



The Journal of Threatened Taxa (JoTT) is dedicated to building evidence for conservation globally by publishing peer-reviewed articles online every month at a reasonably rapid rate at www.threatenedtaxa.org. All articles published in JoTT are registered under [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/) unless otherwise mentioned. JoTT allows unrestricted use, reproduction, and distribution of articles in any medium by providing adequate credit to the author(s) and the source of publication.

Journal of Threatened Taxa

Building evidence for conservation globally

www.threatenedtaxa.org

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

NOTE

SIGHTING OF ARUNACHAL MACAQUE *MACACA MUNZALA* SINHA ET AL., 2005 (MAMMALIA: PRIMATES: CERCOPITHECIDAE) IN SAKTENG WILDLIFE SANCTUARY, BHUTAN

Sonam Tobgay, Kumbu Dorji & Norbu Yangdon

26 April 2019 | Vol. 11 | No. 6 | Pages: 13805–13807

DOI: 10.11609/jott.3332.11.6.13805-13807



For Focus, Scope, Aims, Policies, and Guidelines visit <https://threatenedtaxa.org/index.php/JoTT/about/editorialPolicies#custom-0>

For Article Submission Guidelines, visit <https://threatenedtaxa.org/index.php/JoTT/about/submissions#onlineSubmissions>

For Policies against Scientific Misconduct, visit <https://threatenedtaxa.org/index.php/JoTT/about/editorialPolicies#custom-2>

For reprints, contact [<ravi@threatenedtaxa.org>](mailto:ravi@threatenedtaxa.org)

The opinions expressed by the authors do not reflect the views of the Journal of Threatened Taxa, Wildlife Information Liaison Development Society, Zoo Outreach Organization, or any of the partners. The journal, the publisher, the host, and the partners are not responsible for the accuracy of the political boundaries shown in the maps by the authors.

Partner



صندوق محمد بن زايد
للمحافظة على
الكائنات الحية

The Mohamed bin Zayed
SPECIES CONSERVATION FUND

Member



Publisher & Host



SIGHTING OF ARUNACHAL MACAQUE *MACACA MUNZALA* SINHA ET AL., 2005 (MAMMALIA: PRIMATES: CERCOPITHECIDAE) IN SAKTENG WILDLIFE SANCTUARY, BHUTAN

Sonam Tobgay¹ , Kumbu Dorji²  &
Norbu Yangdon³ 

^{1,2,3} Sakteng Wildlife Sanctuary, Department of Forest and Park Services, Phongmey, Trashigang, Bhutan.

¹ tobgay88@gmail.com (corresponding author),

² kumbu30@gmail.com, ³ yangdonnorbu@gmail.com

Arunachal Macaque *Macaca munzala* Sinha et al., 2005, described from the Indian state of Arunachal Pradesh, is amongst the several discoveries from the region during second millennia (Mishra et al. 2004; Sinha et al. 2005).

Morphologically, it is distinguished from rest of the *sinica* species group with predominantly dark crown patch, characteristic facial marks on the temple and forehead with pale collar hair around the neck and distinctive relative short tail (Sinha et al. 2005). Arunachal Macaque is mostly terrestrial and occurs at an altitudinal range of 2000–3500 m (Sinha et al. 2005). Species is relatively tolerant to anthropogenic activities and dwells in an array of habitats, including degraded broadleaf forest, degraded open scrub forest, agricultural areas, and undisturbed oak and conifer forest (Sinha et al. 2005). In India, species was reported to occur in western Arunachal Pradesh with distribution mostly restricted in Tawang and West Kameng districts of the state (Sinha et al. 2005, 2006; Kumar et al. 2008)

Six species of non-human primates are known to exist in Bhutan. These include Slow Loris *Nycticebus*

bengalensis; Assamese Macaque *Macaca assamensis*; Rhesus Macaque *Macaca mulatta*; Himalayan Langur *Semnopithecus schistaceus*; Golden Langur *Trachypithecus geei* and Capped Langur *Trachypithecus pileatus* (Wangchuk et al. 2004; Choudhury 2008). Considering the proximity and continuity of forest cover along borders of Eastern Bhutan and Arunachal Pradesh, Arunachal Macaque is also likely to occur in Bhutan (Sinha et al. 2006; Kumar et al. 2008). Although sighting of Arunachal Macaque in Trashi Yangtse and Trashigang districts at an elevation of 900m was reported (Choudhury 2008), its presence and distribution in Sakteng Wildlife Sanctuary (SWS) which is connected to Arunachal Pradesh remains unknown (SWS 2016).

According to the IUCN Red List of Threatened Species, Arunachal Macaque is listed under the endangered category (Kumar et al. 2008)

To explore the possible occurrence of the species in SWS, we conducted surveys in the month of December 2016 and January 2017. Sakteng and Joenkhar ranges under SWS were classified into different vegetation types based on Bhutan land use and land cover 2010 data. Further, probable sighting sites for any kind of primates within the study area were gathered from the local inhabitants who are transhumant by profession and have sighted the primates in recent past during their stay in the wild while herding livestock. Survey was conducted based on direct observation along the sighting sites suggested by the local people and in randomly selected suitable vegetation/habitat types.

During the fourteen day survey, a troop of macaques



ISSN 0974-7907 (Online)
ISSN 0974-7893 (Print)

PLATINUM
OPEN ACCESS



DOI: <https://doi.org/10.11609/jott.3332.11.6.13805-13807> | ZooBank: urn:lsid:zoobank.org:pub:8DA429AA-E660-4E33-A774-EB8B148EC0C4

Editor: Mewa Singh, University of Mysore, Mysuru, India.

Date of publication: 26 April 2019 (online & print)

Manuscript details: #3332 | Received 07 February 2017 | Final received 25 July 2018 | Finally accepted 12 April 2019

Citation: Tobgay, S., K. Dorji & N. Yangdon (2019). Sighting of Arunachal Macaque *Macaca munzala* Sinha et al., 2005 (Mammalia: Primates: Cercopithecidae) in Sakteng Wildlife Sanctuary, Bhutan. *Journal of Threatened Taxa* 11(6): 13805–13807; <https://doi.org/10.11609/jott.3332.11.6.13805-13807>

Copyright: © Tobgay et al 2019. Creative Commons Attribution 4.0 International License. JoTT allows unrestricted use, reproduction, and distribution of this article in any medium by adequate credit to the author(s) and the source of publication.

Funding: Sakteng Wildlife Sanctuary, Department of Forest and Park Services, Bhutan.

Competing interests: The authors declare no competing interests.

Acknowledgements: Authors would like to thank the management of Sakteng Wildlife Sanctuary and staff of Sakteng and Jeonkhar Range Office for making this survey possible within a short period of time.



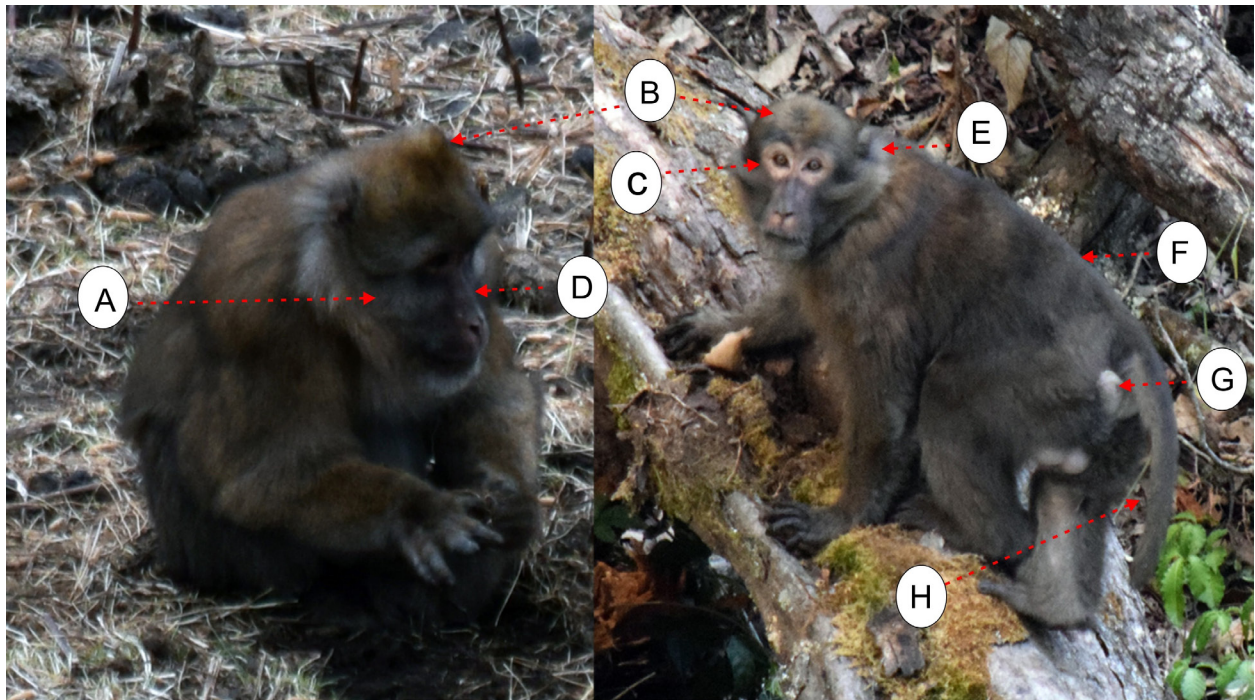


Image 1. Features based on which the species was confirmed: A - Prognathous head | B - Prominent pale-yellow patch | C - Pale skin around the eye | D - Dark brown facial skin | E - Dorsal ring of lighter colored hair between the head and trunk | F - Dark brown to chocolate color coat | G - White in buttock area as suggested by Anwaruddin Choudhury, 2008 | H - Distinctive in relative tail length, which is intermediate between those of Tibetan and Western Assamese Macaques as suggested by Sinha et al. 2005. © Authors.

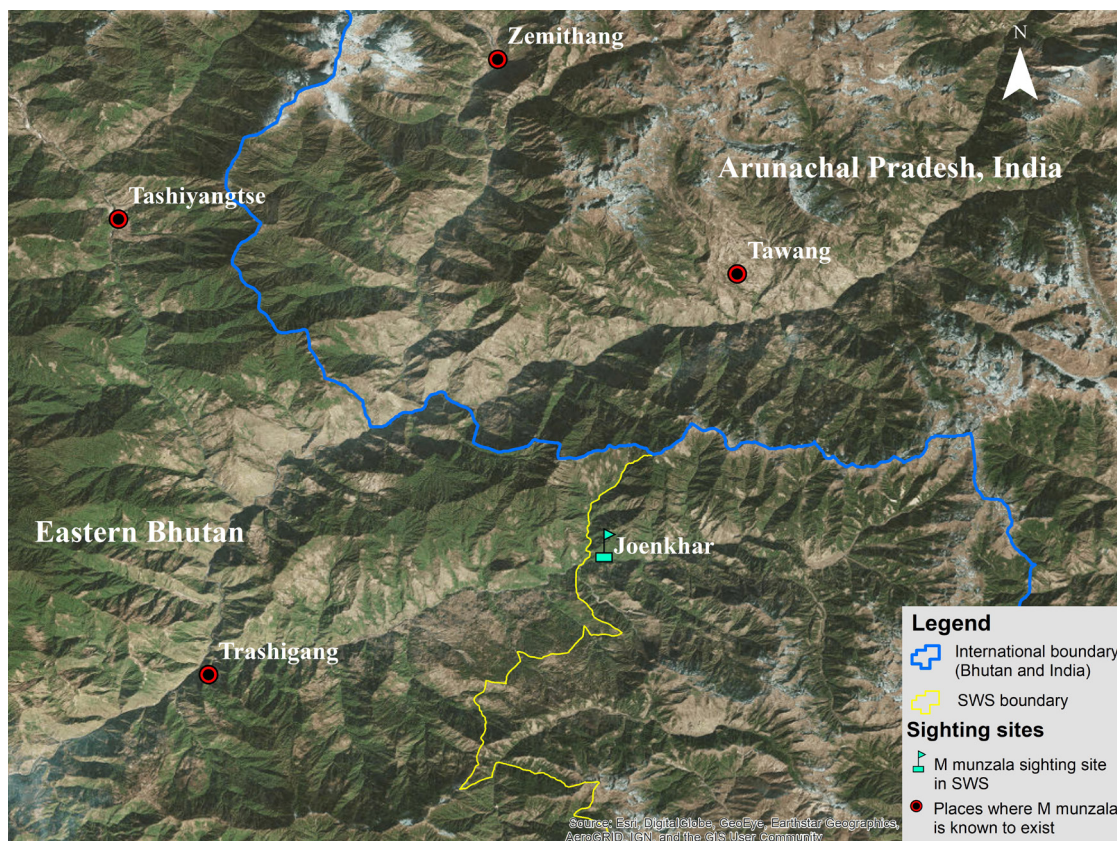


Figure 1. *Macaca munzla* sighting site in Sakteng Wildlife Sanctuary and other regions.

was sighted at Joenkhar-teng (altitude 1723m) in the mixed broadleaved forest near the Gamri River (Fig. 1; Image 1).

We looked for distinct characteristics of the species in the photo and found its resemblance to Arunachal Macaque. For further confirmation we consulted numerous literatures in primates of Bhutan and nearby region (Sinha 2004; Sinha et al. 2005, 2006; Wangchuk et al. 2004; Choudhury 2008; Kumar et al. 2008; Biswas et al. 2011; Chetry et al. 2015; Li et al. 2015) and also sought an identification from Dr Anwaruddin Choudhury and other experts by sending the photographs with other necessary morphological description of the species.

On the account of our observation, photographs and expert's comment, we conclude that the species recorded at Joenkhar-teng under Joenkhar range is an Arunachal Macaque *Macaca munzala* Sinha et al., 2005. Local people call it as a 'Naka-Zala' (Brami: Forest Monkey) and Borang-Zala (Sharchokpa: Forest Monkey)

Including the sighting of *Macaca munzala*, SWS is home to 38 species of mammals and hope that addition of the species enhances the prospect of biodiversity conservation and gives more importance to further field research and habitat management.

References

- Biswas, J., K.D. Borah, A. Das, J. Das, P.C. Bhattacharjee, S.M. Mohnot & R.H. Horwich (2011). The enigmatic Arunachal Macaque: its biogeography, biology and taxonomy in northeastern India. *American Journal of Primatology* 73: 458–473.
- Chetry, D., U. Borthakur & R.K. Das (2015). Short note on first distribution record of White-cheeked Macaque *Macaca leuceagenys* from India. *Asian Primates Journal* 5(1): 45–47.
- Choudhury, A. (2008). Primates of Bhutan and Observations of Hybrid Langurs. *Primate Conservation* 23(1): 65–73.
- Kumar, S.R., N. Gama, R. Raghunath, A. Sinha & C. Mishra (2008). In search of the munzala: distribution and conservation status of the newly discovered Arunachal Macaque *Macaca munzala*. *Oryx* 42(3): 360–366. <https://doi.org/10.1017/S0030605308006121>
- Li, C., C. Zhao & P.F. Fan (2015). White-cheeked Macaque (*Macaca leuceagenys*): a new macaque species from Modog, southeastern Tibet. *American Journal of Primatology* 77(7): 753–766. <https://doi.org/10.1002/ajp.22394>
- Mishra, C., M.D. Madhusudan & A. Datta (2004). *The High Altitude Wildlife of Western: A Survey Report*, CERC Technical Report No. 8. Nature Conservation Foundation, International Snow Leopard Trust and Wildlife Conservation Society (India Program), Mysore.
- Sinha, A. (2004). *In search of the Arunachal macaque: A preliminary survey of the status, demography and behavioural ecology of a potentially new macaque species in western Arunachal Pradesh, northeastern India*, Unpublished Report, Wildlife Conservation Society (India Program), Bangalore.
- Sinha, A., A. Datta, M.D. Madhusudan & C. Mishra (2005). *Macaca munzala*: a new species from western Arunachal Pradesh, northeastern India. *International Journal of Primatology* 26(4): 977–988.
- Sinha, A., R.S. Kumar, N. Gama, M.D. Madhusudan & C. Mishra (2006). Distribution and conservation status of the Arunachal Macaque, *Macaca munzala*, in western Arunachal Pradesh, northeastern India. *Primate Conservation* 21: 145–148.
- SWS (2016). Conservation Management Plan (2017–2027), Sakteng Wildlife Sanctuary. Department of Forest and Park Services, Royal Government of Bhutan; and Bhutan Trust Fund For Environmental Conservation, Thimphu, Bhutan.
- Wangchuk, T., P. Thinley, K. Tshering, C. Tshering, D. Yongdon & B. Pema (2004). *A Field Guide to the Mammals of Bhutan*. Department of Forestry, Ministry of Agriculture, Royal Government of Bhutan, Thimphu, 182pp.
- WWF (2015). *Hidden Himalayas: Asia's wonderland New species discoveries in the Eastern Himalayas, Vol II 2009–2014*. WWF-World Wide Fund For Nature.





PLATINUM
OPEN ACCESS



The Journal of Threatened Taxa (JoTT) is dedicated to building evidence for conservation globally by publishing peer-reviewed articles online every month at a reasonably rapid rate at www.threatenedtaxa.org. All articles published in JoTT are registered under [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/) unless otherwise mentioned. JoTT allows unrestricted use, reproduction, and distribution of articles in any medium by providing adequate credit to the author(s) and the source of publication.

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

April 2019 | Vol. 11 | No. 6 | Pages: 13631–13814

Date of Publication: 26 April 2019 (Online & Print)

DOI: 10.11609/jott.2019.11.6.13631-13814

www.threatenedtaxa.org

Editorial

Building evidence for 20 years!

– Sanjay Molur, P. 13631

Articles

Effect of socio-ecological factors and parasite infection on body condition of Brown Mouse Lemur *Microcebus rufus* (Mammalia: Primates: Cheirogaleidae)

– Andry Herman Rafalinirina, Jeannot Randrianasy, Patricia C. Wright & Jonah Ratsimbazafy, Pp. 13632–13643

Identification of suitable habitat for Swamp Deer *Rucervus duvaucelii* (Mammalia: Artiodactyla: Cervidae) in Chitwan National Park, Nepal

– Shravan Kumar Ghimire, Man Kumar Dhamala, Babu Ram Lamichhane, Rishi Ranabhat, Khim Bahadur KC & Shashank Poudel, Pp. 13644–13653

Communications

The diversity and conservation of mammals in the Dodo Coastal Forest in southwestern Côte d'Ivoire, western Africa: a preliminary study

– Serge Pacome Keagnon Soiret, Célestin Yao Kouakou, Béné Jean-Claude Koffi, Blaise Kadjo, Philippe Kouassi, Peñate José Gomez, Reiko Matsuda Goodwin & Inza Kone, Pp. 13654–13666

Resource selection by Javan Slow Loris *Nycticebus javanicus* E. Geoffroy, 1812 (Mammalia: Primates: Lorisidae) in a lowland fragmented forest in Central Java, Indonesia

– Mahfut Sodik, Satyawan Pudyatmoko, Pujo Semedi Hargo Yuwono & Muhammad Ali Imron, Pp. 13667–13679

Species composition and abundance of rodents in Kafta-Sheraro National Park, Ethiopia: preliminary results

– Alembrhan Assefa & Chelmala Srinivasulu, Pp. 13680–13689

Colour aberration in Indian mammals: a review from 1886 to 2017

– Anil Mahabal, Radheshyam Murlidhar Sharma, Rajgopal Narsinha Patil & Shrikant Jadhav, Pp. 13690–13719

Nesting trees of the Red Giant Gliding Squirrel *Petaurista petaurista* (Mammalia: Rodentia: Sciuridae) in a tropical forest of Namdapha National Park, India

– Murali Chatakonda Krishna, Awadhesh Kumar & Om Prakash Tripathi, Pp. 13720–13726

Insights into the diet and feeding behaviour of Red-capped Lark *Calandrella cinerea* (Aves: Passeriformes: Alaudidae)

– Mary Mwangi, Nathan Gichuki, Robert Chira & Peter Njoroge, Pp. 13727–13733

Baseline biodiversity and physiochemical survey in Parvati Kunda and surrounding area in Rasuwa, Nepal

– Jessie Anna Moravek, Mohan Bikram Shrestha & Sanjeevani Yonzon, Pp. 13734–13747

Partner



صندوق محمد بن زايد
للمحافظة على
الكنائس الحية
The Mohamed bin Zayed
SPECIES CONSERVATION FUND

Member



Diversity and community structure of Odonata (Insecta) in two land use types in Purba Medinipur District, West Bengal, India

– Priti Ranjan Pahari, Shubha Sankar Mandal, Subhadeep Maiti & Tanmay Bhattacharya, Pp. 13748–13755

Foraging preferences of honey bees *Apis cerana* in Dakshina Kannada, Karnataka, India

– A.G. Suhas Krishna & Rajashekhar K. Patil, Pp. 13756–13764

Additions to the lichen biota of Assam State, India

– Rupjyoti Gogoi, Siljo Joseph, Sanjeeva Nayaka & Farishta Yasmin, Pp. 13765–13781

Short Communications

Study of nesting behaviour of Asian Paradise Flycatcher *Terpsiphone paradisi* (Aves: Passeriformes: Monorchidae) from southern West Bengal, India

– Nilemesh Das & Shuvadip Adhikari, Pp. 13782–13785

A checklist of fish species from three rivers in northwestern Bangladesh based on a seven-year survey

– Imran Parvez, Mohammad Ashraf Alam, Mohammad Mahbul Hassan, Yeasmin Ara, Imran Hoshan & Abu Syed Mohammad Kibria, Pp. 13786–13794

New plant distribution records to Indian states and addition to the flora of Myanmar

– Kanakasabhapathi Pradheep, Ganjalagatta Dasaiah Harish, Ranbir Singh Rathi, Joseph John Kattukkunnel, Sheikh Mohammad Sultan, Khoisnam Naveen, Iyyappan Jaisankar, Anjula Pandey, Sudhir Pal Ahlawat & Rita Gupta, Pp. 13795–13804

Notes

Sighting of Arunachal Macaque *Macaca munzala* Sinha et al., 2005 (Mammalia: Primates: Cercopithecidae) in Sakteng Wildlife Sanctuary, Bhutan

– Sonam Tobgay, Kumbu Dorji & Norbu Yangdon, Pp. 13805–13807

Rediscovery of an endemic Indian moth *Gurna indica* (Moore, 1879) (Lepidoptera: Erebidae: Arctiinae) after 125 years

– Aparna Sureshchandra Kalawate, Neha Upadhyay & Banani Mukhopadhyay, Pp. 13808–13810

The Nepal Pipewort *Eriocaulon nepalense* var. *luzulifolium* (Commelinids: Poales: Eriocaulaceae): a new distribution record for southern India

– Murugan Soumya & Maya C. Nair, Pp. 13811–13814

Publisher & Host

