

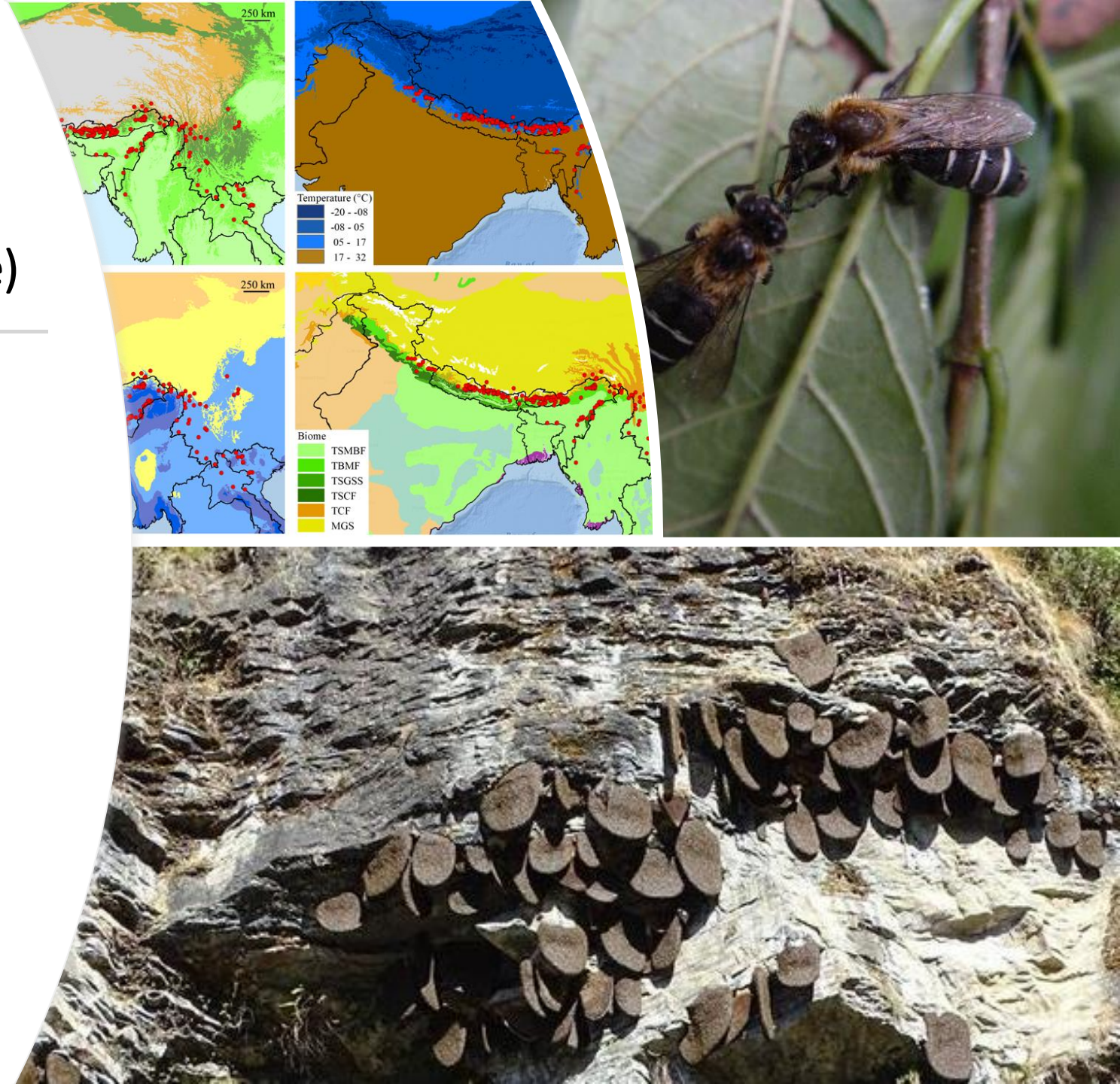
# Geographical distribution of the giant honeybee *Apis laboriosa* Smith, 1871 (Hymenoptera, Apidae)

- Nyaton Kitnya, M.V. Prabhudev, Chet Prasad Bhatta4, Thai Hong Pham, Tshering Nidup, Karsing Megu, Jharna Chakravorty, Axel Brockmann, Gard W. Otis

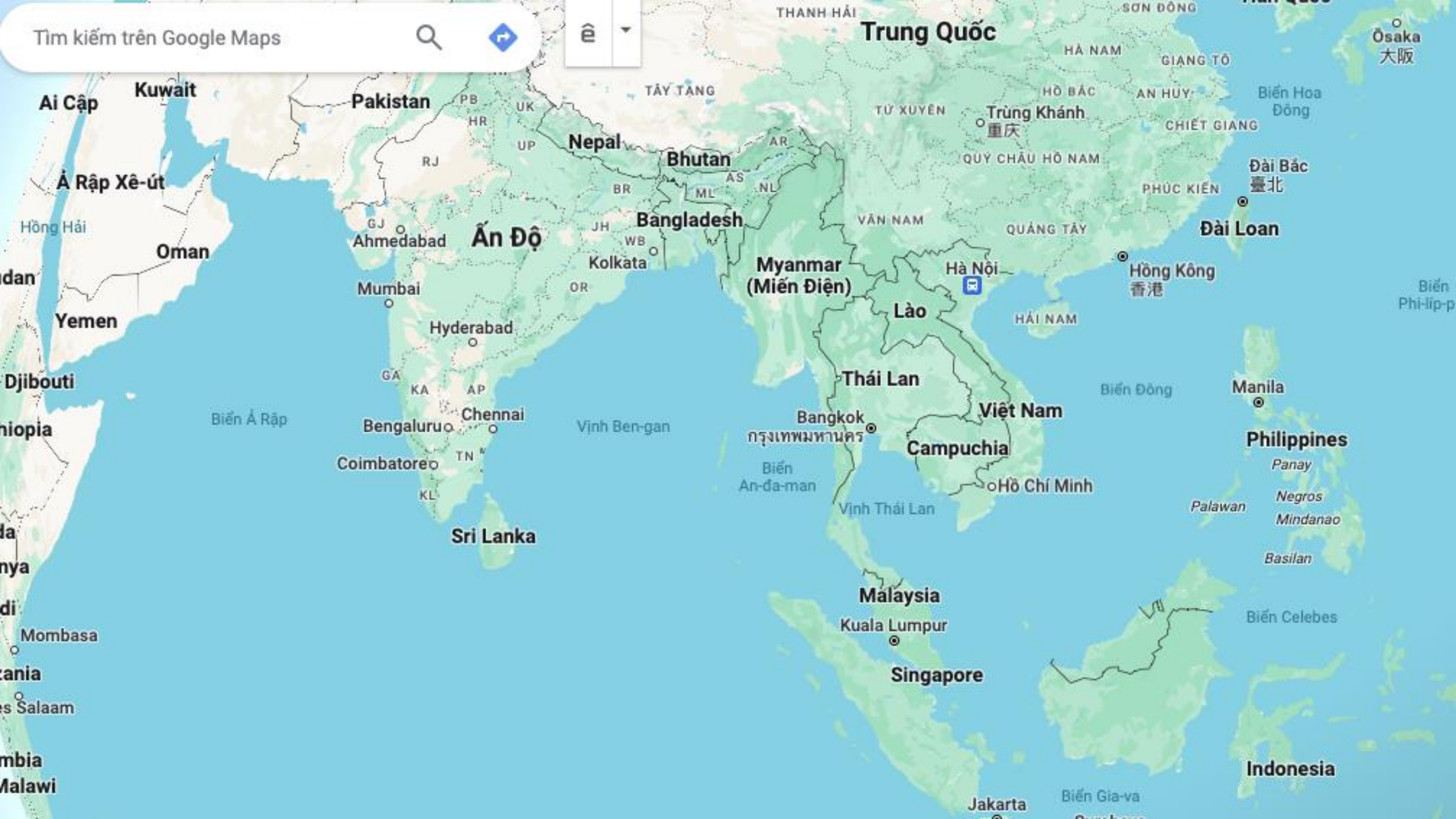
- ZooKeys 951: 67–81 (2020) doi: 10.3897/zookeys.951.49855

- WhatsApp: (+84)904147845

- Email: [phthai@vnua.edu.vn](mailto:phthai@vnua.edu.vn)/[phthaihua@gmail.com](mailto:phthaihua@gmail.com)



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Myanmar (Miến Điện)

Lào

Thái Lan

Việt Nam

Campuchia

Sri Lanka

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Singapore

Philippines

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臺北

Đài Loan

Hồng Kông  
香港

Manila

Panay

Negros

Mindanao

Basilan

Biển Celebes

Jakarta

Biển Gia-va

Indonesia

Biển Ả Rập

Vịnh Ben-gan

Biển An-đạ-man

Vịnh Thái Lan

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THÁI LAN

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กรุงเทพมหานคร

Biển An-đạ-man

Vịnh Thái Lan

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Hồ Chí Minh

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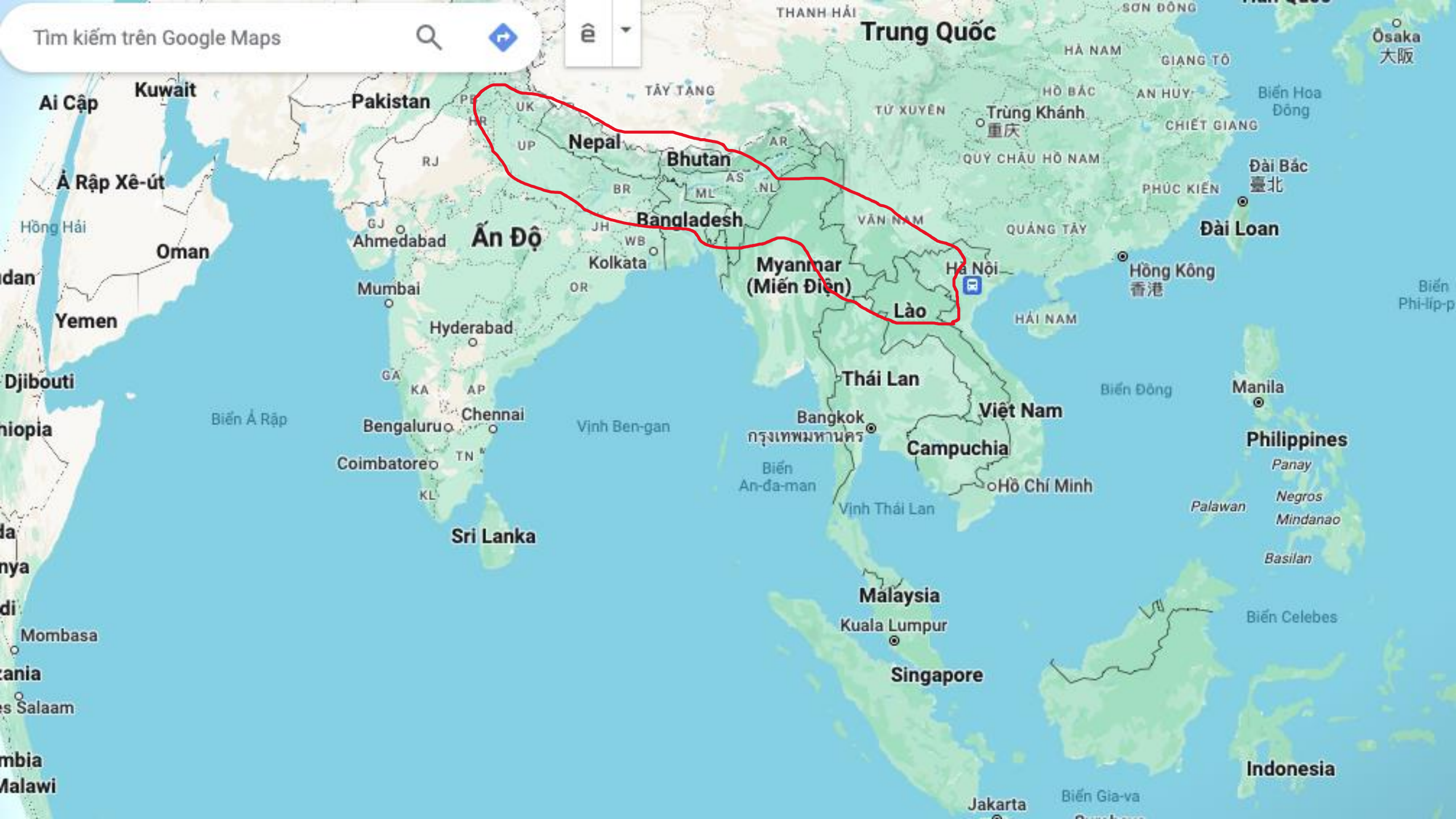
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Djibouti

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Rwanda

Zambia

Malawi

THANH HẢI

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QUÝ CHÂU HỒ NAM

PHÚC KIẾN

QUẢNG TÂY

HẢI NAM

Biển Ả Rập

Vịnh Ben-gan

Biển An-đà-man

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Coimbatore

Sri Lanka

Mumbai

Hyderabad

Ahmedabad

Kolkata

Hà Nội

Hồng Hải

Iran

Etiopia

Etiopia

Kenya

Uganda

Rwanda

Zambia

Malawi

Biển Phi-líp-p



Distinguish  
between

*Apis laboriosa*



And

*Apis dorsata*



# Interview a honey hunter and collect bee death samples



Home Insert Draw Page Layout Formulas Data Review View Tell me

Paste Times New Roman 12 A A B I U Merge & Center General Conditional Formatting Format as Table Cell Styles Insert Delete Format Sort & Filter Find & Select Analyze Data

1353 fx THP

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Country	Province	District	Locality	Latitude	Longitude	Elevation	Date	Type of Data	Source of Information	Legend	With A. dorsata			
2									1= Author's Observation						
3									2=Photo from websites						
4									3=Publications						
5									4= Pers. comm.						
6															
7	hutan	Bumthang		Lake Tang Memba Tso, N	27.54	90.812	2600m		3	Otis 1996 (SFS)					
8	hutan	Bumthang		Near Jakar	27.566	90.738	2600 m		3	Woyke et.al. (2012)					
9	hutan	Bumthang		Tang Valley	27.624	90.878	2800 m		3	Woyke et.al. (2012)					
10	hutan	Lhuntse		"Lhunsi Dzong", in Lhun	27.666	91.186				No record of source of info					
11	hutan	Lhuntse		Monbi (S. of Lhuntse, E.	27.59	91.174			2	L. Shyamal, iNaturalist					
12	hutan	Punakha		Punakha Dzong, Punakha	27.582	89.863	1200 m		2	Numerous photos, web search for "Punakha Dzong"					
13	hutan	Timphu		Botanic Gardens, Serbitu	27.425	89.65	2400 m	12 II 2018	2	Biodiversity of Bhutan portal: Danielle Northey, pers. comm.					
14	hutan	Timphu		Near Dochula Pass	27.49	89.747	3108 m		3	Woyke et.al. (2012)					
15	hutan	Timphu		Thimphu	27.478	89.638	~2500 m	IX 1985	3	Otis (1996) - NHMUK					
16	hutan	Trashigang		Khaling	27.218	91.573		4 IV 2019	2	Brian Johnson, iNaturalist					
17	hutan	Trashigang		Road between Trashigang	27.145	91.57		12 V 2012	2	Kasia Nowak, commercial photo on Alamy					
18	hutan	Trashiyangtse		Yalang-Ramjar Rd., just N	27.51	91.581		22 IV 2013,	2	Markuslilje & Bhutan Biodiversity Portal, iNaturalist					
19	hutan	Trongsa		Bumthang-Ura Hwy-5 km	27.456	90.392	2480 m		2	Wim deGroot, pers. comm., 12 Apr. 2019					
20	hutan	Yangtse		Ramjar	27.517	91.586		3 VI 2018	2	Tandinwangchukl, iNaturalist					
21	hutan	Zhemgang		Trong	27.087	90.644		14 IV 2019	2	Cheong Weei Gan, iNaturalist					
22	hutan	Sarpang district (Chaplechu)		road between Gelephu and	27.028	90.619	1800m		4	Photo by Yeshey Dorji, 600m SW of western boundary of Royal Manas Nat. Park.					
23	hutan	Wangdi Phodrang		Tangchen, Phobjikha	27.43	90.22	2984 m		3	Nidup et al. (2016)					
24	hutan	Chhukha		Chapcha	27.15	89.54			3	Nidup et al. (2016)					
25	hutan	Trongsa		Langthil (South of trongsa	27.328	90.456		24 XII 2018	2	Guestgame (suspended user), iNaturalist					
26	hutan	Lhuntse		Menbi	27.557	91.162		22 IV 2013	2	Marcus Lilje, iNaturalist					
27	hutan	Phodrang		Khelekha, Wangdue	27.531	90.162		29 XII 2015	2	Josep del Hoyo, the Internet Bird Collection: www.hbw.com/ibc					
28	hutan	Thimphu		Begana	27.585	89.632		7 IV 2012	4	Greg Baker, the Internet Bird Collection: www.hbw.com/ibc					
29	hutan	Bhumtang	Bhumtang	Byakar Dzong	27.552	90.739	2697m	1973	3	USNM					
30	hutan	Tongsa	Tongsa	Gangl Pkte rd. ex Tongsa	27.487	90.339	2499m	1973	3	USNM					
31	hutan	Paro	Paro	Paro	27.422	89.435	2896m	1972	3	USNM					
32	hutan	Central Provi	Sarpang	Honey Rock, Road from	26.982	90.403	1829m	1973	3	USNM					
33	hutan	Trashigang		Kanglung	27.285	91.521	1823m		1	TN					
34	hutan	Trashigang		Yonphula	27.289	91.585	2274m		1	TN					
35	hutan	Trashigang		Rangshingkar Gonpa	27.289	91.585	2830m		1	TN					
36	hutan	Bumthang		Lamai Gonpa	27.541	90.726	2826m		1	TN					
37	hutan	Thimphu		Taba	27.517	89.642	2379m		1	TN					
38	hutan	Trashigang		Doksum	27.448	91.573	864m		1	TN					

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B I U

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General

Merge & Center

Conditional Formatting Format as Table Cell Styles

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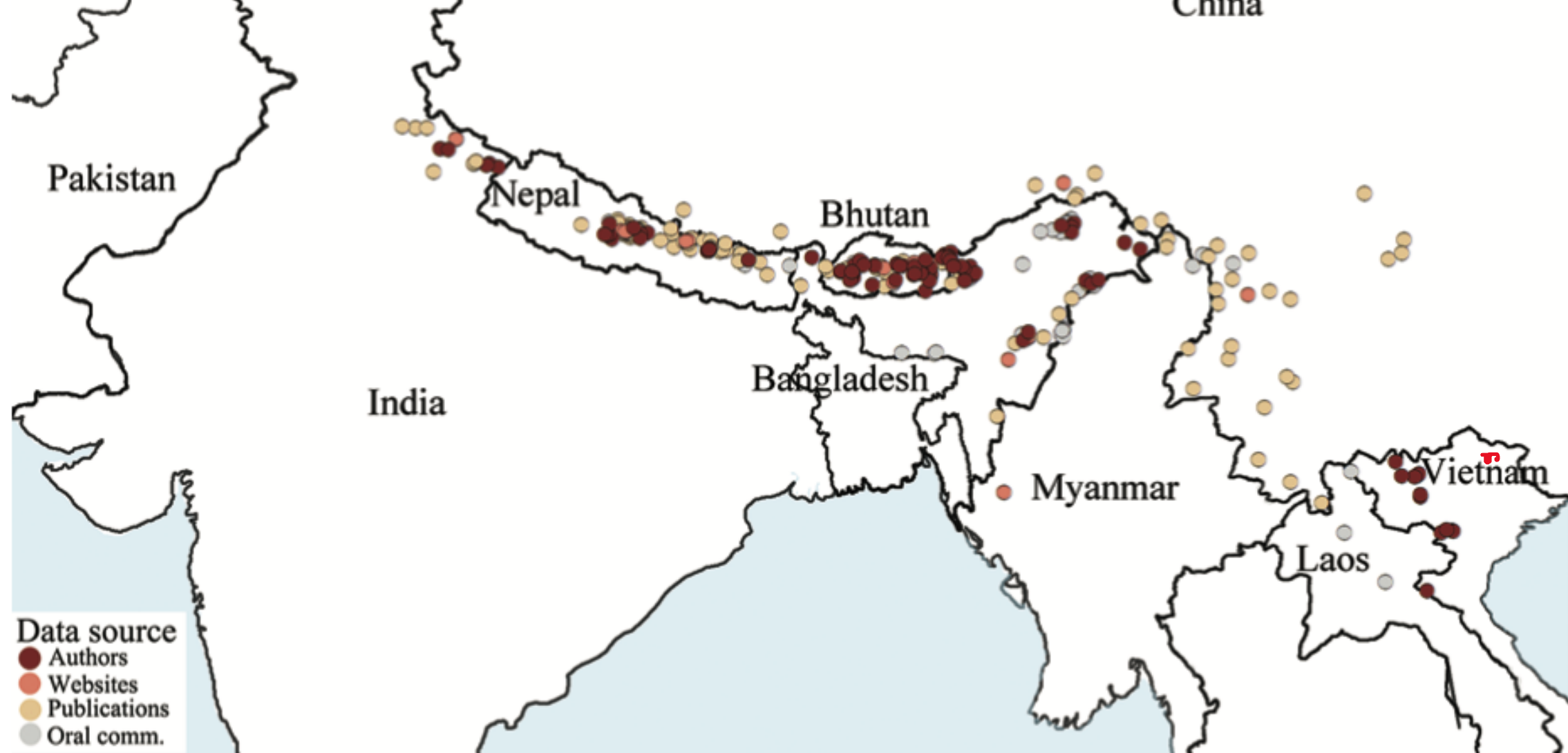
Sort & Filter Find & Select

Analyze Data

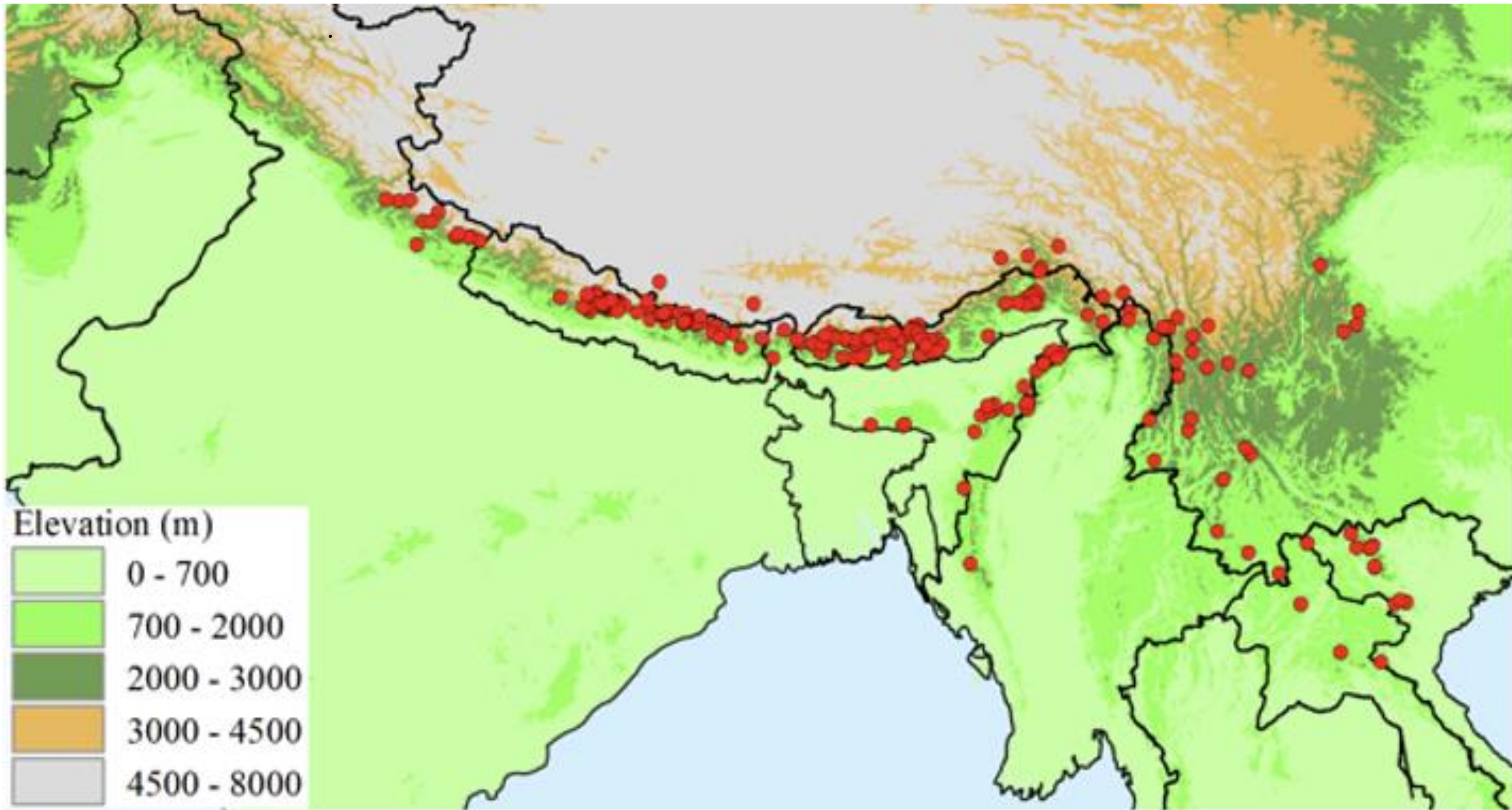
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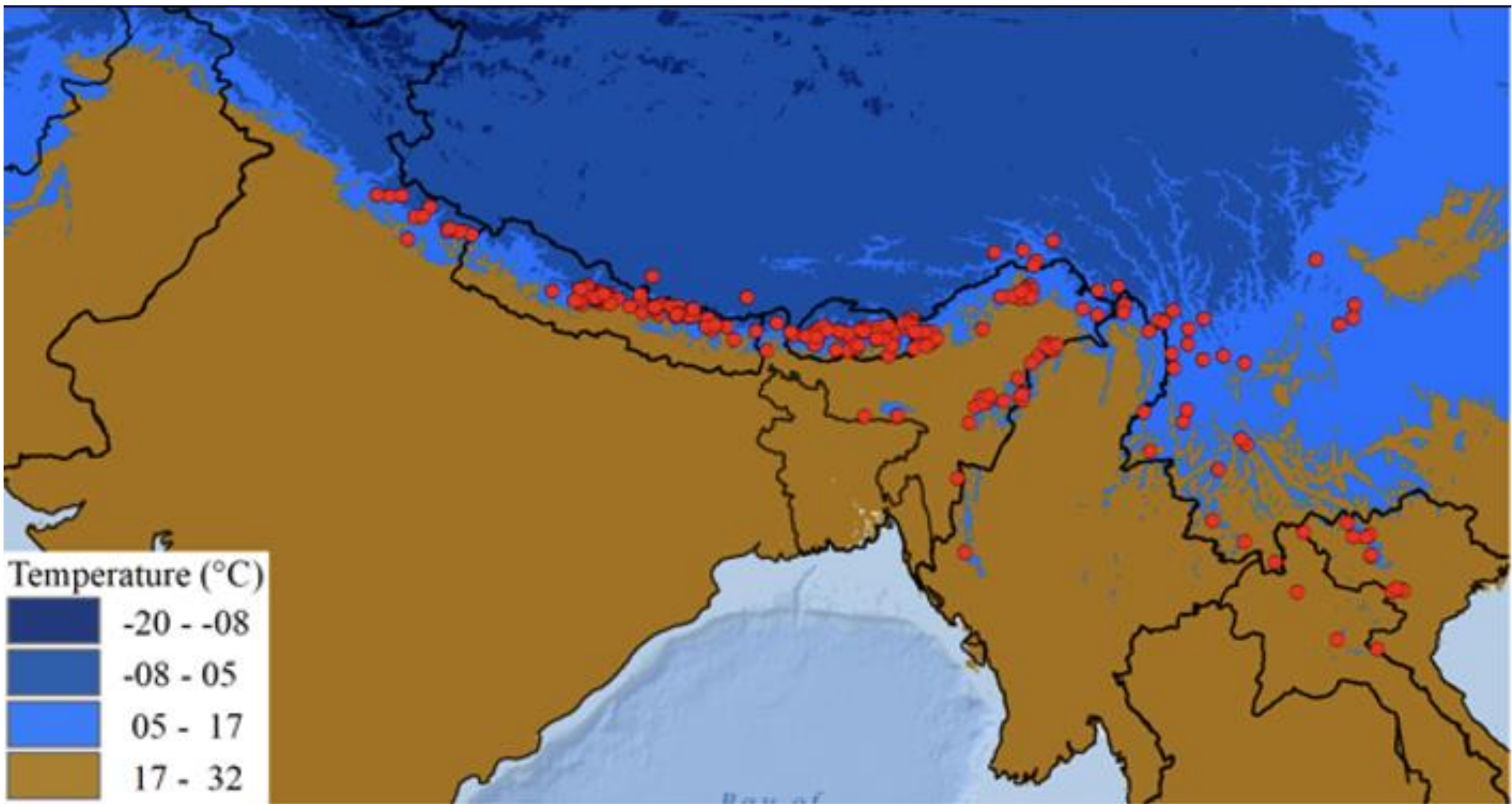
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1															
2	<b>Vietnam</b>	<b>Provinces</b>	<b>districts</b>	<b>communes</b>	<b>Latitude</b>	<b>Longitude</b>		<b>SAMPLE</b>	<b>SEE NEST</b>	<b>FROM HUNTERS</b>		<b>STORING</b>	<b>Date</b>		
3		Lao Cai	Sapa	Nam Cang	22,199	104,045		X	X			VNUA	2019		
4			Van Ban	Nam Xe	22,137	103,976				X			2019		
5															
6		Lai Chau	Tan Uyen	Ho Mit	22,117	103,934			X				2002-2008		
7				Nam So	22,130	103,611			X				2002-2008		
8			Phong Tho	Sin Suoi Ho	22,502	103,545		X	X			BRDC	2002-2008		
9															
10		Dien Bien	Muong Nhe	Leng Su Sin	22,245	102,309				X			2002-2008		
11															
12		Yen Bai	Mu Cang Chai	Che Tao	21,666	104,079		X				BRDC	2002-2008		
13															
14		Son La	Muong La	Nam Pam	21,613	104,075		X				BRDC	2002-2008		
15			Moc Chau	Chieng Son	20,686	104,614		X	X			BRDC	2002-2008		
16				Loong luong	20,775	104,736		X	X			BRDC	2002-2008 and 2019		
17															
18		Hoa Binh	Mai Chau	Hang Kia	20,751	104,877		X	X			BRDC	2002-2008		
19				Pa Co	20,732	104,918		X	X			BRDC	2002-2008		
20															
21		Nghe An	Ky Son	Nam Cam	19,209	104,245				X			2018		
22															
23		Cao Bang	Nguyen Binh	Quang Thanh	22°35'21"	105°55'10"		x	x			BEETECH	2021		
24															
25															

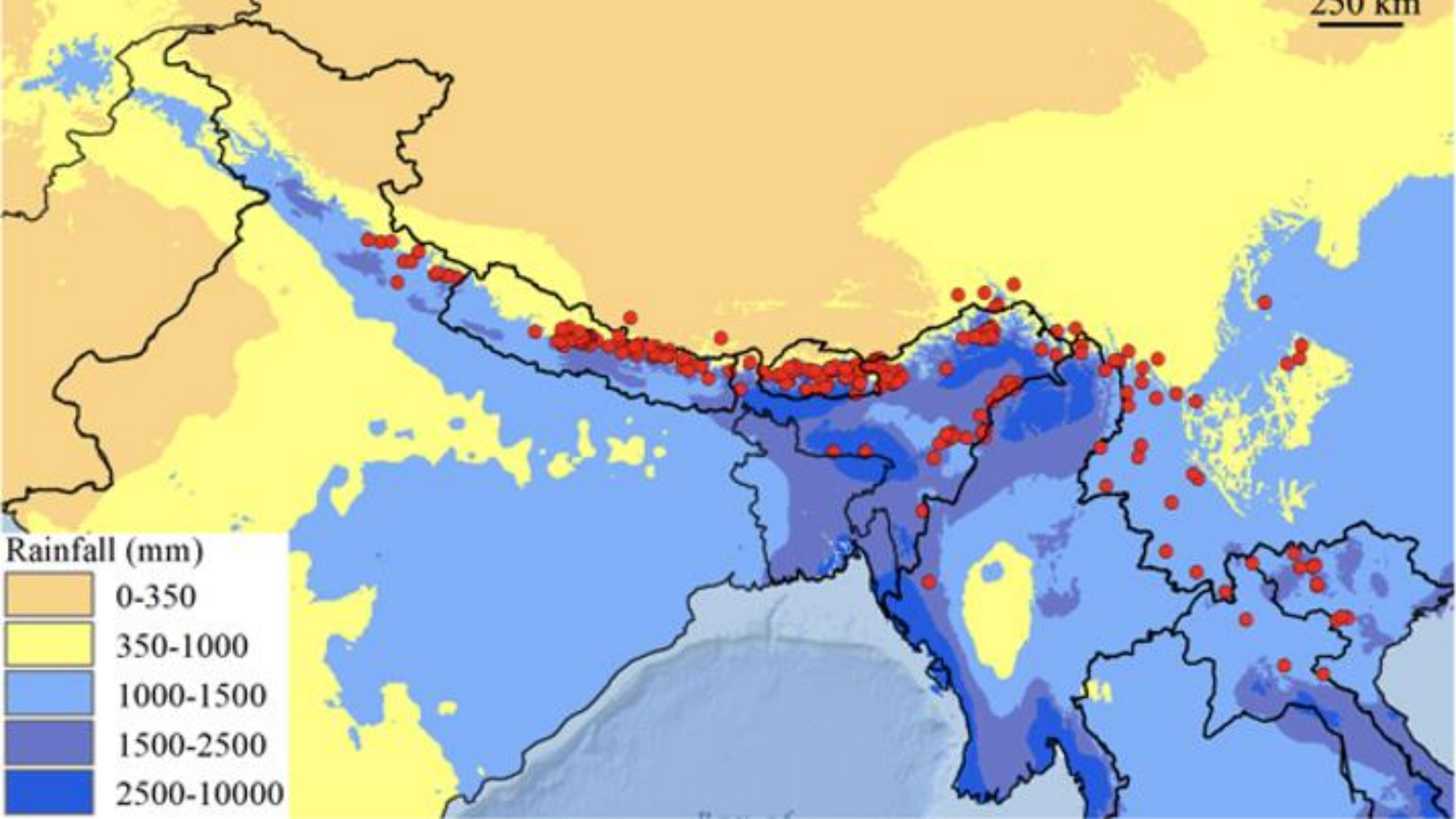


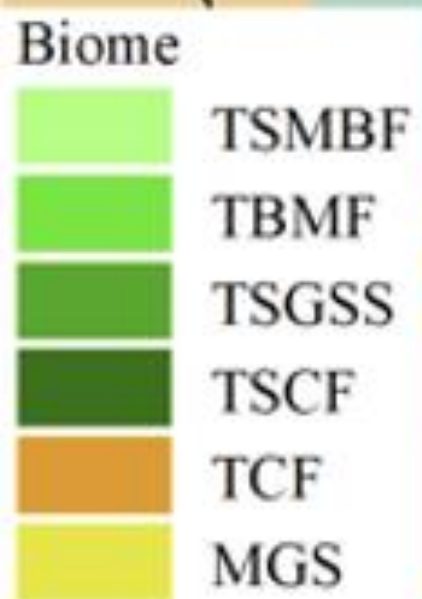
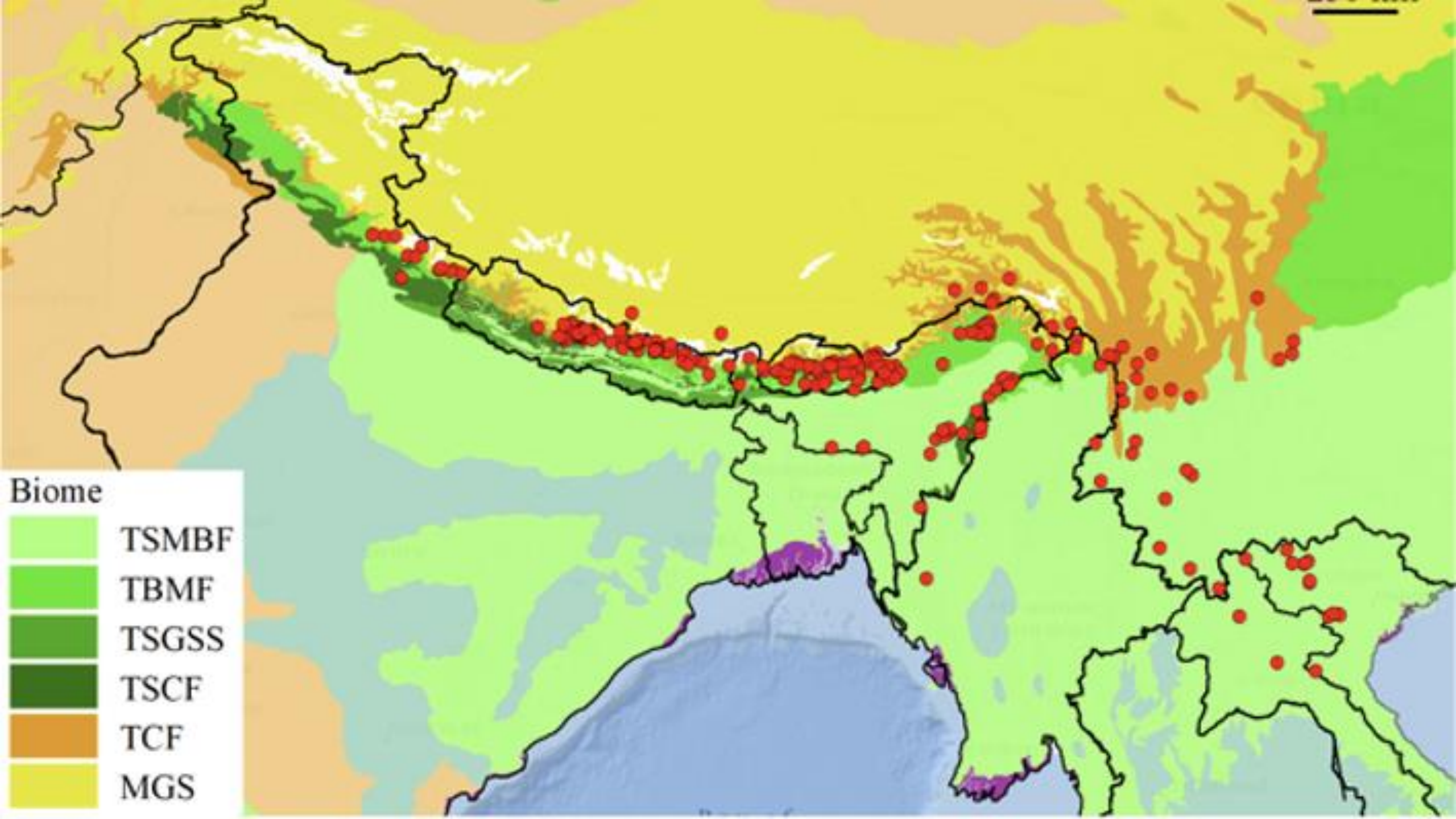


**Figure 2.** Geographical distribution of *Apis laboriosa*. Each circle indicates a locality at which a nest of *A. laboriosa* or workers foraging on flowers were found. The color indicates the source of information. Dark red: information collected by one or several of the authors; orange: photos published on websites; tan: information from published papers; and grey: oral reports by colleagues or local people. Scale bar: 250 km.

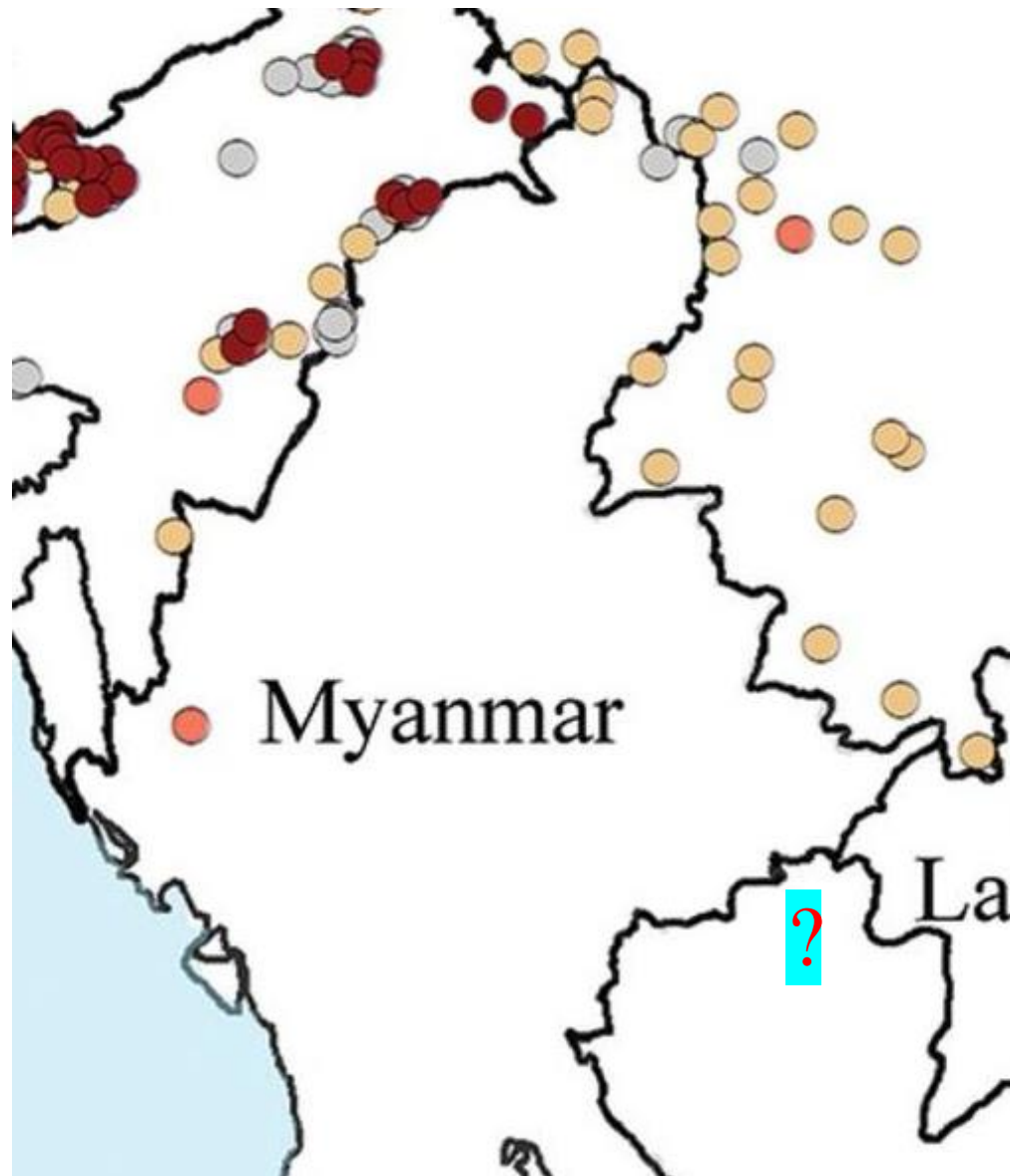


















## Conservation for sustainable use of the *Apis laboriosa* Smith in Northwest of Vietnam

Ecosystems Grants  
Programme

**EGP**  
THE NETHERLANDS

The map of project area



A close-up photograph of a white lotus flower with a yellow center, with a bee on it. The image is overlaid with a dark, semi-transparent filter. The text "Thank you for attention!" is centered in white.

Thank you for attention!