

Review on Macaw Parakeets (Aves: Psittaciformes)

Ashraful Kabir

Department of Biology, Cantonment Public College, Saidpur Cantonment—5311, Nilphamari, Bangladesh

***Corresponding Author:** Ashraful Kabir, Department of Biology, Cantonment Public College, Saidpur Cantonment—5311, Nilphamari, Bangladesh

Abstract: As an evolutionary bird, macaws are the perfect. This large parakeet is having bright plumages. It has learning and mimic ability and is good companion to humans. Many articles helped to increase knowledge on this parakeet with their present status in South America. After reviewing their status, results suggested that out of 21 live macaws, 16 were pure species, and 5 were hybrids. In addition, 1 species was critically endangered or possibly extinct, 5 were hypothetically extinct, and 2 were extinct. Out of 16 taxonomic species, 7 were in least concern, 3 were critically endangered and vulnerable both, 1 extinct in wild, 1 near threatened, and 1 endangered. On the basis of the genera of macaws in the world, 8 species were under *Ara*, 3 were in *Primolius*, 2 *Anorhynchus*, and 1 each *Cyanopsitta*, *Diopsittaca*, *Orthopsittaca* (Table 1; Figures 1-2).

Keywords: Macaw, Parakeet, Psittaciformes, evolution, ranking, behaviour, aviary, disease, food, management

1. INTRODUCTION

Some military macaws were isolated due to the mountain slopes and moving into the humid tropical lowlands. This ecological difference enabled them to evolve larger size, paler colour, and different pattern of behaviour (Smith, 1991). The distribution of macaws' ranges from central America to the south America (Alderton, 2002). In addition, some birds prefer woodlands or Savannah-like habitats (Plate 1). The Pueblo people saw the macaw as a symbol of the sun. For many tribes of central and south America, they believe the macaw brings healing through colour and light. Macaw is Brazilian Portuguese word for the bird—macau. The hyacinth macaw has a wingspan of over 4 feet. To many tribes, the macaw is also a symbol of song and communication (Sita, 2019). Besides, the common genus *Ara* is Latin word means 'brings rain'. Green-wing macaws kept in captivity in 17th century. Successful captive breeding programs took off during the 19th century (Kalhagen, 2020). Poaching for the pet bird trade is one of the main threats to wild parrots (Jonker and Tamis, 2012). Parrots are the most threatened family of birds. Of the 372 species, the IUCN Red List of Threatened Species lists 17 as critically endangered (Cr), 34 as endangered (En) and 45 as vulnerable (Vu) (IUCN, 2009). Parrots suffer from the combined effects of habitat destruction, agricultural conflict, and both legal and illegal trade. Rare species fetch the highest prices both the national and international markets (Wright and Toft, 2002). Scarlet macaw enjoys the protection through CITES appendix 1 (UNEP-WCMC, 2008), prohibits the transport of this species, or parts thereof, without permission. Free-flight bird shows are popular features of a modern zoo visit (Jonker and Tamis, 2012). CITES has indicated that almost 90% of all live birds' trade were from the order Psittaciformes (Furnell, 2019). The highest parrot species are available in southeastern Australia, Papua New Guinea, Amazonia, and northeastern south America (Kosman *et al.*, 2019). They have sought after as household and companion pets throughout human history for their colourful and complex plumage (Berg and Bennett, 2010), remarkably high intelligence levels (Cussen, 2017), and impressive ability to mimic different sounds (Bradbury and Balsby, 2016). South Africa has gained a prominent supplier role in parrot trade. In Africa, there are over 1600 breeding facilities (Martin, 2018). Fertilized eggs illegally collected from the wild to the breeding centres, where hatchlings are ringed and disclaimed as captive-bred (Furnell, 2019). Cheaper species in the domestic markets in Australia (Vall-Ilosera and Cassey, 2017) and in internal online sales in China (Yin *et al.*, 2020) traded in higher volumes than expensive

species in global trade. It is urgent to conduct more studies on domestic, illegal, and international trade of parrots (Chan *et al.*, 2021). The objective of this article is to observe the present status of the macaw parakeets in order to their conservation.

2. CLASSIFICATION

Kingdom: Animalia
 Phylum: Chordata
 Clade: Dinosauria
 Class: Aves
 Order: Psittaciformes
 Family: Psittacidae
 Subfamily: Arinae
 Tribe: Arini

Genus: *Ara*, *Anorhynchus*, *Primolius*, *Cyanopsitta*, *Diopsittaca*, *Orthopsittaca*

3. CHARACTERISTICS LEAD TO THEIR RANKING

Macaws are large parakeet with long tail and largely unfeathered portions on their faces (Alderton, 2002). Some ranking points are size and proportions, feather quality, eye appearance, facial marking, behaviour and personality, rarity, and conservation status (Krambs, 2023).

4. MACAWS IN THE WORLD

In the case of hypothetically extinct, believed to be extinct, have confusion, may have been a separate species, subspecies, introduced species or a misidentification. On the other hand, the possibly extinct means it has little evidences.

Table1. Macaws with their global status

Names	Global status
Blue-and-gold macaw, <i>Ara ararauna</i> (L., 1758)	LC
Red-and-green macaw, <i>Ara chloropterus</i> (Gray, 1859)	LC
Chestnut-fronted macaw/Severe macaw, <i>Ara severus</i> (L., 1758)	LC
Red-and-gold macaw/Scarlet macaw, <i>Ara macao</i> (L., 1758)	LC
Blue-throated macaw/Caninde macaw/Wagler's macaw, <i>Ara glucogularis</i> , Dabbene 1921	CR
Military macaw, <i>Ara militaris</i> (L., 1766)	VU
Great green macaw/Buffon's macaw/Great military macaw, <i>Ara amiguus</i> (Bechstein, 1811)	CR
Red-fronted macaw/Lafrenaye's macaw, <i>Ara rubrogenys</i> , Lafresnaye 1847	CR
Hyacinth macaw, <i>Anodorhynchus hyacinthinus</i> (Latham, 1790)	VU
Lear's macaw/Indigo macaw, <i>Anodorhynchus leari</i> , Bonaparte, 1856	EN
Golden-collared macaw, <i>Primolius auricollis</i> (Cassin, 1853)	LC
Blue-headed macaw/Coulon's macaw, <i>Primolius couloni</i> (P. L. Sclater, 1876)	VU
Blue-winged macaw/Illiger's macaw, <i>Primolius maracana</i> , Vieillot 1816	NT
Spix's macaw, <i>Cyanopsitta spixii</i> (Wagler, 1832)	EW
Red-shouldered macaw, <i>Diopsittaca nobilis</i> , L. 1758	LC
Red-bellied macaw, <i>Orthopsittaca manilatus</i> (Boddaert, 1783)	LC
Hybrid macaw (Blue-and-yellow macaw × Scarlet macaw)	Hybrid
Verde macaw (Scarlet macaw × Buffon's macaw)	Hybrid
Ruby macaw (Scarlet macaw × green-winged macaw)	Hybrid
Hyarlet macaw (Hyacinth macaw × Scarlet macaw)	Hybrid
Shamrock macaw (Scarlet macaw × military macaw)	Hybrid
Glaucous macaw, <i>Anodorhynchus glaucus</i> (Vieillot, 1816)	CR or possibly extinct
Martinique macaw/orange-bellied macaw, <i>Ara martinicus</i> (Rothschild, 1905)	Hypothetically extinct

Lesser Antillean macaw/Guadeloupe macaw, <i>Ara guadeloupensis</i> (Clark, 1905)	Hypothetically extinct
Red-headed macaw/Jamaican green-and-yellow macaw, <i>Ara erythrocephala</i> , Gosse 1847	Hypothetically extinct
Jamaican red macaw, <i>Ara gossei</i> , Rothschild 1905	Hypothetically extinct
Dominican green-and-yellow macaw/Dominican macaw/Atwood's macaw, <i>Ara atwoodi</i> , Clark 1908	Hypothetically extinct
Cuban macaw/Cuban red macaw, <i>Ara tricolor</i> (Bechstein, 1811)	Extinct
St. Croix macaw/Puerto Rican macaw, <i>Ara autochtones</i> , Wetmore 1937	Extinct

LC=least concern; CR=critically endangered; VU=vulnerable; EN=endangered; EW=extinct in wild

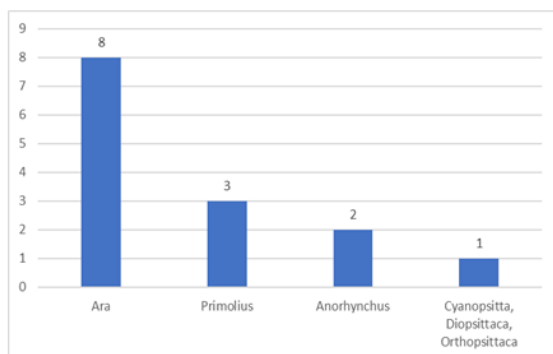


Figure 1. Genera of macaws

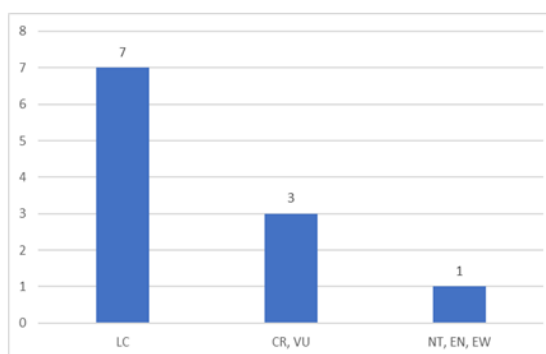


Figure 2. Global status of macaws



Plate 1. Group of scarlet macaws

Food: Depending on the size, macaw will eat about ½ to ¾ cup of parrot mix and about ½ to ¾ cup of fruits and vegetables every day. You can feed it once in the morning upon waking and at dusk before it goes to sleep. Remove all uneaten food before bedtime. As with all parrots, avocado, chocolate, rhubarb, and coffee beans are toxic for them (Kalhagen, 2020).

Perfect Aviary: A bored macaw is a destructive macaw. It needs 21/3 feet by 3 feet space minimum. Provide a variety of toys for chewing and playing. Before bringing this bird, be prepared to spend time, feed, equipment, veterinary bills, and possibly home repair costs (Kalhagen, 2020). This species is an unsuitable companion for those who live in an apartment for its loud voice (Kalhagen, 2020). For its larger size, it is tough to accommodate satisfactory in-home environment (Alderton, 2005). Provide 2 to 3 hours of supervised out-of-cage playtime daily (Kalhagen, 2020). Captive breeding has proven possible for many species (Mench *et al.*, 2018).

Diseases and Management: The major diseases are proventricular dilation disease (also called macaw wasting disease), psittacine beak-and-feather disease, and psittacosis; other problems are allergies and behavioural problems such as feather plucking usually occurs in parrots that are bored or frustrated (Kalhagen, 2020).

5. CONCLUSIONS

The Macaw Society (formerly known as Tambopata Macaw Project) is a long-term research project working since 1989 in Peru and Costa Rica. Falcons, hawks, and eagles are the natural predators for macaws. In order to conserve this parakeet, research on their various aspects of ecology, movements, interactions among clay lick use, foods, abundance, and breeding biology. In Bangladesh, some parrot lovers are keeping this parrot with successful breeding. In future, it is possible to increase their number and export quality birds could be flourished their natural habitat again.

Table2. Information on macaws with references

Features	Examples	References
Evolution	From the military macaw other macaws have been evolved	Kalhagen, 2020; Smith, 1991; Sita, 2019
Habitat	The main habitat of macaws is central and south America	Alderton, 2002; Kosman <i>et al.</i> , 2019
Status	At present, most of the macaws are in least concern	IUCN, 2009; Jonker and Tamis, 2012; UNEP-WCMC, 2008
Characteristics and ranking	Macaws have some exceptional capabilities in parrot family	Alderton, 2002; Berg and Bennett, 2010; Bradbury and Balsby, 2016; Cussen, 2017; Krambs, 2023
Trade of parrots	There are some legal and illegal trades of this bird	Chan <i>et al.</i> , 2021
Markets of macaw	In Australia and China, they have offline and online parrot markets	Vall-Iloera and Cassey, 2017; Wright and Toft, 2002; Yin <i>et al.</i> , 2020
Food	Sufficient and nutritious food are important for macaws	Kalhagen, 2020
Aviary	A perfect aviary is mandatory for macaws	Alderton, 2005; Kalhagen, 2020
Breeding and Poaching	Poaching is hampering macaws breeding	Jonker and Tamis, 2012; Mench <i>et al.</i> , 2018
Diseases	Proper treatment can solve physical and mental ailments of this bird	Kalhagen, 2020

REFERENCES

- Alderton, D. 2002. *The World Encyclopedia of Birds & Birdwatching*. Anness Publishing Ltd., 256 pp.
- Alderton, D. 2005. *The Ultimate Encyclopedia of Caged and Aviary Birds*. Anness Publishing Ltd., 256 pp.
- Berg, M. L. and Bennett, A. T. 2010. The evolution of plumage colouration in parrots: a review. *Emu—Austral Ornithology* 110: 10-20.
- Bradbury, J. W. and Balsby, T. J. 2016. The functions of vocal learning in parrots. *Behavioral Ecology and Sociobiology* 70: 293-312.
- Chan, D. T. C., Poon, E. S. K., Wong, A. T. C., Sin, S. Y. W. 2021. Global trade in parrots—influential factors of trade and implications for conservation. *Global Ecology and Conservation* 30: e01784.
- Cussen, V. A. 2017. Psittacine cognition: individual differences and sources of variation. *Behavioural Processes* 134: 103-109.
- Furnell, S. 2019. 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, TRAFFIC, The United Kingdom. <https://vetmed.tamu.edu/themacawsociety/>
- <https://www.google.com/search?q=macaw%20bird&tbm=isch&tbs=il:cl&hl=en&sa=X&ved=0CAAQ1vwEahcKEwjA2fvmnP2BAxUAAAAAHQAAAAAQAg&biw=1536&bih=731#imgrc=4UJ7W4wWodK23M&imgdii=7cJv1T0F5o9YnM>
- IUCN Red List of threatened Species. Version 2009; 1: vs.: 27-9. <http://www.iucnredlist.org>
- Jonker, R. M. V. and Tamis, W. L. M. 2012. Introduction, breeding and poaching of scarlet macaws (*Ara macao* L.) in a temperate country: a case study from the Netherlands. *The Open Ornithology Journal* 5: 1-4.
- Kalhagen, A. 2020. Green-wing macaw (red and green macaw): Bird Species Profile. (<https://www.thesprucepets.com/greenwing-macaws-390834>)

- Kosman, E., Burgio, K. R., Presley, S. J., Willig, M. R., Scheiner, S. M. 2019. Conservation prioritization based on trait-based metrics illustrated with global parrot distributions. *Diversity and Distribution* 25: 1156-1165.
- Krambs, G. 2023. The most beautiful macaw: a ranking of exquisite species. (<https://strawpoll.com/most-beautiful-macaw>)
- Martin, R. O. 2018. Gray areas: temporal and geographical dynamics of international trade of grey and timneh parrots (*Psittacus erithacus* and *P. timneh*) under CITES. *Emu—Austral Ornithology* 118: 113-125.
- Mench, J., Paul-Murphy, J., Klasing, K., Cussen, V. 2018. *True Parrots (Psittacoidea)*. Companion Animal Care and Welfare: The UFAW Companion Animal Handbook.
- Sita, Z. 2019. The magic of the macaw. Volunteer Latin America. (<https://www.volunteerlatinamerica.com/blog/posts/the-magic-of-the-macaw>)
- Smith, G. A. 1991. Geographical variation in the scarlet macaw. *AFA Watchbird* 18(3): 13-14. (file:///C:/Users/Acer/Downloads/tldadmin,+13-1.pdf)
- UNEP-WCMC Checklist of CITES species (CD-ROM). 2008. CITES Secretariat, Geneva, Switzerland, and UNEP-WCMC, Cambridge, United Kingdom.
- Vall-Ilosera, M. and Cassey, P. 2017. Do you come from a land down under? Characteristics of the international trade in Australian endemic parrots. *Biological Conservation* 207: 38-46.
- Wright, T. F. and Toft, C. A., Enkerlin-Hoeflich, E. *et al.* 2002. Nest poaching in neotropical parrots. *Conservation Biology* 15: 710-720.
- Yin, R. Y., Ye, Y. C., Newman, C., Buesching, C. D., Macdonald, D. W., Luo, Y., Zhou, Z. M. 2020. China's online parrot trade: generation length and body mass determine sales volume via price. *Global Ecology and Conservation* e01047.

Citation: Ashraful Kabir. "Review on Macaw Parakeets (Aves: Psittaciformes)" *International Journal of Research Studies in Zoology (IJRSZ)*, vol 7, no. 1, 2023, pp. 28-32. DOI: <https://doi.org/10.20431/2454-941X.0701005>.

Copyright: © 2023 Authors. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.