BULLETIN OF THE IRAQ NATURAL HISTORY MUSEUM
Iraq Natural History Research Center & Museum, University of Baghdad
https://jnhm.uobaghdad.edu.iq/index.php/BINHM/Home
 Online ISSN: 2311-9799-Print ISSN: 1017-8678

Bull. Iraq nat. Hist. Mus.
(2023) 17 (3): 469-480. https://doi.org/10.26842/binhm.7.2023.17.3.0469

ORIGINAL ARTICLE

FIRST CONFIRMED BREEDING RECORD OF THE BLYTH'S SWIFT *APUS PACIFICUS LEUCONYX* (BLYTH, 1845) (APODIFORMES, APODIDAE) IN SOUTHERN PARTS OF NILGIRI REGION OF WESTERN GHATS OF INDIA

Dhanusha Kawalkar and Shirish S. Manchi*
Division of Conservation Ecology, Sálim Ali Centre for Ornithology and Natural History, Anaikatty (Post Office), Coimbatore – 641108, India.
* Corresponding author: ediblenest@gmail.com

Recived Date: 08 August 2022, Accepted Date 24 March 2023, Published Date:20 June 2023

ABSTRACT

Blyth's Swift, endemic to the Indian subcontinent, is one of the four taxa of the Pacific Swift *Apus pacificus* complex. It is known to breed in high altitudes (>2,000 m) and disperse widely in winters, as far as the southern extremity of Nilgiri Region of the Western Ghats of India. However, the true extent of its non-breeding range remains uncertain. The present study reports the extended breeding range of the species and also an attempt to confirm its breeding range using the Species Distribution Modeling (SDM). In April 2020 in Anaikatty Hills of Southern Western Ghats, Coimbatore, we recorded an assemblage of four aerial foraging Aves; Indian Swiftlet *Aerodramus unicolor* (Jerdon, 1840), Asian Palm Swift *Cypsiurus balasiensis* (J.E. Gray, 1829), Red-rumped Swallow *Cecropis daurica* (Laxmann, 1769), and a large-sized swift. After referring to the experts' field guides and discussions, we confirmed the species' identification as the Blyth's Swift *Apus pacificus leuconyx* (Blyth, 1845). The observed individuals of the Blyth's Swift were carrying food bolus, confirming active breeding of the species in the Nilgiri region of the Southern Western Ghats of India. Also, the available breeding records were projected using Species Distribution Model SDM, the breeding range included the extent of Southern Western Ghats. We claim the first confirmed breeding record of the Blyth's Swift in the region and an extension of the species breeding range.

Keywords: Anaikatty Hills, *A. p. leuconyx*, Breeding range, Blyth's Swift, Western Ghats

INTRODUCTION

The swift clan 'Apodidae' is divided into two subfamilies, Cypseloidinae and Apodinae (Chantler, 1999; Brooke, 1970, 1972). Furthermore, the Apodinae is subdivided into three tribes Apodini, Collocaliini, and Chaeturini, but out of all the position of Hirundapus in the Chaeturini clade faces a few minor challenges (Price *et al*., 2004, 2005). However, within "typical swifts" of Apodini, the systematics and taxonomy of the two Old World genera *Apus* and *Tachymarptis* have been under long-term contention, and higher-level phylogeny within

Apodidae is yet to be fully resolved; furthermore, the absence of *Apus* swifts' taxonomic controversy might be because comprehensive analyses of both comparative morphology and molecular data are still missing (Päckert *et al*., 2012).

According to Leader (2011), the *Apus pacificus* complex is further sub-classified into four species; Pacific Swift *A. p. pacificus*, Salim Ali's Swift *A. p. salimalii*, Cook's Swift *A. p. cooki*, and Blyth's Swift *A. p. leuconyx*. Blyth's Swift is endemic to the Indian subcontinent (Leader 2011; Kirwan et al., 2020). Pacific Swift breeds in Siberia east to Kamchatka and northern Japan; winters in Indonesia, Melanesia, Australia, and possibly northeast India (Kirwan et al., 2020). Few studies (e.g., Davidson, 1898; Praveen *et al*., 2016; Cheke, 2018) predicted the possible breeding of Pacific Swift in the Nilgiris, Southern Western Ghats. Salim Ali's Swift breeds on the Tibetan plateau and in western China, whose wintering grounds are unknown. Cook's Swift is confined to South-East Asia and breeds from Myanmar east to Vietnam and south to Thailand (Kirwan *et al*., 2020). Blyth's Swift is relatively large. The species is known to breed in the high altitudes of the Himalayas (>2,000 m) from March to May in Nepal and North-east India (Kirwan *et al*., 2020; Grimmett *et al*., 2011) and occur at 1,300m to 3,800m in Pakistan and Bhutan (BirdLife International, 2019). It is known to disperse widely during winter and is observed in Nepal's lower altitudes and as far south as the Southern Western Ghats of India (Kirwan *et al*., 2020). However, the true extent of its non-breeding range and its relative frequency in different areas are poorly known (Kirwan *et al*., 2020). Furthermore, Blyth's Swift has been observed wintering in Kerala and Goa (Kumar, 2017), confirming its migratory range throughout the Western Ghats (Bhagat, 2017).

Understanding the limitations of Apodid identification in the field, their distribution in the region is not much evident as in the country. Hence, contributing to revealing the breeding status and non-breeding range of the Blyth's Swift, the present report is the first confirmed breeding record of the species in Southern Western Ghats of India. Also, we used the Species Distribution Modeling (SDM) to confirm the extended breeding range of the species using the available presence records during the breeding season. Further, we presume the possible occurrence of a resident population of the Blyth's Swift in the Nilgiri region of Southern parts of the Western Ghats of India.

MATERIALS AND METHODS

Study area: Anaikatty Hills (Map 1; 11.1048° N, 76.7683° E), with an elevation of 757m, is a part of the Nilgiri Biosphere Reserve, Western Ghats, located in the Coimbatore district of Tamil Nadu, India. The Western Ghats Mountain chain is older than the Himalayas and represents an array of geomorphic features of immense importance with unique biophysical and ecological processes (UNESCO, 2012). The region is part of the Eastern foothills of the Western Ghats and is identified as the rain shadow area. The area has a secondary forest surrounded by dry deciduous forests. The region receives an annual rainfall of about 700mm, mainly contributed by the North-East monsoon. The temperature here varies from 17˚C to 36˚ C (Mukherjee and Bhupathy, 2007).

Observation and identification: The observations mentioned in the present study are from the open residential area in Anaikatty valley. On 29 and 30 April 2020, a mixed flock of three foraging Apodids, Indian Swiftlet *Aerodramus unicolor*, Asian Palm Swift, and three individuals of large unidentified swift species along with Red-rumped Swallow were observed for 30 minutes. Initially, these three individuals looked like Little Swift *Apus affinis*, one of the most common Apodids in the region because of the prominent white rump and dark dorsal plumage. As all the four species were foraging together, comparing the body size was not very difficult using the Binoculars (Nikon: Monarch 10x42mm). When these birds were feeding just between 10–30 meters above ground, the larger body size of all the three individuals of the unidentified species was confirmed as Blyth's Swift based on Grimmett *et al*. (2011) and Rasmussen and Anderton (2012). For further identification conformation, we also cited Kirwan *et al*. (2020). Moreover, we further shared images of the unidentified *Apus* sp. individuals with experts for conformed identification (see Acknowledgments section).

To further authenticate our findings of the Blyth's Swift in the Anaikatty Hills we made a distribution model using MaxEnt (Maximum entropy) approach. We used the 785 presence data points between the months (March–May) when to species is known to breed in its distribution range. The data was taken from Global Biodiversity Information Facility repository (GBIF Secretariat, 2021). For developing Species Distribution Model (SDM) for current scenario, 19 bioclimatic variables downloaded from Worldclim database version 1.4 (Tab. 1) were used. Out of these 19, six variables were included in the model after testing for correlation between variables (Tab. 1).

For evaluation of the model, 75% of the species presence sites were used as training data and the remaining 25% was for testing the statistical significance. The model was run using five replicates with 5000 iterations. Rest of the settings was set to default. Model validation was performed using subsampling strategy. The threshold value based on the Area Under Curve (AUC) of the Receiver Operating Curve (ROC) ranges from 0 to 1, the AUC score of 1 indicates perfect prediction, with zero omission. However, the values equal to 0.5 indicates random prediction, while AUC values 0.8< AUC<1 were treated as good; 0.7<AUC<0.8 as fair, and AUC less than 0.7 poor prediction (Sumangala *et al*., 2017; Sharma *et al*., 2019). The resultant habitat suitability classes were categorized into four classes (of equal intervals) viz., least (0), low (<0.33), moderate (<0.66), and high suitability (<1). Further, QGIS (Ver 3.1; QGIS Development Team 2009) ESRI mapping software was used to produce maps for the distribution of the Blyth's Swift.

Table (1): Environmental data used for SDM for *A.p.leuconyx* (www.worldbioclim.org).

Codes	Environmental Variables
BIO 1	Annual Mean Temperature
BIO 2*	Mean Diurnal Range (Mean of monthly (max temp-min temp)
BIO 3*	Isothermality (BIO2/BIO7) (*100)
BIO 4	Temperature Seasonality (standard deviation *100)
BIO 5	Max Temperature of Warmest Month
BIO 6	Min Temperature of Coldest Month
BIO 7	Temperature Annual Range (BIO5-BIO6)
BIO 8	Mean Temperature of Wettest Quarter
BIO 9	Mean Temperature of Driest Quarter
BIO 10	Mean Temperature of Warmest Quarter
BIO 11	Mean Temperature of Coldest Quarter
BIO 12*	Annual Precipitation
BIO 13	Precipitation of Wettest Month
BIO 14*	Precipitation of Driest Month
BIO 15*	Precipitation Seasonality (Coefficient of Variation)
BIO 16	Precipitation of Wettest Quarter
BIO 17	Precipitation of Driest Quarter
BIO 18	Precipitation of Warmest Quarter
BIO 19*	Precipitation of Coldest Quarter

RESULTS AND DISCUSSION

All of the sources, the cited literature, and experts' views confirmed that the *Apus* sp. observed in the Anaikatty Hills is a Blyth's Swift, a common winter visitor to the region (Map 1). Blyth's Swift (Pl. 1) and Indian Swiftlet are new additions to the known list of Apodids in the Anaikatty Hills. The presence of the Indian Swiftlet is apparent in the Anaikatty Hills, Coimbatore, as the region is adjacent to its known breeding in Ooty, Nilgiris district (Dewar, 1915; Mahabal *et al*., 2007). Blyth's Swift has been recently sighted by several bird watchers in Kerala and Anand (2016) in the Nilgiri district during winters. Cheke (2018) claimed, during his observation in 1981, possible nesting of Pacific Swift in Nilgiris. As the Pacific Swift complex during Cheke's 1980 observation was not revised yet, and the sighting was recorded from a distance, we understand it wasn't easy to note the minute morphological variations of the individuals seen. Therefore, we assume that Cheke (2018) encountered Blyth's Swift in Nilgiris. The observations by Cheke (2018) in Nilgiris were on 7 May 1981, and the present study on 29 and 30 April 2020 in Anaikatty Hills confirms the post-winter presence/dispersal of the species in these regions.

Blyth's Swift is known to be endemic to the Indian subcontinent and breeds only in high altitudes. The present study confirms Blyth's Swift's breeding record in Southern Western Ghats and its extended breeding. We endorse this breeding record based on the bolus that the bird must be carrying for its young. Recently, Anand (2016) located Blyth's Swift on 9 April, and Cheke (2018), with his observation on 7 May 1981, mentioned possible nesting of the Pacific swift in the Nilgiri Hills. These studies support the species' post-winter dispersal in

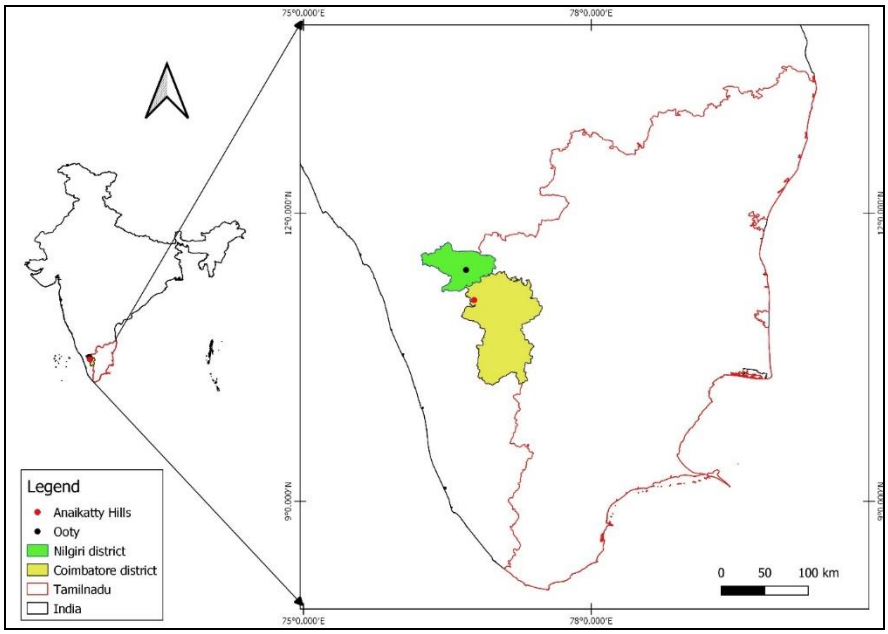
the Southern Western Ghats of India and its probable breeding status in the region. Simultaneously, Cheke (2018) also raises confusion regarding the misidentification of the conspecific Blyth's Swift. Early reports of Davidson (1898) suggest the possible nesting of Pacific Swift in the hill-caves near Dudhsagar falls, Central Western Ghats of Uttar Kannada, Karnataka, during April. Moreover, in Bhutan, Blyth's Swift is observed with young from late March to June, and colonies are deserted by early July (Spierenburg, 2005). Hence, we can also consider that the species must be breeding between March to June in Central (Davidson, 1998) and Southern Western Ghats (Cheke, 2018). Also, according to the recent records (from 2011 to 2019), Blyth's Swift was recorded both in Kerala and Tamil Nadu during March and April (breeding season).

Since Pacific Swift *A. p. pacificus* is known to be breeding in North-East India (Kirwan *et al*., 2020) and is similar to Blyth's Swift, the plumage and morphological differences between the two species is mentioned by Leader (2011). Blyth's Swift has narrow rump patch (*c*.10mm wide) with fine but distinct shaft streak, a pale greyish throat patch extending onto upper breast, dark brown under wing coverts and a prominent white patch near the tail upper part (Pl.1),which all have been noted during our recent observation. Furthermore, according to Leader (2011), the taxonomical arrangement of the *A. pacificus* is intricate. Given that the *Apus* species are profoundly known to be of aerial existence, they have consistent structural differences of taxonomical significance between apparently closely related taxa, which led to a substantial revision of the genus (Leader, 2011). The taxonomic importance of these fundamental differences is further supported by different plumage patterns and as well as by differences in migration strategies and breeding biology. Hence, it is best treated as four different species.

We noticed a significant bulge in the individuals' throat region (Pl. 2). Based on the discussion with the experienced ornithologists, we confirmed that the bulging throat is an indicator that the individuals of the Blyth's Swift observed in Anaikatty were with the food bolus. These aerial insectivores are known to carry food for their chicks in the form of small food balls, which is a mixture of insects and saliva, known as a bolus (Campbell and Lack, 2013). Moreover, according to breeding status codes developed by the British Trust of Ornithology (BTO), if an adult bird is carrying a Faecal sac or Food for young (FF) can be related to individuals in potentially suitable nesting habitat (https://www.bto.org/our-science/projects/birdatlas/methods/breeding-evidence), the Blyth's Swift individuals sighted in the Anaikatty Hills, with food bolus for the young, further confirms that the species is breeding in and around the area of Southern Western Ghats.

As the swifts and swiftlets, with their aerodynamic capabilities, are known to have large foraging ranges, we cannot deny that they might be breeding in the adjacent regions, such as Nilgiris, and coming to the Anaikatty Hills in search of food. As the species is known to have an incubation period of about 18–19 days (Roberts, 1991), we presume that it might be breeding between March and May in the Southern Western Ghats of India. Also, the species distribution model confirms the breeding distribution of the Blyth's Swift across the foothills of the Himalayas, Western and Eastern Ghats (Maps 2, 3). Further, it is seen that currently the

distribution of the species is influenced by BIO-2 (46.2%), BIO-14 (27.6%) and BIO-15 (17.1%).



Map (1): Location of the observations in the Anaikatty Hills, Coimbatore, Western Ghats of India.

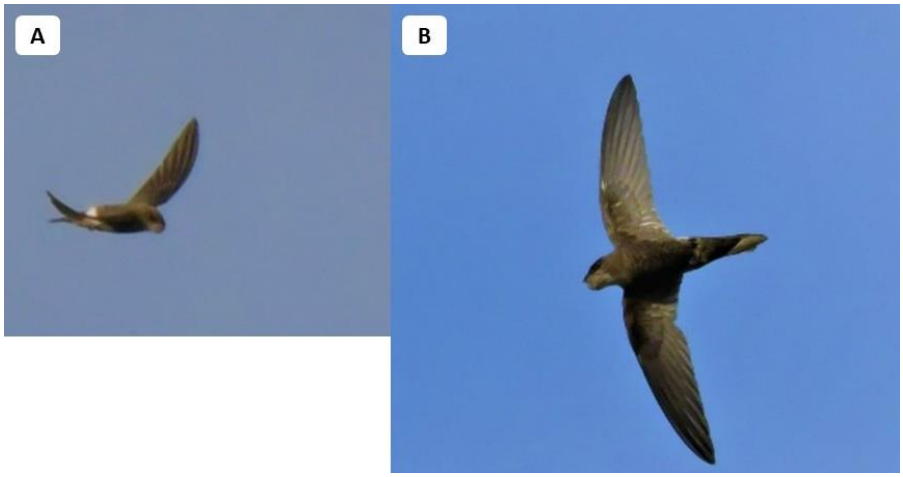
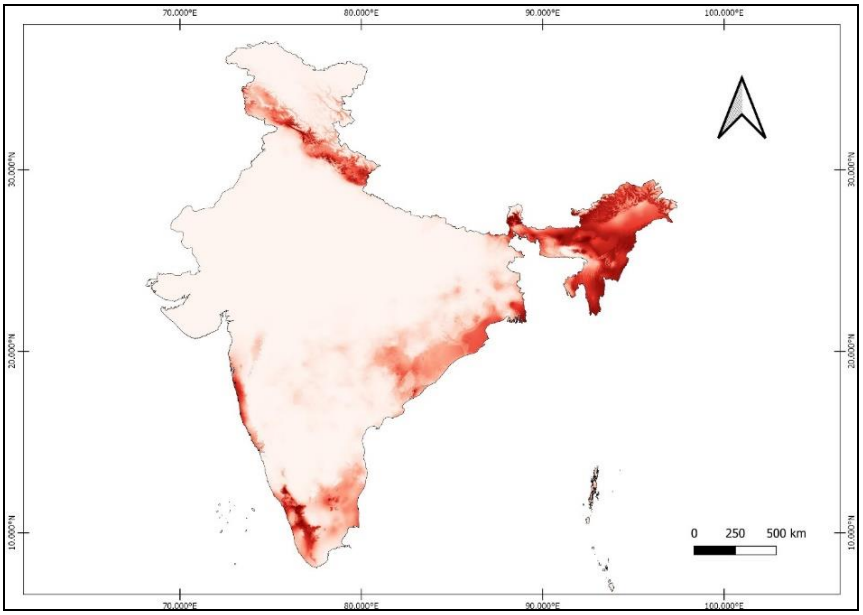


Plate (2): Morphological characteristics of the Blyth's Swift *Apus pacificus leuconyx* in Anaikatty Hills; (A) Top view showing the prominent white rump, (B) Under parts. ©Shirish Manchi 29.April.2020.

Plate (3): Blyth's Swift *Apus pacificus leuconyx* with the bulging throat, observed in the Anaikatty Hills, were carrying the food for young (FF). ©Shirish Manchi 29/04/2020.



Map (2): The predicted breeding range of the Blyth's Swift *Apus pacificus leuconyx* in India (lighter to darker- low suitability to high suitability).

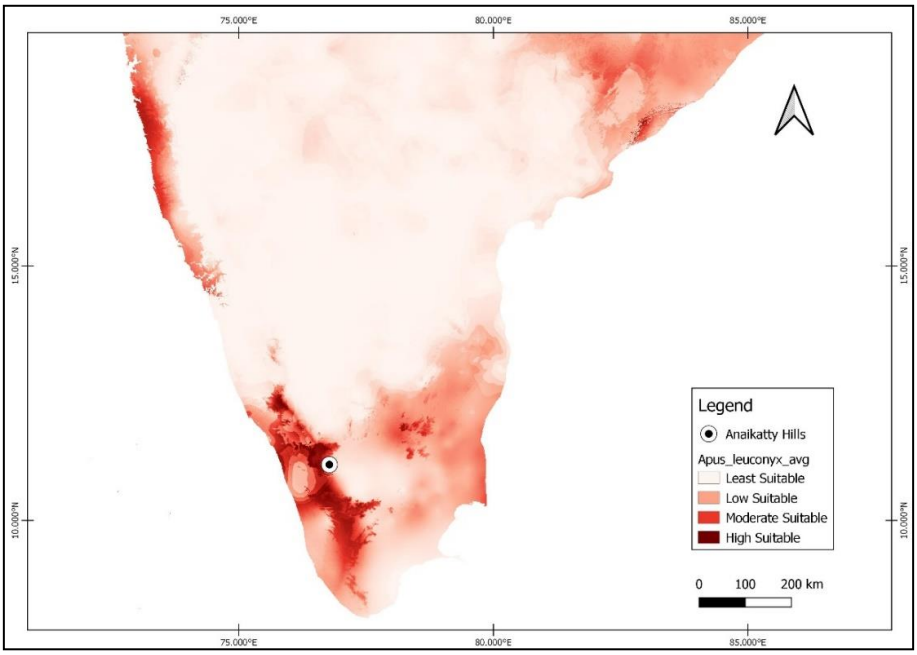


Plate (5): The predicted breeding range extension of the Blyth's Swift *Apus pacificus leuconyx* in the Southern Western Ghats of India.

CONCLUSIONS

The present report is the first confirmed breeding record of the Blyth's Swift in Southern Western Ghats of India. It ratifies the region to be the breeding ground and points towards the breeding and non-breeding range extension for the species. We also hypothesize presence of a resident population in the Anaikatty Hills and Nilgiris. Besides additional field observations, detailed taxonomic and exploratory studies are required and recommended to document the species' identification, distribution, population status, and ecology in the Western Ghats. Further, as this recorded swift can be of a different subspecies of *A. p. leuconyx*, further taxonomic exploration is highly recommended.

AKNOWLEDGMENTS

We are grateful to Dr. Michael Tarburton (Pacific Adventist University, School of Science and Technology, Australia) and Dr. Charles Collins (California State University, Long Beach, California) for their help in confirming the species identification and its breeding status. We also thank Dr. Rajah Jayapal (Salim Ali Centre for Ornithology and Natural History, Coimbatore, India) for helping us with the essential references and required information. We are thankful to all the anonymous reviewers who provided their valuable comments for improvement of the manuscript.

CONFLICT OF INTEREST STATEMENT

"The authors have no conflicts of interest to declare."

LITERATURE CITED

Ali, A. M. S., Shanthakumar, S. B., Kumar, S. R., Chandran, R., Marimuthu, S. S. and Arun, P. R., 2013. Birds of the Sálim Ali Centre for Ornithology and Natural History Campus, Anaikatty Hills, southern India. *Journal of Threatened Taxa*, 5(17): 5288-5298. [Click here]

Anand, V. 2016. Checklist S28901022. Accessed on 2 July 2020.[Click here]

Bhagat, M. 2017. Checklist S34646249. (Accessed on 07 July 2020). [Click here]

BirdLife International. 2019. *Apus pacificus* (amended version of 2016 assessment). The IUCN Red List of Threatened Species 2019: *e*.T22686845A155438660. (Accessed October 28, 2020). [CrossRef]

Brooke, R. K. 1970. Taxonomic and evolutionary notes on the subfamilies, tribes, genera and subgenera of swifts (Aves: Apodidae). *Durban Museum Novitates*, (9): 13-24. [CrossRef]

Brooke, R. K. 1972. Generic limits in the Old World Apodidae and Hirundinidae. *Bulletin of British Ornithology Club*, 92: 53-57.

Campbell, B. and Lack, E. 2013. A Dictionary of Birds, Buteo Books, p 572-574.

Chantler, P. 1999. Family Apodidae (Swifts). *In*: del Hoyo, J. Elliott, A. and Sargatal, J. (eds), Handbook of the Birds of the World. Barn-owls to Hummingbirds, Vol. 5, p.388-457. Lynx Edicions: Barcelona, Spain.

Cheke, A. S. 2018. Possible nesting of Pacific Swift in the Nilgiri Hills, Tamil Nadu, in 1981. *Indian BIRDS*, 14(2): 54-55.[Click here]

Davidson, J. A. G. 1898. The birds of North Kanara. Part II. *Journal Bombay Natural History Society*, 12 (1): 47-48.

Dewar, D. 1915. Birds of the Indian Hills. Ballantyne Press, Edinburgh, 217 pp.

GBIF Secretariat. 2021. GBIF Occurrence. [CrossRef]

Grimmett, R., Inskipp, C. and Inskipp, T. 2011. Birds of the Indian Subcontinent. 2nd ed. London: Oxford University Press & Christopher Helm, 528 pp.

Kirwan, G. M., Chantler, P. and de Juana, E. 2020. Blyth's Swift (*Apus leuconyx*), version 1.0. *In*: Billerman, S. M., Keeney, B. K., Rodewald, P. G. and Schulenberg, T. S. (Eds), Birds of the World. Cornell Lab of Ornithology, Ithaca, NY, USA. [CrossRef]

Kumar, H. 2017. Checklist S33616701. accessed on 07 July 2020.[Click here]

Leader, P. J. 2011. Taxonomy of the Pacific Swift *Apus pacificus* Latham, 1802, complex. *Bulletin of the British Ornithologist's Club*, 131(2):81-93. (Cited in: Leader, P. J., Zyskowski, K., Bird, B., Khot, R., van Grouw, H., and Praveen J. 2020. Status of 'Fork-tailed Swift' *Apus pacificus* complex in India. *Indian BIRDS*, 16 (5): 135-139). [Click here]

Mahabal, A., Pande, S., Sharma, R. M. and Pednekar, S. N. 2007. Status survey of Indian Edible-nest Swiftlet *Collocalia unicolor* (Jerdon) in Western Ghats, west coast and Islands in Arabian Sea, India. 1st ed. Director, Z. S. o. I. (ed.) Kolkata: Zoological Survey of India, 52pp.

Mukherjee, D. and Bhupathy, S. 2007. A new species of wolf snake (Serpentes: Colubridae: Lycodon) from Anaikatti Hills, Western Ghats, Tamil Nadu, India. *Russian Journal of Herpetology*, 14(1):21-26. [Click here]

Nirmala, T. 2002. Ecology of bird communities in the Anaikatty Hills, Coimbatore. Ph. D. Thesis, Bharathiar University, Coimbatore, 274pp.

Noss, R. F., Platt, W. J., Sorrie, B. A., Weakley, A. S., Means, D. B., Costanza, J. and Peet, R.K., 2015. How global biodiversity hotspots may go unrecognized: lessons from the North American Coastal Plain. *Diversity and Distributions*, 21(2): 236-244. [CrossRef]

Päckert, M., Martens, J., Wink, M., Feigl, A. and Tietze, D. T. 2012. Molecular phylogeny of Old World swifts (Aves, Apodiformes, Apodidae, *Apus* and *Tachymarptis*) based on mitochondrial and nuclear markers. *Molecular Phylogenetics and Evolution*, 63(3): 606-616. [CrossRef]

Praveen, J., Subramanya, S. and Raj, V. M. 2016. A checklist of the birds of Karnataka. *Indian Birds*, 12 (4&5): 89-118. [Click here]

Price, J. J., Johnson, K. P. and Clayton, D. H. 2004. The evolution of echolocation in swiftlets. *Journal of Avian Biology*, 35(2): 135-143.[CrossRef]

Price, J. J., Johnson, K. P., Bush, S. E. and Clayton, D. H. 2005. Phylogenetic relationships of the Papuan Swiftlet *Aerodramus papuensis* and implications for the evolution of avian echolocation. *Ibis*, 147: 790-796. [CrossRef]

QGIS Development Team. 2009. QGIS Geographic Information System. Open Source Geospatial Foundation. [Click here]

Rasmussen, P. C. and Anderton, J. C. 2012. Birds of South Asia: The ripley guide. 2nd Ed. Washington DC and Barcelona: Smithsonian Institution and Lynx Edicions, 2 vols, 684pp.

Roberts, T. J. 1991. The Birds of Pakistan. Vol. 1. Non-Passeriformes. Oxford University Press, Karachi, 666 pp.

Spierenburg, P. 2005. Birds in Bhutan. Status and Distribution. Oriental Bird Club, Bedford, UK, 382pp.

UNESCO. 2012. Western Ghats. accessed on 8 July 2020. [Click here].

Sumangala, R. C., Rosario, S., Charles, B., Ganesh, D. and Ravikanth, G. 2017. Identifying conservation priority sites for *Saraca asoca*: an important medicinal plant using ecological Niche models. *Indian Forester*, 143(6): 531-536.

BULLETIN OF THE IRAQ NATURAL HISTORY MUSEUM

First confirmed breeding record

Bull. Iraq nat. Hist. Mus.
(2023) 17 (3): 469-480.

أول تسجيل مؤكد لتكاثر لطائر Blyth's Swift *Pacificus leuconyx* (Blyth, 1845) (Apodiformes ،Apodidae) في الأجزاء الجنوبية من منطقة Nilgiri في منطقة الغات الغربية في الهند

دانوشا كاوالكار و شيريش س. مانشي
قسم حماية البيئة ، مركز سليم علي لعلم الطيور والتاريخ الطبيعي ، أناكاتي (مكتب البريد) ، كويمباتور - 641108 ، الهند.

تأريخ الاستلام: 2022/8/8، تأريخ القبول: 2023/3/24، تأريخ النشر: 2023/6/20

الخلاصة

يعد طائر Blyth's Swift ، المستوطن في شبه القارة الهندية ، واحدة من الاصنوفات الأربعة لمعقد النوع *Apus pacificus* complex Pacific Swift؛ من المعروف أنها تتكاثر على ارتفاعات عالية (> 2000 متر) وتنتشر على نطاق واسع في الشتاء، حتى الطرف الجنوبي من منطقة نيلجيري في غرب غاتس في الهند. ومع ذلك ، فإن المدى الحقيقي لنطاقها غير التكاثري لا يزال غير مؤكد . تشير هذه الدراسة إلى نطاق تكاثر الأنواع الممتد وأيضًا محاولة لتأكيد نطاق تكاثرها باستخدام نمذجة توزيع الأنواع ((SDM). في أبريل 2020 في تلال Anaikatty في جنوب غرب غاتس، كويمباتور، سجلنا مجموعة من أربعة Indian Swiftlet *Aerodramus unicolor* (Jerdon, 1840)، (J.E. Gray, 1829) Asian Palm Swift *Cypsiurus balasiensis* Red-rumped Swallow *Cecropis daurica* (Laxmann, 1769) و large-sized swift. بعد الرجوع إلى الأدلة والمناقشات الميدانية لذوي الاختصاص والخبراء، تم التأكد من هوية الأنواع، اذ انها تعود لـ Blyth's Swift Apus pacificus leuconyx (Blyth, 1845). كان الأفراد الذين تمت ملاحظتهم من Blyth's Swift يحملون لقمة من الطعام، مما يؤكد التكاثر النشط للأنواع في منطقة Nilgiri في جنوب غرب غاتس في الهند. كما تم توثيق سجلات التكاثر المتاحة باستخدام نموذج توزيع الأنواع SDM، وشمل نطاق التكاثر مدى جنوب غرب غاتس، و نؤكد في هذه الدراسة التسجيل الاول لتكاثر طائر Blyth's Swift في المنطقة و المدى الواسع له.