NATURE IN SINGAPORE **14**: e2021124
Date of Publication: 30 November 2021
DOI: 10.26107/NIS-2021-0124

Biodiversity Record: Himalayan griffon at Marina East

Yingfeng **You**[1], David J. X. **Tan**[2*], Martin **Kennewell**[3] & Yuchen **Ang**[1,4]

[1]University Scholars Programme, National University of Singapore, Singapore 138593; Email: you.yingfeng@u.nus.edu
[2]Department of Biology and Museum of Southwestern Biology, University of New Mexico, USA; Email: david.tanjx@gmail.com (*corresponding author)
[3]Dunearn Road, Singapore 589485; Email: mkennewell@mac.com
[4]Lee Kong Chian Natural History Museum, National University of Singapore, Singapore 117377; Email: yuchen@nus.edu.sg

Recommended citation. You Y, Tan DJX, Kennewell M & Ang Y (2021) Biodiversity Record: Himalayan griffon at Marina East. Nature in Singapore, 14: e2021124. DOI: 10.26107/NIS-2021-0124

Subject: Himalayan griffon, *Gyps himalayensis* (Aves: Accipitriformes: Accipitridae).

Subject identified by: Martin Kennewell.

Location, date and time: Singapore Island, Marina East Drive (1.282870°N, 103.876548°E); 30 January 2021; 1548 hrs.

Habitat: The subject was observed in flight over golf courses and open grassland along the seashore (Fig. 1).

Observers: Yingfeng You and David J. X. Tan.

Fig. 1. Ventral view of the Himalayan griffon in flight. (Photograph by: Yingfeng You).

Observation: One individual was observed gliding at an altitude of approximately 193–273.6 m (see Remarks), heading northeast. The white-striped, dark brown underwing coverts contrasting with black flight feathers identify this individual as a second-calendar year bird (Fig. 1; Wells, 1999).

Remarks: The Himalayan griffon is classified as a rare vagrant to Singapore (Wang & Hails, 2007). This species of vulture normally occurs in the mountains of Central Asia (Wells, 1999). Prior to this observation, there were only 13 records of the species in Singapore, usually of immature birds moving singly or in flocks of up to 12 birds in the months of December and January, and rarely up to March (Table 1; Yong & Kasorndorkbua, 2008). This observation represents the only known Himalayan griffon sighting in Singapore for the 2020/2021 autumn migration season, which contrasts with the record irruption observed during the autumn 2019/2020 migratory season (Table 1) that coincided with several other new migratory records (Sin et al., 2020). This observation also represents an unprecedented third consecutive migratory season with a Himalayan griffon sighting in Singapore, although there is insufficient data to assess if this represents a shift in the migratory phenology of immature birds.

We calculated the approximate altitude of the Himalayan griffon by applying a pinhole camera model, which assumes that light reflected from the bird converges at a single point on the camera lens and forms an image on the camera sensor plane located at a distance f away from the convergence point (where f is the focal length of the lens). We can ignore the effects of lens distortion on the image of the vulture as the subject is near the centre of the image. Since the photograph had total dimensions of 6,000 × 4,000 px, and the photographed individual had a wing length (carpal joint to wingtip) of

350 px, on a camera sensor of size 23.5 × 15.6 mm (Fujifilm X-H1), the estimated wing length of the vulture's image on the camera sensor is approximately 1.3708 mm (23.5 × 350 / 6000). Given a mean Himalayan griffon wing length of 750 mm (Wells, 1999), and a focal length of 500 mm (Tamron Adaptall-2 500 mm 55B), the distance of the subject from the convergence point is approximately 273,600 mm (500 × 750 / 1.3708), or 273.6 m. This value represents the maximum possible altitude of the Himalayan griffon (i.e., assuming camera was pointed straight upwards). As we are certain that the camera was pointed at an angle not less than 45° from the horizon, we calculate the minimum altitude of the vulture to be 273.6 m × *sin*(45°) = 193.5m.

Table 1. Historical Himalayan griffon records for Singapore, 1989 to 2021.

Date	Locality	No.	Source
Dec 1989	Tuas	4	Wells (1999); Yong & Kasorndorkbua (2008)
12 Jan 1992	Bukit Timah Nature Reserve	9	Wells (1999); Yong & Kasorndorkbua (2008)
9 Jan 2005	Kent Ridge–Orchard Road	2	Wang & Hails (2007); Yong & Kasorndorkbua (2008)
23 Jan 2006	Changi Cove	1	Wang & Hails (2007); Yong & Kasorndorkbua (2008)
4 Feb 2006	Sungei Buloh Wetland Reserve	1	Martin Kennewell (pers. comm.)
29 Dec 2006	Ang Mo Kio	1	Yong & Kasorndorkbua (2008)
2 Jan 2008	Seletar	1	Yong & Kasorndorkbua (2008)
15 Jan 2008	Bukit Timah Nature Reserve	1	eBird (Singapore Social Media)
23 Jan 2008	Bukit Batok Nature Park	3	Yong & Kasorndorkbua (2008)
26 Jan 2008	Simpang Grasslands	1	eBird (James Heng)
1 Feb 2008	Upper Seletar Reservoir Park	1	eBird (Singapore Social Media)
2 Feb 2008	Braddell	1	Yong & Kasorndorkbua (2008)
1 Mar 2008	Upper Seletar Reservoir Park	1	eBird (Singapore Social Media)
15 Jan 2010	MacRitchie Reservoir Park	1	eBird (Singapore Social Media—Leslie Fung)
21 Mar 2010	Sungei Buloh Wetland Reserve	2	eBird (John Spencer)
14 Feb 2015	Fort Canning Hill	1	Singapore Raptor Report 2015 (Tan, 2015)
5 Jan 2016	Toa Payoh	1	Latif MR & bin Osman FM (2016); eBird (Singapore Social Media)
8 Feb 2018	Bukit Timah Nature Reserve	1	eBird (Francis Yap)
28–29 Dec 2019	Hindhede Nature Park	2	eBird (multiple observers)
29 Dec 2019	Jelutong Tower	2	eBird (Singapore Social Media—Vincent Ng)
8 Jan 2020	Cashew Road	2	eBird (Choong YT)
8 Jan 2020	Pinnacle@Duxton	1	eBird (Raghav Narayanswamy)
8 Jan 2020	Buddha Tooth Relic Temple	1	eBird (Singapore Social Media—Leo Chin Hao)
8 Jan 2020	Marina Bay	12	eBird (Brad R)
9 Jan 2020	Cashew Park/Cashew Heights	10	eBird (Raghav Narayanswamy)
9 Jan 2020	Bukit Timah Nature Reserve	7	eBird (Singapore Social Media—Johnny Chew)
9 Jan 2020	Telok Blangah Hill Park	12	eBird (Chuin Ming Lee)
9 Jan 2020	Outram Road	2	eBird (Martin Kennewell & Oliver Tan)
9 Jan 2020	Pinnacle@Duxton	8	eBird (multiple observers)
9 Jan 2020	Central Business District	1	eBird (Geoff Lim)
9 Jan 2020	Orchid Hotel	2	eBird (Ramesh T)
9 Jan 2020	Tanjong Pagar Road	5	eBird (Robyn Y)
9 Jan 2020	Amara Hotel Singapore	4	eBird (Kian Guan Tay)
10 Jan 2020	Dairy Farm Nature Park	1	eBird (Singapore Social Media—Michael Phua)
11 Jan 2020	West Coast Park	11	eBird (Singapore Social Media—CY Tan)
30 Jan 2021	Marina East Drive	1	Present report

Note: The featured observation was a result of the educational birdwatching competition (https://www.inaturalist.org/projects/archived-uls2208-2021-birding-competition) held by the NUS University Scholars Programme module, ULS2208: Biodiversity and Natural History of Singapore, conducted by Yuchen Ang.

Literature cited:

Latif MR & bin Osman FM (2016) Himalayan vulture at Toa Payoh. Singapore Biodiversity Records, 2016: 5.

Sin YCK, Ng D & Kennewell M (2020) An unprecedented influx of vagrants into Malaysia and Singapore during the 2019–2020 winter period. BirdingASIA, 33: 142–147.

Tan GC (2015) Singapore Raptor Report Spring Migration, February 2015. Nature Society (Singapore). https://singaporebirdgroup.files.wordpress.com/2015/04/singapore-raptor-report-feb15.pdf (Accessed 7 June 2021).

Wang LK & Hails CJ (2007) An annotated checklist of the birds of Singapore. Raffles Bulletin of Zoology, Supplement 15: 1–179.

Wells DR (1999) The Birds of the Thai-Malay Peninsula. Volume I. Non-Passerines. Academic Press, London, 648 pp.

Yong DL & Kasorndorkbua C (2008) The status of the Himalayan griffon *Gyps himalayensis* in South-East Asia. Forktail, 24: 57–62.