human consumption, while the remaining eight seizure incidents pertained to amphibians for the pet market.



Figure 3. Two juvenile Chinese Giant Salamanders were seized by authorities in February 2022. Photo © Emerson Y. Sy.

Three incidents involved international smuggling attempts. In 2023, a parcel originating from Malaysia and sent via postal shipment was intercepted and found to contain five live Ornate Horned Frogs (*Ceratophrys ornata*). In another case, a female passenger returning from Thailand was accosted while attempting to smuggle 10 Vietnamese Mossy Frogs (*Theloderma corticale*) along with several reptile species concealed in her luggage. In 2022, a long-time ornamental fish importer and wholesaler was caught with 120 Cranwell’s Horned Frogs (*Ceratophrys cranwelli*), which had been concealed and undeclared together with a consignment of legally imported ornamental freshwater fishes from Thailand.

Table 2. Wildlife seizure incidents involving amphibians in the Philippines between 2010 and 2024.

Date	City	Region	Species	English Name	Quantity
03-Oct-10	Quezon City	NCR	<i>Hoplobatrachus chinensis</i>	East Asian Bullfrog	83
20-Feb-13	Pasay City	NCR	<i>Ceratophrys ornata</i>	Ornate Horned Frog	6
28-Nov-14	Olongapo City	III	<i>Ceratophrys</i> sp.	Horned Frog	2
16-Dec-14	Quezon City	NCR	<i>Ceratophrys ornata</i>	Ornate Horned Frog	1
27-Aug-15	Pasig City	NCR	<i>Ceratophrys ornata</i>	Ornate Horned Frog	27
06-Dec-18	Pasay City	NCR	<i>Theloderma corticale</i>	Vietnamese Mossy Frog	10
10-Feb-22	Valenzuela City	NCR	<i>Andrias davidianus</i>	Chinese Giant Salamander	2
10-Feb-22	Pasay City	NCR	<i>Ceratophrys cranswelli</i>	Cranswell's Horned Frog	120
31-Jul-23	Pasay City	NCR	<i>Ceratophrys ornata</i>	Ornate Horned Frog	5

DISCUSSION

The absence of CITES import and export records for Appendix I-listed giant salamanders in the Philippines over the past five decades strongly indicates that the specimens documented in this study were most likely smuggled and traded illegally. Similar pattern of discrepancies between CITES trade database and Philippine market availability were also reported in other taxa such as reptiles (Sy and Lorenzo, 2020) and birds (Sy et al., 2022).

Two of the most frequently reported methods of wildlife smuggling in the country are the concealment of prohibited species within shipments of legally imported ornamental fishes (Sy, 2014) and the transport of live animals hidden in personal luggage (Sy, 2021). Although these smuggling strategies are well-documented, only a single case involving the concealment of wildlife within a legal ornamental fish shipment has been officially detected in the past 15 years (BOC, 2022). Notably, despite the discovery of smuggled wildlife, no legal charges were filed against the implicated company, underscoring persistent enforcement gaps in prosecuting wildlife trafficking offenses.

In contrast, the individual charged with trafficking two Chinese Giant Salamanders was convicted in May 2023 and sentenced to a fine of PHP 300,000 (USD 5,321) and a prison term of 4–6 years. However, as this was his first conviction, he applied for and was granted probation, and therefore did not serve the imposed jail sentence.

This study provides further evidence that some of the world’s most critically endangered species continue to be openly traded on Facebook. Despite Facebook’s long-standing policy prohibiting the sale of threatened wildlife, weak enforcement of its own commerce regulations has enabled traffickers to exploit

loopholes in the system. The persistence of wildlife trafficking not only undermines global conservation efforts, but also highlights the limitations of self-regulation by social media platforms in addressing illegal online wildlife trade.

CONCLUSION

Despite international trade regulation under the CITES, the Appendix I-listed giant salamanders are trafficked in the Philippines, mainly through online platforms that fail to enforce their own wildlife trade policies. Weak enforcement and limited prosecution allow traffickers to exploit loopholes, undermining both national laws and global conservation efforts. Without stronger and consistent implementation of regulations of social media and e-commerce platforms, strict monitoring of imports and exports, and consistent prosecution of offenders, the illegal trade in giant salamanders and other high-value species will persist. Coordinated action by the Philippine wildlife authority and other regulatory agencies is crucial to safeguard these critically endangered amphibians from further exploitation.

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STATEMENT OF AUTHORSHIP

NLN conducted the online survey, analyzed the dataset, and wrote the initial draft. EYS conceptualized the study, collated seizure records, analyzed the dataset, and validated and edited the paper.

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