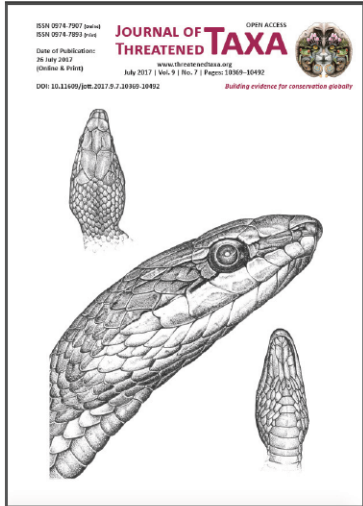


OPEN ACCESS



The Journal of Threatened Taxa 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 of articles in any medium, reproduction, and distribution by providing adequate credit to the authors 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

NEW RECORDS OF HOVER WASPS (HYMENOPTERA: VESPIDAE: STENOGASTRINAE) FROM BHUTAN

Tshering Nidup, Wim Klein & Phurpa Dorji

26 July 2017 | Vol. 9 | No. 7 | Pp. 10487–10489

10.11609/jott.3204.9.7.10487–10489



For Focus, Scope, Aims, Policies and Guidelines visit http://threatenedtaxa.org/About_JoTT
For Article Submission Guidelines visit http://threatenedtaxa.org/Submission_Guidelines
For Policies against Scientific Misconduct visit http://threatenedtaxa.org/JoTT_Policy_against_Scientific_Misconduct
For reprints contact <info@threatenedtaxa.org>

Partner



Publisher/Host



NEW RECORDS OF HOVER WASPS (HYMENOPTERA: VESPIDAE: STENOGASTRINAE) FROM BHUTAN

Tshering Nidup¹, Wim Klein² & Phurpa Dorji³

¹Department of Environment and Life Sciences, Sherubtse College, Royal University of Bhutan, Trashigang, Bhutan

²Naturalis Biodiversity Centre, 2300 RA Leiden, Netherlands

³Royal Society for Protection of Nature (RSPN), P.O. Box: 325, Building # 25, Lhado Lam, Kawajangsa Thimphu, Bhutan

¹tsheringnidup.sc@sherubtse.edu.bt (corresponding author),

²klein.wim.f@gmail.com, ³pdorji@rspnbhutan.org

Abbreviation: NHM - The Natural History Museum, London; MHN - Museum d'Histoire Naturelle; OUM - Oxford University Museum; SNHM - Sherubtse Natural History Museum, Trashigang, Bhutan.

Hover wasps belong to the subfamily Stenogastrinae and are predominantly tropical species only to be found in the Oriental realm, distributed in tropical Asia and Papua region (Saito et al. 2008; Barthelemy 2009; Srinivasan & Kumar 2009). Hover wasps are primitive eusocial insects and a key group for understanding the origin and evolution of social behavior in wasps (Saito 2009). This subfamily consists of 61 species in seven genera and can be easily differentiated by having bulbous thorax, elongated petiole and mandible (Saito & Kojima 2007; Saito et al. 2008; Barthelemy 2009; Saito 2009). They also have a peculiar nest location, architecture and social behavior (Barthelemy 2009). Five species and two subspecies are recorded from the Indian subcontinent (Das & Gupta 1989), 12 species from India in the west to Sumatra, Java and the Philippines to the east (Barthelemy 2008), 10 species from Vietnam (Nguyen 2016), and one in the southern part of China (Saito et al.

2006); however, there is no proper records from adjacent countries including Bhutan. In this paper we report two species from Bhutan for the first time with notes on the nest structure of *Parischnogaster mellyi* (de Saussure, 1852).

A total of 14 specimens were collected and studied from various districts in Bhutan. Specimen collection, killing, measurements, photography and preservation techniques followed Nidup et al. (2016). Identifications were based on the keys and descriptions provided by Bingham (1897), Das & Gupta (1989), Saito & Kojima (2007), Saito et al. (2008), Srinivasan & Kumar (2009), and Kumar & Srinivasan (2015). The specimens are deposited in SNHM, elevation above sea level provided in meters (m), and latitudes and longitudes provided in decimal degrees.

1. *Parischnogaster mellyi* (de Saussure, 1852) (Images 1 & 2)

Ischnogaster mellyi; de Saussure. Ann. Soc. Ent. France. (2) 10: 25, Pl. 2, Fig. 1, Male: "Java" (Geneva).

Ischnogaster nigrifrons; Smith, J. Proc. Linn. Soc., Zool.: 113, female, "Borneo (Sarawak)" (OUM).

Stenogaster nigrifrons; Dover & Rao, J. Proc. Asiat. Soc. Bengal (N.S.), 18: 241.

Parischnogaster nigrifrons; von Schulthess, Suppl. Ent., 16: 83, 87.

Stenogaster mellyi; Pagden, Malay. Nat. J., 16: 95.

Parischnogaster mellyi; Kojima & Carpenter, J. New York Entomol. Soc., 104(1–2): 30, 31.

Diagnosis: Dark brown with following parts yellow: clypeus apically, mandible, scape below, band on



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

OPEN ACCESS



DOI: <http://doi.org/10.11609/jott.3204.9.7.10487-10489> | ZooBank: urn:lsid:zoobank.org:pub:EF2AF6F0-2C21-4449-B47E-7715968C00EE

Editor: P.M. Sureshan, Zoological Survey of India, Kozhikode, India.

Date of publication: 26 July 2017 (online & print)

Manuscript details: Ms # 3204 | Received 14 December 2016 | Final received 11 June 2017 | Finally accepted 04 July 2017

Citation: Nidup, T., W. Klein & P. Dorji (2017). New records of hover wasps (Hymenoptera: Vespidae: Stenogastrinae) from Bhutan. *Journal of Threatened Taxa* 9(7): 10487–10489; <http://doi.org/10.11609/jott.3204.9.7.10487-10489>

Copyright: © Nidup et al. 2017. Creative Commons Attribution 4.0 International License. JoTT allows unrestricted use of this article in any medium, reproduction and distribution by providing adequate credit to the authors and the source of publication.

Funding: Bhutan Trust Fund for Environmental Conservation (BTFFEC).

Competing interests: The authors declare no competing interests.

Acknowledgements: We thank National biodiversity Center (NBC), Bhutan Trust Fund for Environmental Conservation (BTFFEC), Sherubtse College, Royal University of Bhutan and reviewers, without whom this work would not have been a success.





Image 1. *Parischnogaster mellyi* (female): habitus.



Image 2. *Parischnogaster mellyi* (female): showing yellow maculation on thorax.

pronotal collar, two oval marks basally and circular mark at apex of mesoscutum, two circular marks on scutellum laterally, finely interrupted band on postscutellum at base, two marks on mesepisternum, one on dorsal metapleuron, two circular marks on propodeum at apex, fore coxa in front, mark on femora apically, line below fore and middle tibia, lines on petiole, II tergite and II-IV sternum laterally, II, III & IV tergite at base (may not be visible since it is covered by overlying tergite).

Measurement: Eight females: 12.38–13.74 mm.

Material examined: SNHM-HYM-0123, SNHM-HYM-0124, SNHM-HYM-0125 & SNHM-HYM-0126, 9.x.2015, 4 females, Dhamdangra, Chhukha (26.87 N & 89.38 E, 310m), coll. Tshering Nidup & Wim Klein; SNHM-HYM-0127 & SNHM-HYM-0128, 15.iv.2016, 2 females, Panbang, Zhemgang (26.84 N & 90.99 E, 390m), coll. Phurpa Dorji, Thinley Gyeltshen & Tshering Nidup; SNHM-HYM-0129 & SNHM-HYM-0130, 8.x.2015, 2 females, Pekashing, Chhukha (26.83 N & 89.45 E, 293m), coll. Tshering Nidup & Wim Klein; SNHM-HYM-0131, 4.viii.2016, 1 female, Pasakha, Chhukha (26.83 N & 89.46 E, 357m), coll. Tshering Nidup & Wim Klein; SNHM-HYM-0132, 4.viii.2016, 1 female, Rinchening, Chhukha (26.84 N & 89.39 E, 461m), coll. Tshering Nidup & Wim Klein.

Distribution: Bhutan, India, Indonesia, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam (Das & Gupta 1989; Kumar & Srinivasan 2015).

Note: A new record for Bhutan.

2. *Eustenogaster scitula* (Bingham, 1897) (Image 3)

Ischnogaster scitula Bingham, 1897: Fauna of British India, Hymenoptera, 1: 377, 379, Types: female, India: Assam: Margherita; Sikkim: Ranjit Valley (NHM).

Eustenogaster scitula (Bingham): Das & Gupta, 1989, Oriental Ins., 17: 403. Cat., syn., ref., distr. India.

Diagnosis: Black with following parts yellow: large



Image 3. *Eustenogaster scitula* (female): habitus.

elongated mark on clypeus, pronotum with apical band interrupted in middle and not reaching tegula, large mark on mesepisternum ventrally, line on fore tibia below in male, elongated mark on III tergite basally and laterally.

Variation: All the description agrees with Das & Gupta (1989) and Srinivasan & Kumar (2009) except in having two lateral oval yellow spots at propodeum apically in the specimen collected from Bhutan (Image 4). In the male it is smaller than in the female however, it agrees with the key of Saito (2009). In female, clypeus has large yellow mark as described by Srinivasan & Kumar (2009).

Measurements: 1 males: 16.78; 1 female: 43.92mm.

Material examined: SNHM-HYM-0133, 15.iv.2016, 1 female, Manas National Park, Zhemgang (26.83 N & 90.94 E, 137m), coll. Phurpa Dorji, Thinley Gyeltshen & Tshering Nidup; SNHM-HYM-0134, 5.viii.2016, 1 male, Daramshala, Chhukha (26.87 N & 89.41 E, 303m), coll. Tshering Nidup & Wim Klein.

Distribution: Bhutan, India, Malaysia, Myanmar, and Thailand (Das & Gupta 1989; Srinivasan & Kumar 2009).

Note: A new record for Bhutan.



Image 4. *Eustenogaster scitula* (female): showing yellow spots on propodeum.

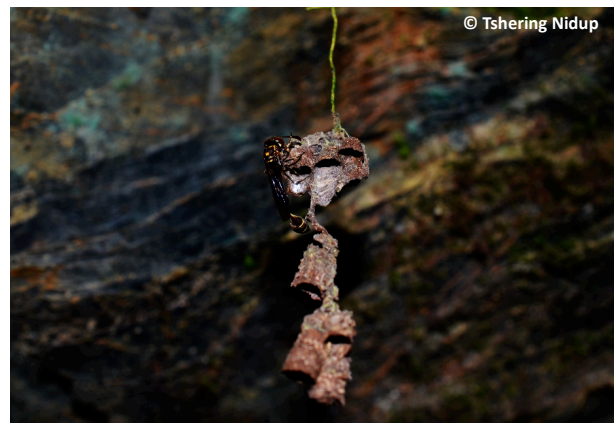


Image 5. Nest of *Parischnogaster mellyi* attached to the root.

Nest structure of *Parischnogaster mellyi* (de Saussure, 1852) (Images 5 & 6)

A single nest was spotted on a small cliff formed by digging the rocks to build the path for the village of Dhamdangra, Chhukha on 5.viii.2016. It was near the small stream that serves as the drinking water source for the village. The nest was under construction and three individuals were busy building the nest. The nest was built on a small live root that was barely 2mm in diameter, in a shady and moist area. The nest was with 11 completed cells and all had a single larva in each downward facing cell. The cells were round and bell-shaped arranged in two groups separated by a gap. The base group has seven cells and the tip group has four cells. The jelly white and transparent larvae and eggs were visible from outside. One cell at the tip was sealed. The nest was built using brown wood particles.

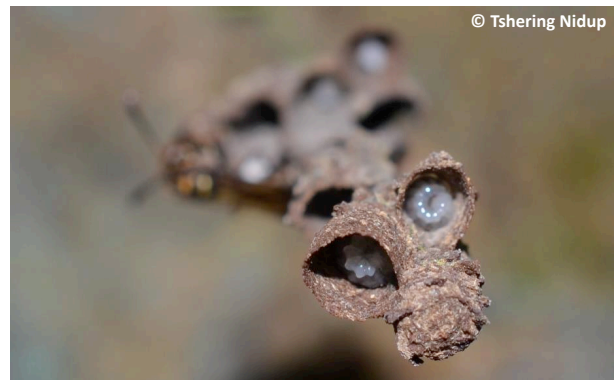


Image 6. Nest of *Parischnogaster mellyi* with the exposed larvae and sealed cell.

References

- Barthelemy, C. (2008). *Provisional Guide to The Social Vespids of Hong Kong* (Hymenoptera: Vespidae), Rev. M, April 2010, 132pp <<http://insectahk.com/HK-Vespids.Rev.M%20Web.pdf>> Accessed on 10 December 2016.
- Barthelemy, C. (2009). Notes on Biology and nests of a hover wasp, *Eustenogaster nigra* (Vespidae: Stenogastrinae), in Hong Kong. *Hong Kong Entomological Bulletin* 1(2): 26–31.
- Bingham, C.T. (1897). *The Fauna of British India, including Ceylon and Burma, Hymenoptera, I - Wasps and Bees*. Taylor and Francis, London, 579+i-xxix.
- Das, B.P. & V.K. Gupta (1989). The social wasps of India and the adjacent countries (Hymenoptera: Vespidae). *Oriental Insect Monograph* 11: 1–292.
- Kumar, P.G. & G. Srinivasan (2015). New Distributional Records of *Parischnogaster mellyi* (de Saussure, 1852) (Hymenoptera: Vespidae: Stenogastrinae) from various states of India. *Records of Zoological Survey of India* 115(2): 203–206.
- Nidup, T., T. Gyeltshen, P.G. Kumar, W. Klein & P. Dorji (2016). New records of petiolate potter wasps (Hymenoptera: Vespidae: Eumeninae) from Bhutan. *Journal of Threatened Taxa* 8(12): 9467–9472; <http://doi.org/10.11609/jott.2744.8.12.9467-9472>
- Nguyen, L.T.P. (2016). Comments on "A first list of vespids from Vietnam (Hymenoptera: Vespidae)" by Pham and Li (2015). *TAP CHI HO C* 38(3): 40–7409.
- Saito, F. (2009). New Species of the Hover Wasp Genus *Eustenogaster* (Insecta: Hymenoptera: Vespidae: Stenogastrinae) from Southeast Asia. *Species Diversity* 14: 15–25.
- Saito, F. & J. Kojima (2007). A taxonomic revision of the hover wasp genus *Eustenogaster* van der Vecht (Insecta: Hymenoptera; Vespidae, Stenogastrinae). *Zootaxa*, 1556: 1-30.
- Saito, F., L.T.P. Nguyen, J.M. Carpenter & J. Kojima (2006). A new *Eustenogaster* species (Hymenoptera: Vespidae: Stenogastrinae), the first Hover Wasp known to overwinter on the nest. *American Museum Novitates* 3534: 1–11.
- Saito, F., L.T.P. Nguyen & J. Kojima (2008). Colony cycle of a "temperate" hover wasp, *Eustenogaster nigra*, with special reference to overwintering of males in an enveloped nest together with virgin females (Hymenoptera, Vespidae, Stenogastrinae). *Insectes Sociaux* 56: 49–54; <http://doi.org/10.1007/s00040-008-1036-z>
- Srinivasan, G. & P.G. Kumar (2009). Taxonomic studies of the Hover Wasps (Hymenoptera: Vespidae; Stenogastrinae) of Arunachal Pradesh, India. *Records of Zoological Survey of India* 109(3): 37–40.



OPEN ACCESS



The Journal of Threatened Taxa 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 of articles in any medium, reproduction, and distribution by providing adequate credit to the authors and the source of publication.

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

July 2017 | Vol. 9 | No. 7 | Pages: 10369–10492

Date of Publication: 26 July 2017 (Online & Print)

DOI: 10.11609/jott.2017.9.7.10369-10492

www.threatenedtaxa.org

Communications

The status of Arabian Gazelles *Gazella arabica* (Mammalia: Cetartiodactyla: Bovidae) in Al Wusta Wildlife Reserve and Ras Ash Shajar Nature Reserve, Oman

-- Mansoor H. Al Jahdhami, Sultan Al Bulushi, Haitham Al Rawahi, Waheed Al Fazari, Ahmed Al Amri, AbdulRahman Al Owaisi, Salim Al Rubaiey, Zahran Al Abdulasalam, Metab Al Ghafri, Shaeilendra Yadav, Sami Al Rahbi & Steven Ross, Pp. 10369–10373

On the occurrence of the Black Spine-cheek Gudgeon *Eleotris melanosoma* Bleeker in Sri Lankan waters, with comments on the Green-backed Guavina *Bunaka gyrinoides* (Bleeker) (Teleostei: Eleotridae)

-- Sudesh Batuwita, Sampath Udugampala & Udeni Edirisinghe, 10374–10379

Captive breeding for conservation of Dussumier's Catfish (Actinopterygii: Siluriformes: Clariidae: *Clarias dussumieri*) a Near Threatened endemic catfish of peninsular India

-- K.G. Padmakumar, L. Bindu, P.S. Sreerekha, Nitta Joseph, Anuradha Krishnan, P.S. Manu & V.S. Basheer, Pp. 10380–10385

Influence of seasonal and edaphic factors on the diversity of scolopendromorph centipedes (Chilopoda: Scolopendromorpha) and general observations on their ecology from Kerala, India

-- Dhanya Balan & P.M. Sureshan, 10386–10395

Butterflies of eastern Assam, India

-- Arun P. Singh, 10396–10420

Short Communications

Three noteworthy additions to the flora of the western Himalaya, India

-- Ishwari Datt Rai, Amit Kumar, Gajendra Singh, Bhupendra Singh Adhikari & Gopal Singh Rawat, 10421–10425

New distribution records of three *Sarcophyton* species (Alcyonacea: Alcyoniidae) in Indian waters from Andaman Islands

-- Seepana Rajendra, C. Raghunathan & Tamal Mondal, 10426–10432

Additions to the Indian dragonfly fauna, and new records of two enigmatic damselflies (Insecta: Odonata) from northeastern India

-- Shantanu Joshi, Joyce Veino, Dahru Veino, Lightson Veino, Rakoveine Veino & Krushnamegh Kunte, Pp. 10433–10444

Dragonflies and Damselflies (Odonata: Insecta) of Keoladeo National Park, Rajasthan, India

-- Dheerendra Singh, Brijendra Singh & Jan T. Hermans, Pp. 10445–10452

Records of the Indian Sand Snake *Psammophis condanarus* (Merrem, 1820) (Reptilia: Lamprophiidae) in southern India

-- S.R. Ganesh, Vivek Sharma & M. Bubesh Guptha, Pp. 10453–10458

An ecological note on the new record of *Cuora amboinensis* (Riche in Daudin, 1801) (Reptilia: Testudines: Geoemydidae) in northeastern India

-- Kulendra Chandra Das & Abhik Gupta, Pp. 10459–10462

A new distribution record of the European Free-tailed Bat *Tadarida teniotis* (Chiroptera: Molossidae) from the western Himalaya, India

-- Rohit Chakravarty, Pp. 10463–10467

Measuring Indian Blackbuck *Antelope cervicapra* (Mammalia: Cetartiodactyla: Bovidae) abundance at Basur Amruth Mahal Kaval Conservation Reserve, Chikkamagaluru, southern India

-- H.S. Sathya Chandra Sagar & P.U. Antony, Pp. 10468–10472

Notes

A new species of *Sarcinella* (Ascomycetes) from Eturnagaram Wildlife Sanctuary, Warangal District, Telangana, India

-- Khaja Moinuddin Mohammad, Bagyanarayana Gaddam & Rana Kausar, Pp. 10473–10475

Re-collection of the Black Catchfly *Silene nigrescens* (Caryophyllales: Caryophyllaceae) after 130 years from Indian western Himalaya

-- Satish Chandra, D.S. Rawat & P.K. Pusalkar, Pp. 10476–10479

Eight new records of the family Erebiidae (Lepidoptera: Noctuoidea) from India

-- Jagbir Singh Kirti, Navneet Singh & Harkanwal Singh, Pp. 10480–10486

New records of hover wasps (Hymenoptera: Vespidae: Stenogastrinae) from Bhutan

-- Tshering Nidup, Wim Klein & Phurpa Dorji, Pp. 10487–10489

Addition of four species to the butterfly checklist of Kaleshwar National Park, Haryana, India

-- Sachin P. Ranade, Pp. 10490–10492