

My hunt for the wild mushrooms....with BSI



Aug., 1999

Kanad Das

Scientist 'D', Cryptogamic Unit, Howrah

at Central National Herbarium, on 14.02.2017

FUNGI

1. A monophyletic clade being sister to the Animal Kingdom
2. Heterotrophic organisms; mostly hyphal
3. With parasitic, saprophytic and symbiotic mode of nutrition
4. Spore bearing, achlorophyllous
5. Cell wall normally of chitin (not cellulosic)
6. Mode of reproduction: sexual and asexual

Mushrooms

Russulales, Agaricales,
Boletales, Cantharellales,
Polyporales, Tremellales,
Hymenochaetales,
Auriculariales, Gomphales,
etc.
Helotiales, Pezizales,
Xylariales etc.



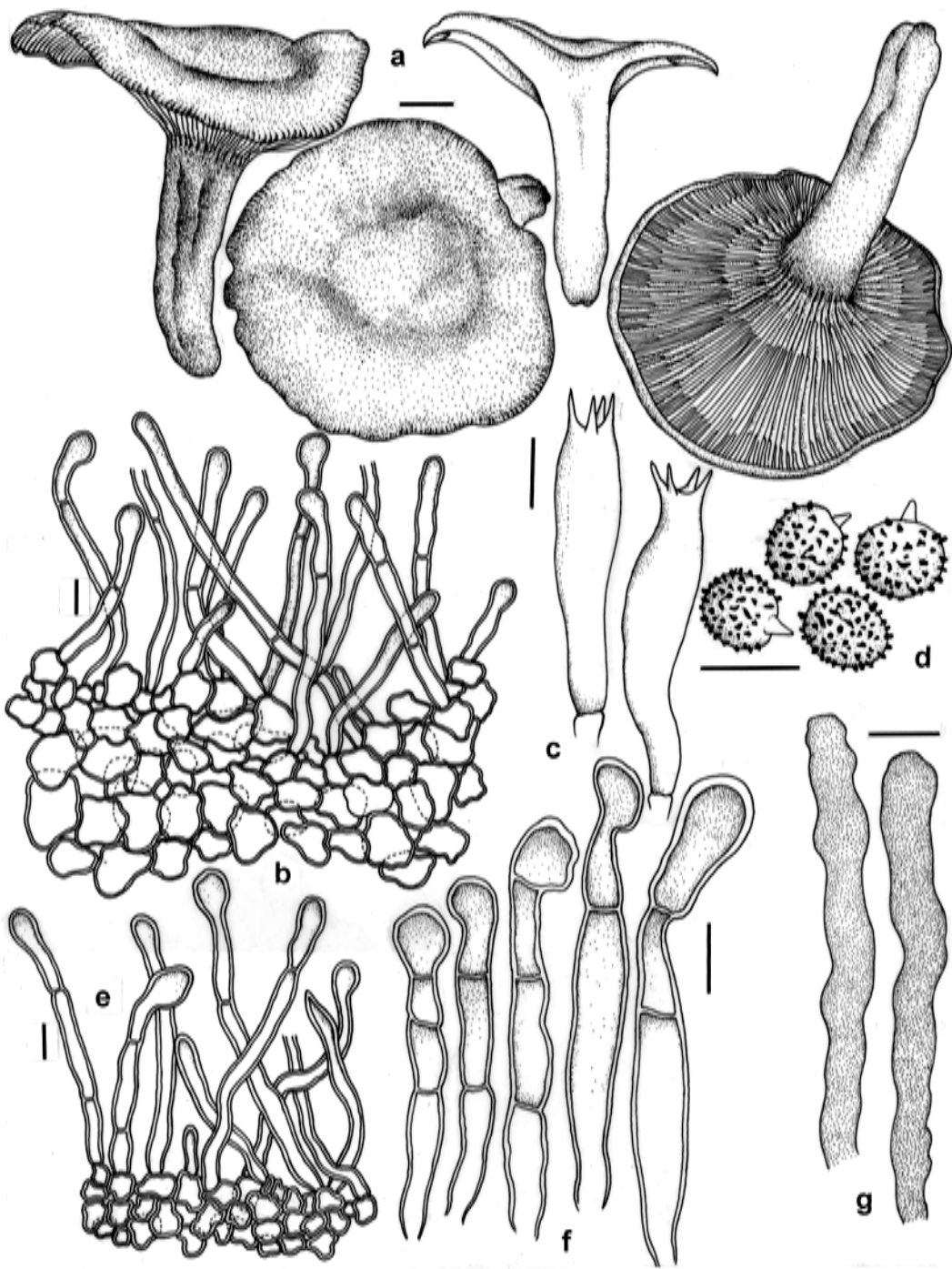
FUNGI

Animalia

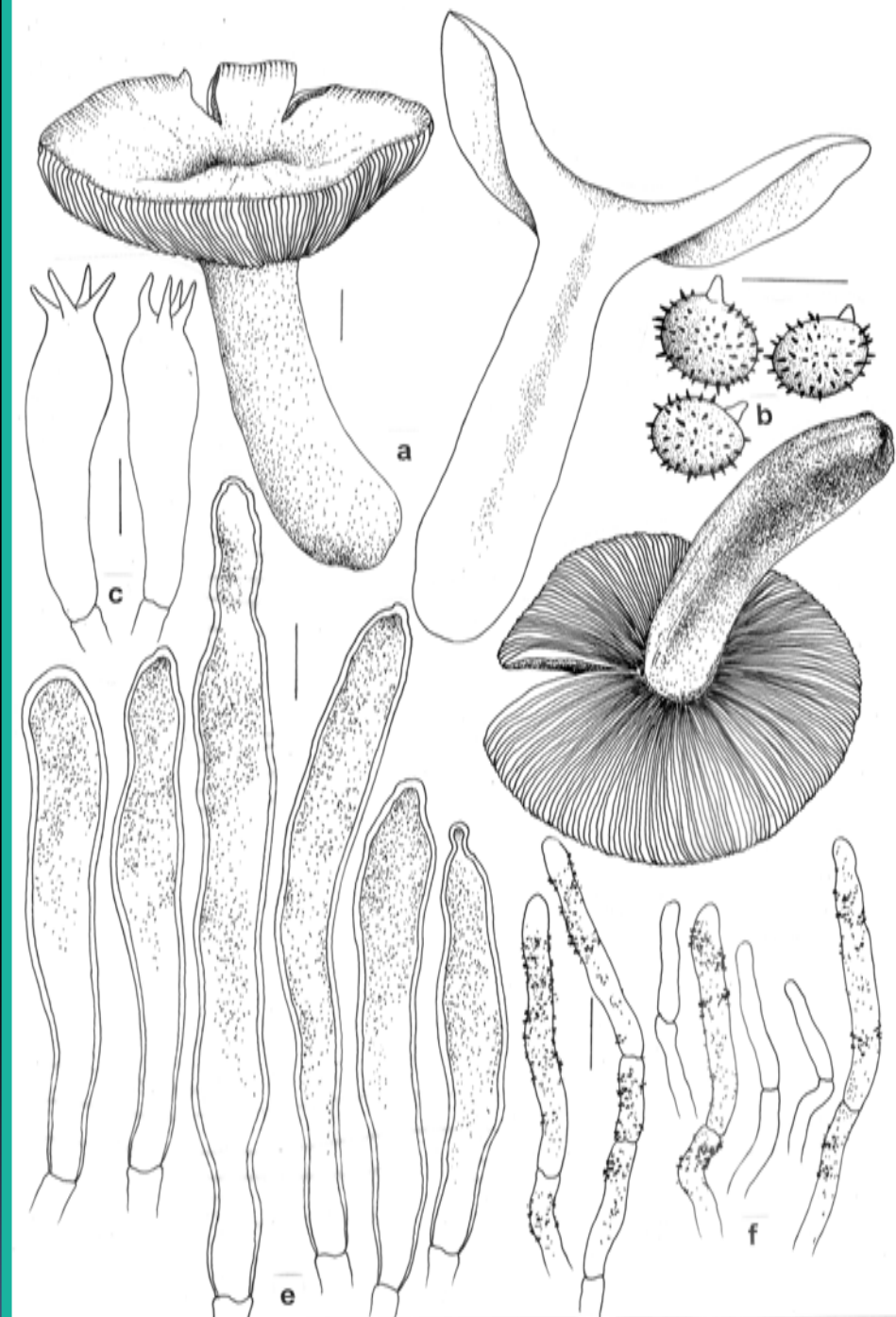
Project 1

Contribution as Junior and Senior Research Fellow

1	Name of the Project	Studies on the family Russulaceae of Kumaon Himalaya
2	Name of Supervisor	Dr. J.R. Sharma
3	Duration	1999 – 2004
4	Macrofungal survey undertaken	48 sites covering 5 districts were surveyed and 210 field nos. were collected
5	Result	Till the study was undertaken only 9 taxa were reported from this family. But, my examination with the collected materials revealed a total of 76 taxa (with detailed morphological details, ecological associations and illustrations). 17 new species , 3 new varieties, 5 new species records to India, 3 new varietal records for India were the significant findings from this project.
6	Report	Duly submitted to the Headquarters in 2004



Lactarius capitatus K. Das, J.R. Sharma
& Montoya (*Mycotaxon*, 2004)

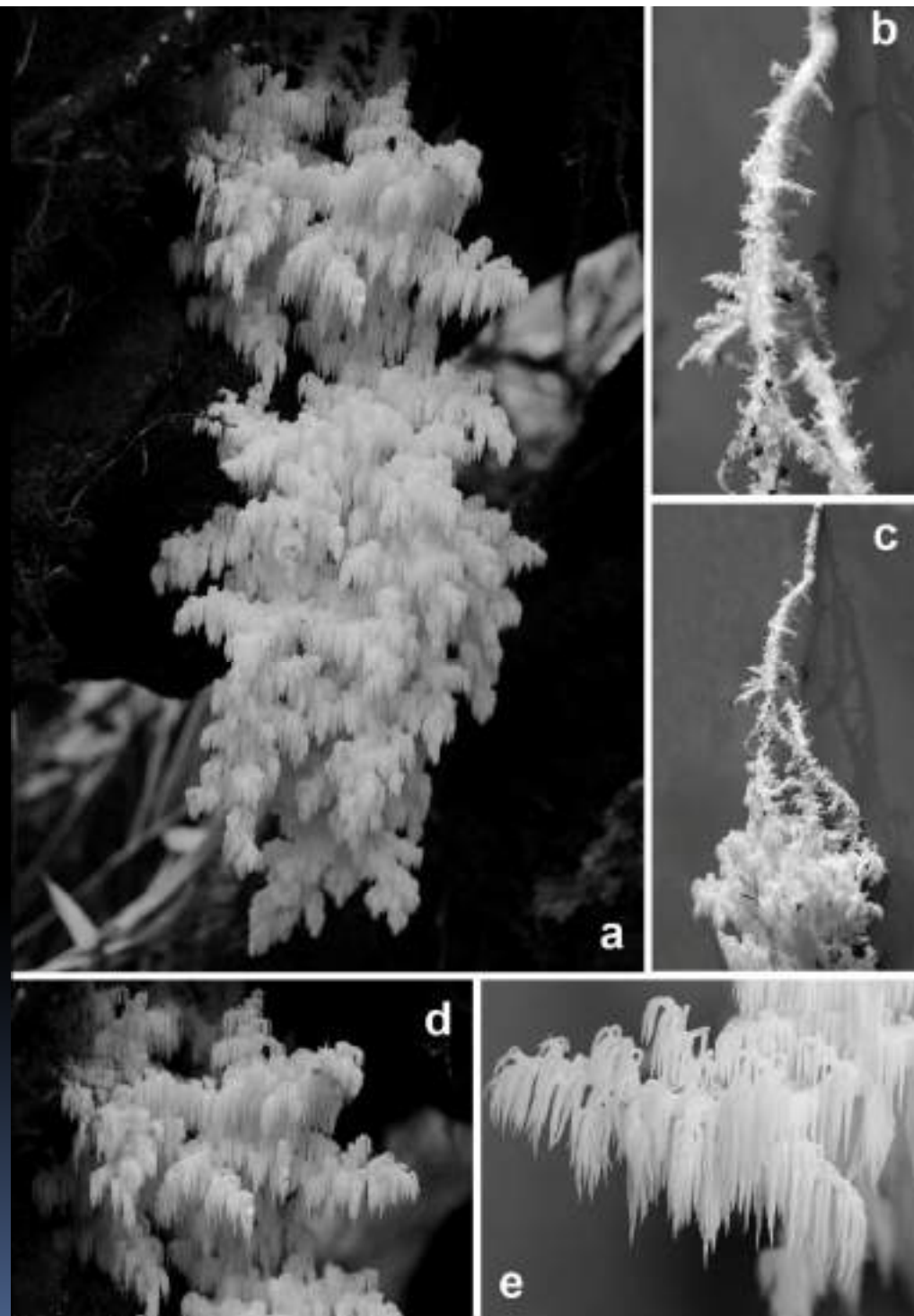


Russula dhakuriana K. Das, J.R. Sharma
& S.L. Mill. (*Mycotaxon*, 2006)

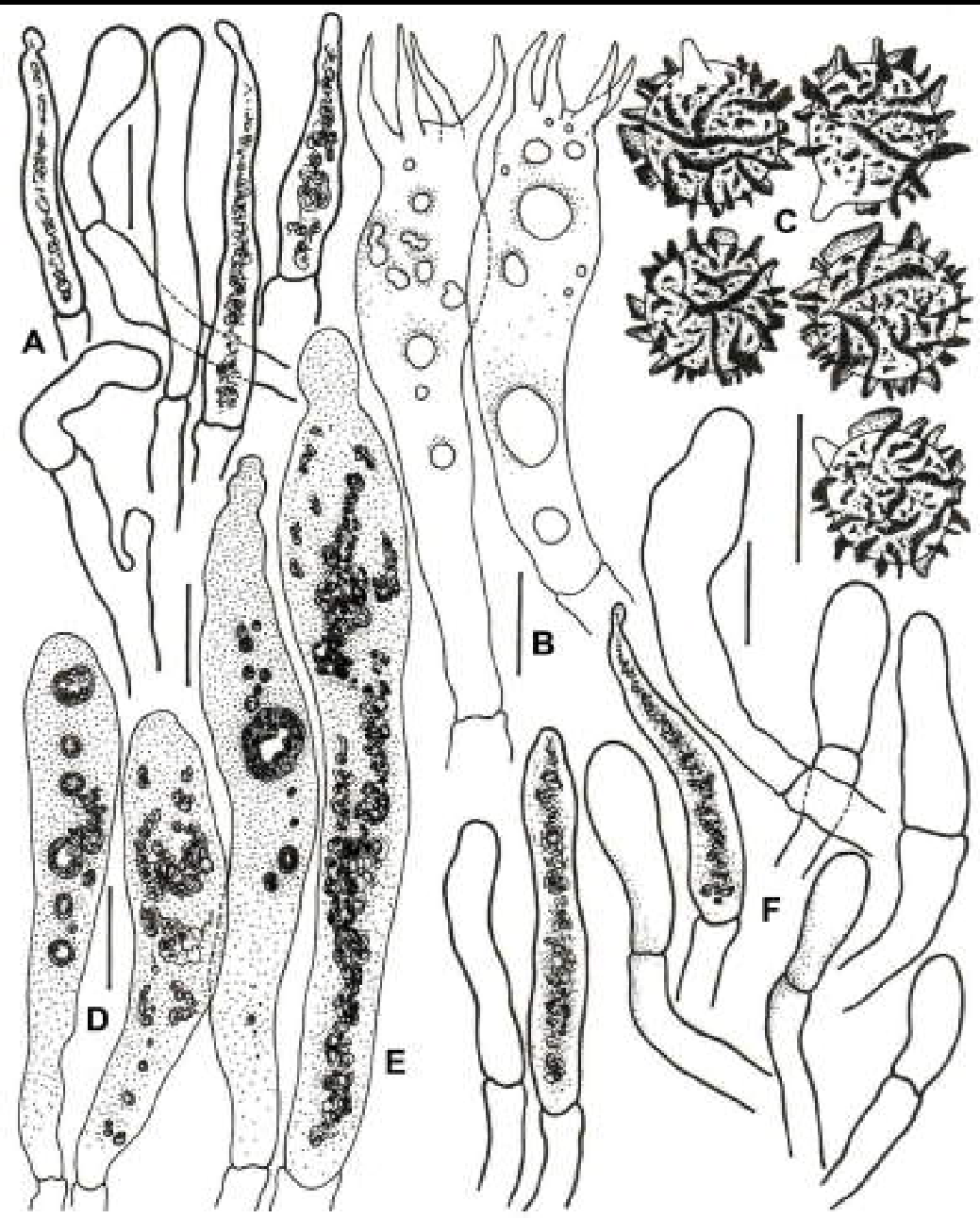
Project 2

Contribution during 2008–2011

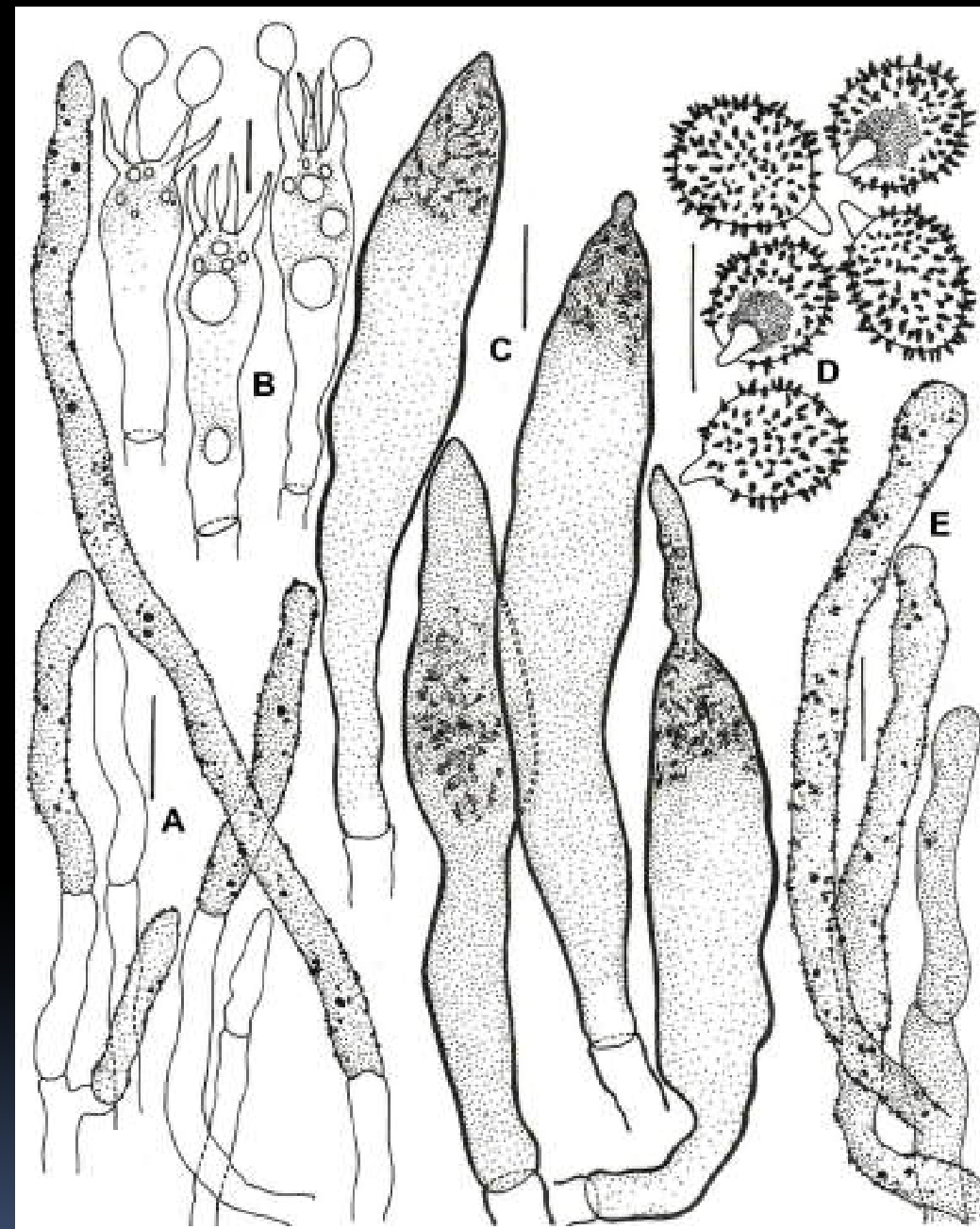
1	Name of the Project	Studies on Russulales of Sikkim Himalaya
2	Name	Dr. Kanad Das
3	Duration	2008 – 2011
4	Macrofungal survey undertaken	Seven forays of 7 to 22 days duration were undertaken during this period and 79 field numbers were collected
5	Result	Examination with the collected materials revealed a total of 2 families, 3 genera, 43 taxa (with detailed morphological details, ecological associations and illustrations). 8 new species (new to science) & 11 new species records to India, were the significant findings from this project.
6	Report	Duly submitted to the Headquarters in 2011



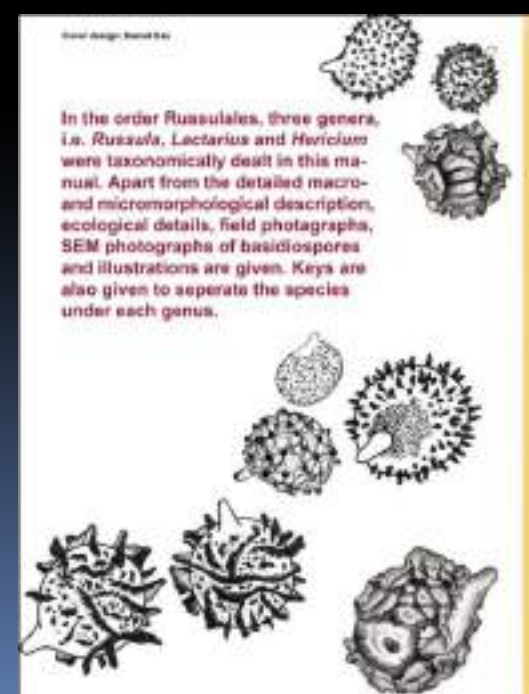
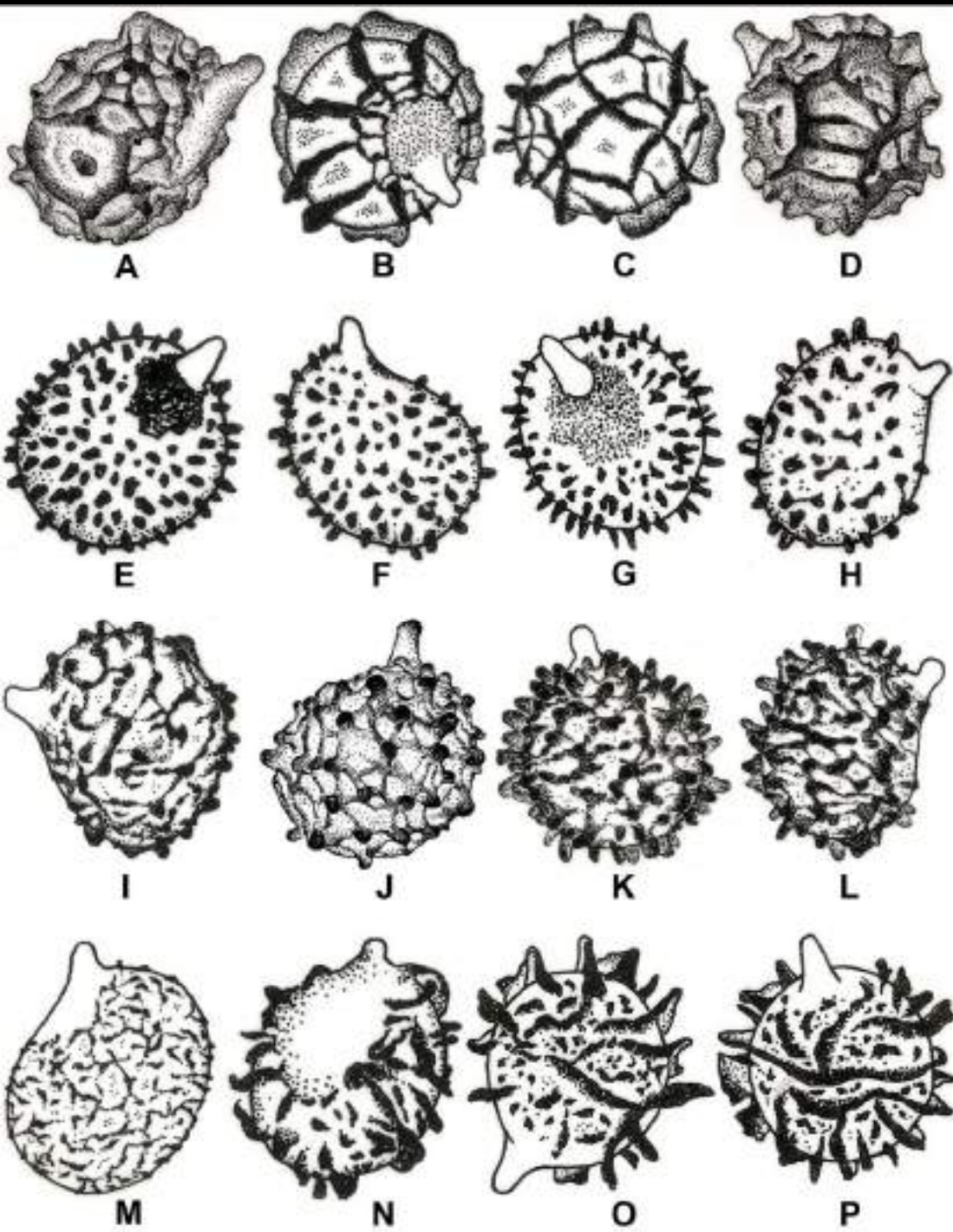
Hericium bharengense K. Das, Stalpers, Eberhardt
Cryptogamie, Mycologie (2011)



Russula tsokae K. Das, Van de Putte & Buyck.



Russula griseocarnosa X.H. Wang, Zhu L. Yang & Knudsen



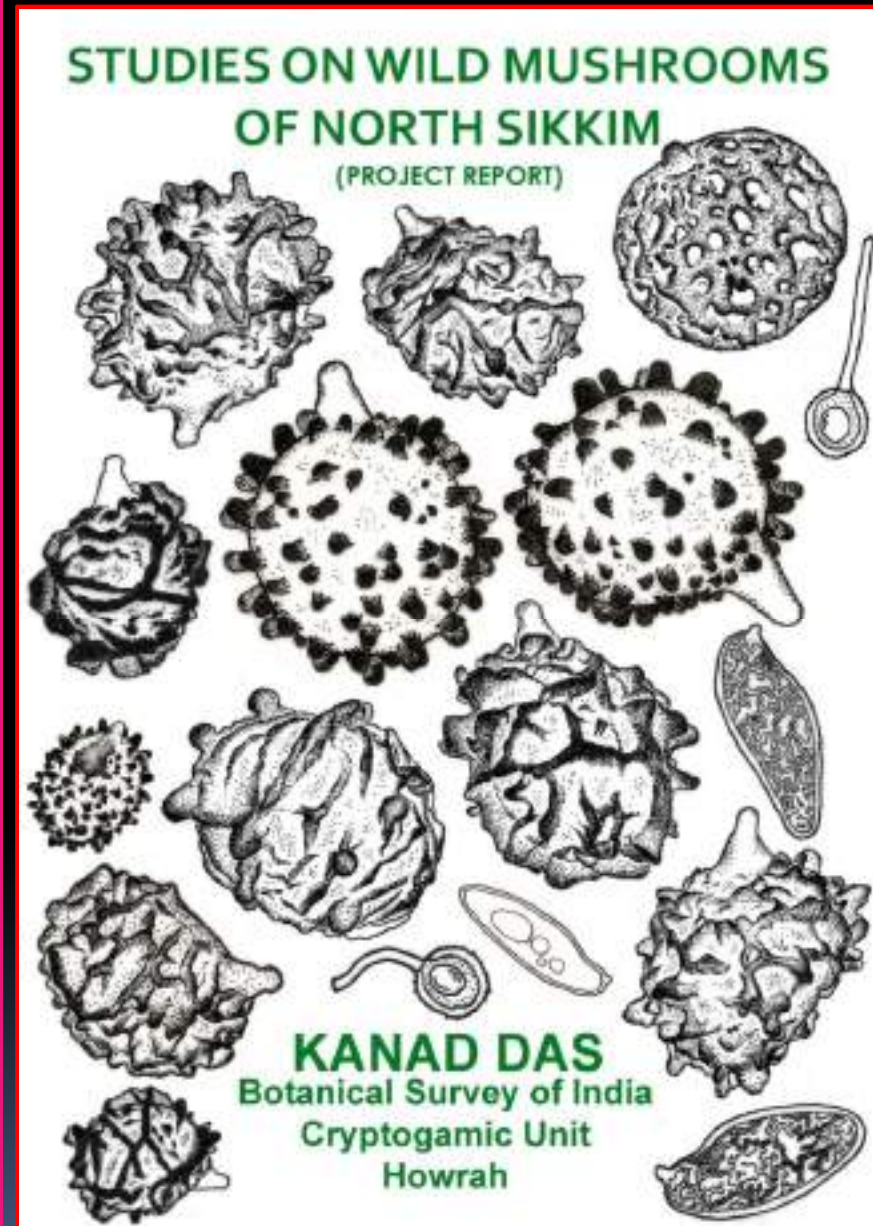
STUDIES ON RUSSULELES OF SIKKIM HIMALAYA, PART I: WEST DISTRICT



KANAD DAS
 Botanical Survey of India
 Sikkim Himalayan Regional Centre
 Gangtok

Project 3

1	Name of the Project	Studies on wild mushrooms of North Sikkim
2	Name of the Scientist	Dr. Kanad Das
3	Duration	2011 – 2014
4	Macrofungal survey undertaken	4 long field trips (duration of 10–21 days) were undertaken in different parts of North Sikkim covering tropical to subalpine areas. 240 field nos. were collected
5	Result	Thorough macro- and micromorphological characterization of 240 collections revealed 36 families, 62 genera and 111 species. 19 new species , 11 new species records to India were the significant findings from this project.
6	Report	Duly submitted to the Headquarters in 2015



North Sikkim: largest district covering 4022 sq. km

Long macrofungal exploration conducted: 4 (2011-2014)

Covered almost all the Climatic zones: Tropical to subalpine regions

Lachen to Zema IV, Samthang, Kalep, Thangu, Kalapathhar

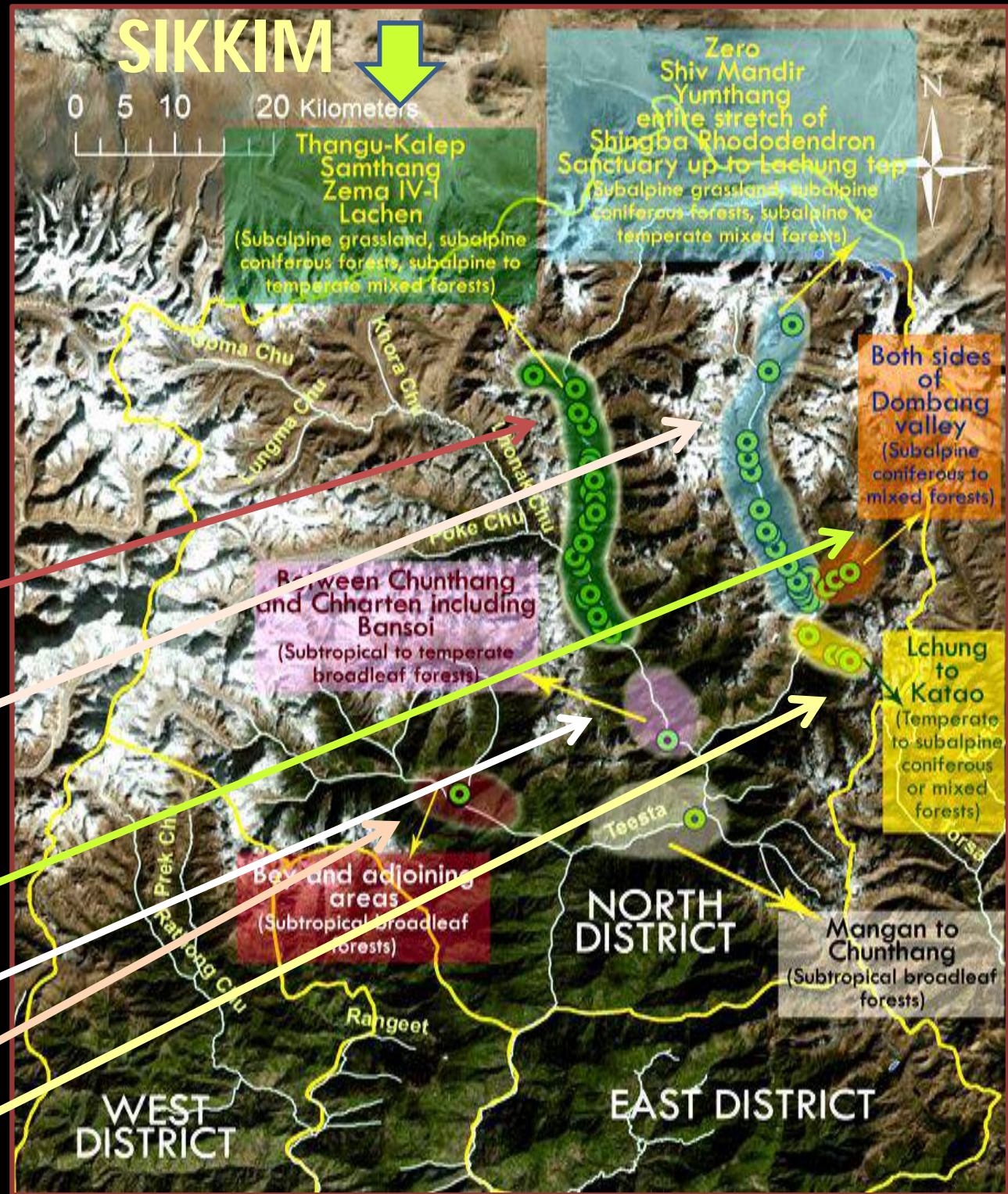
Entire Shingba Rhododendron Sanctuary up to Zero

Both the sides of Dombang valley ...

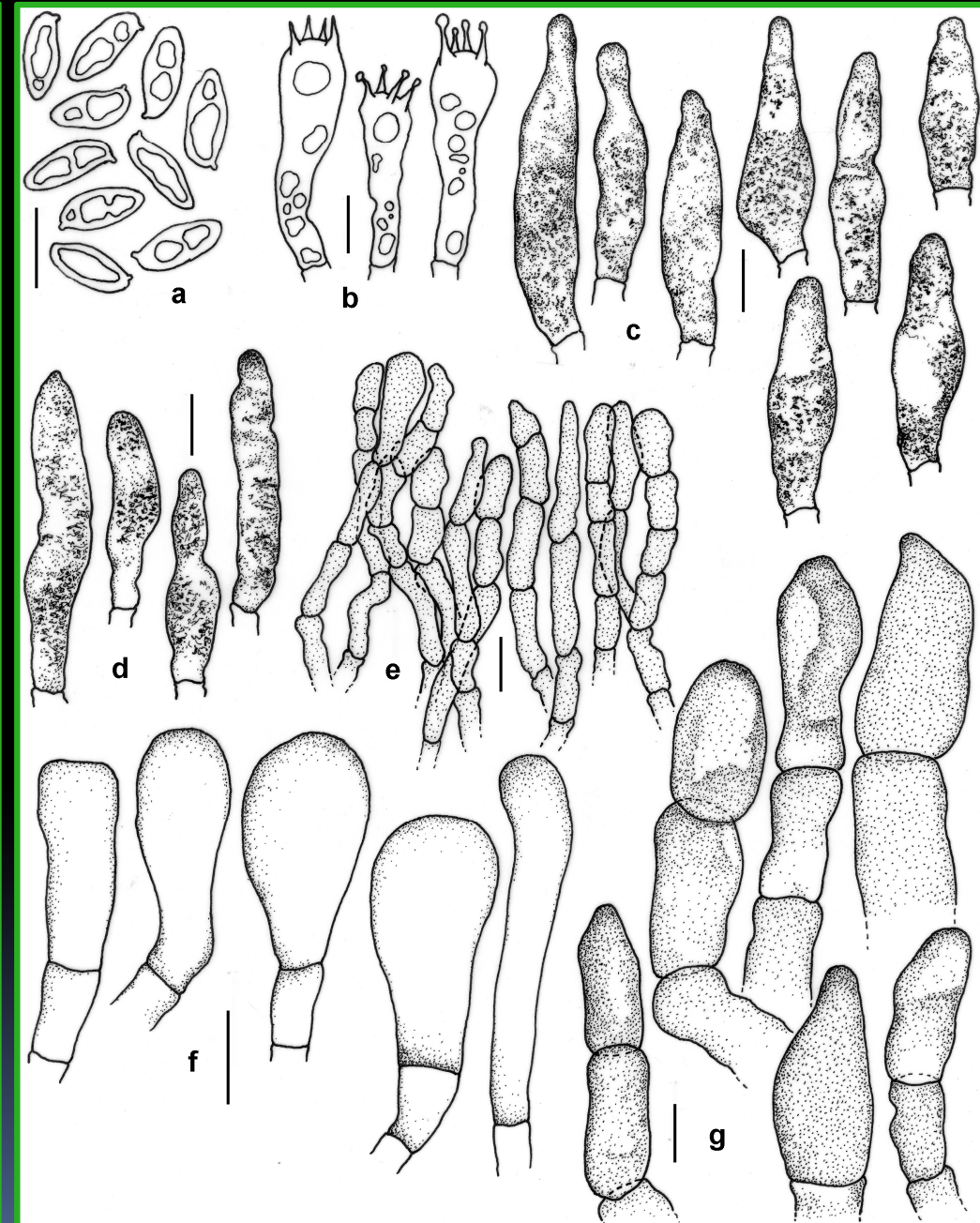
Chungthang to Charten

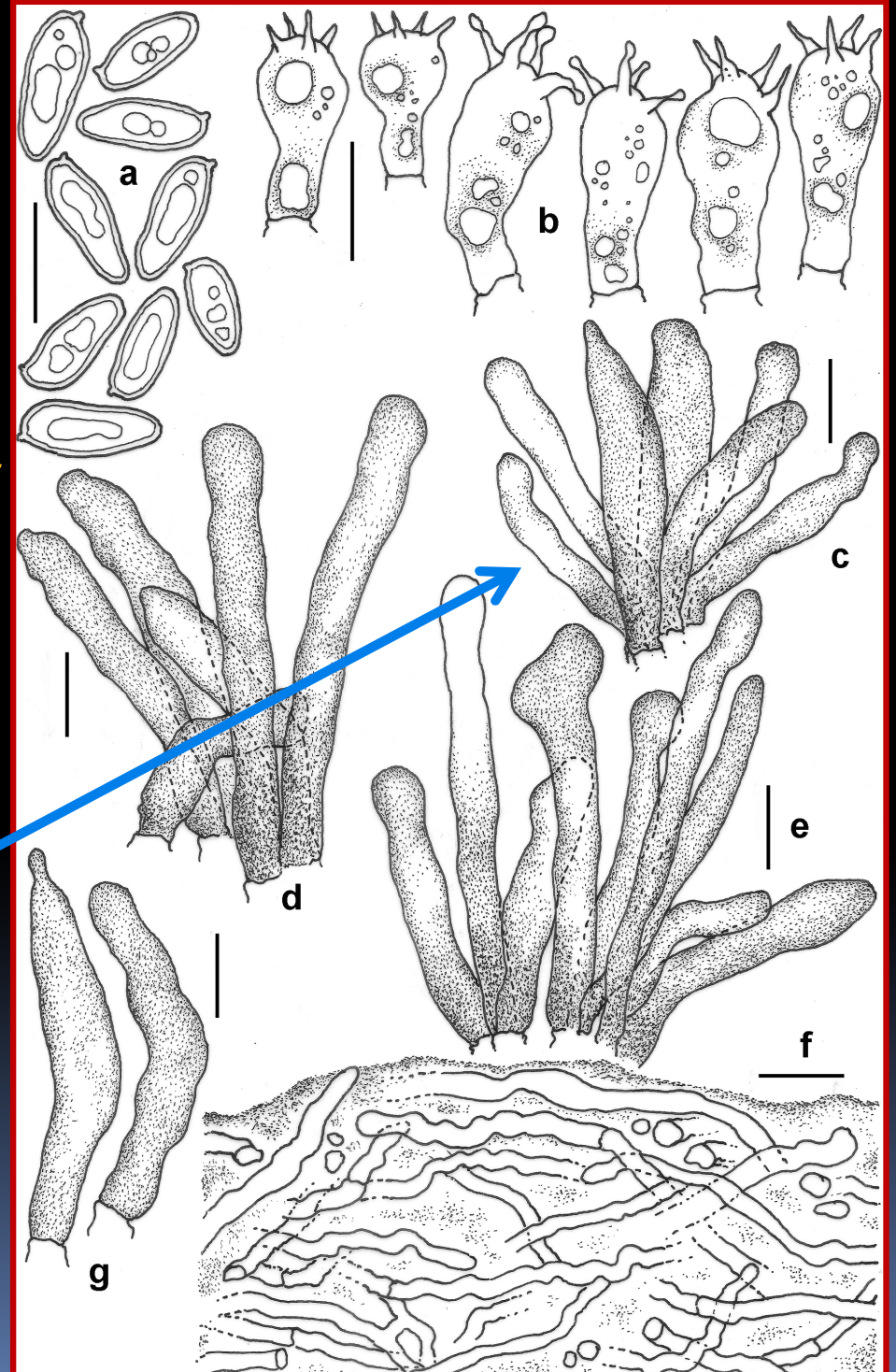
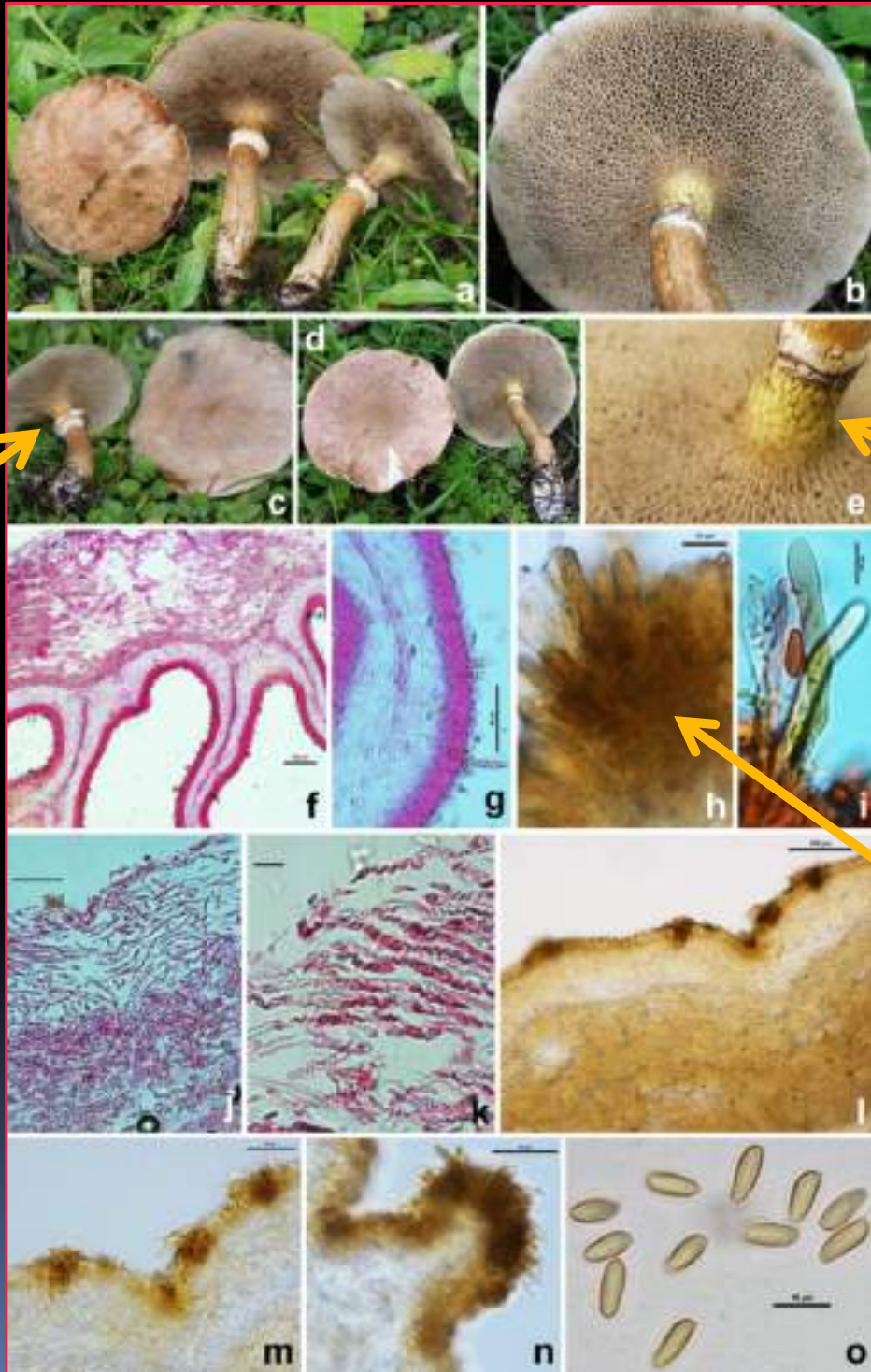
Bey and surroundings

Lachung to Katao

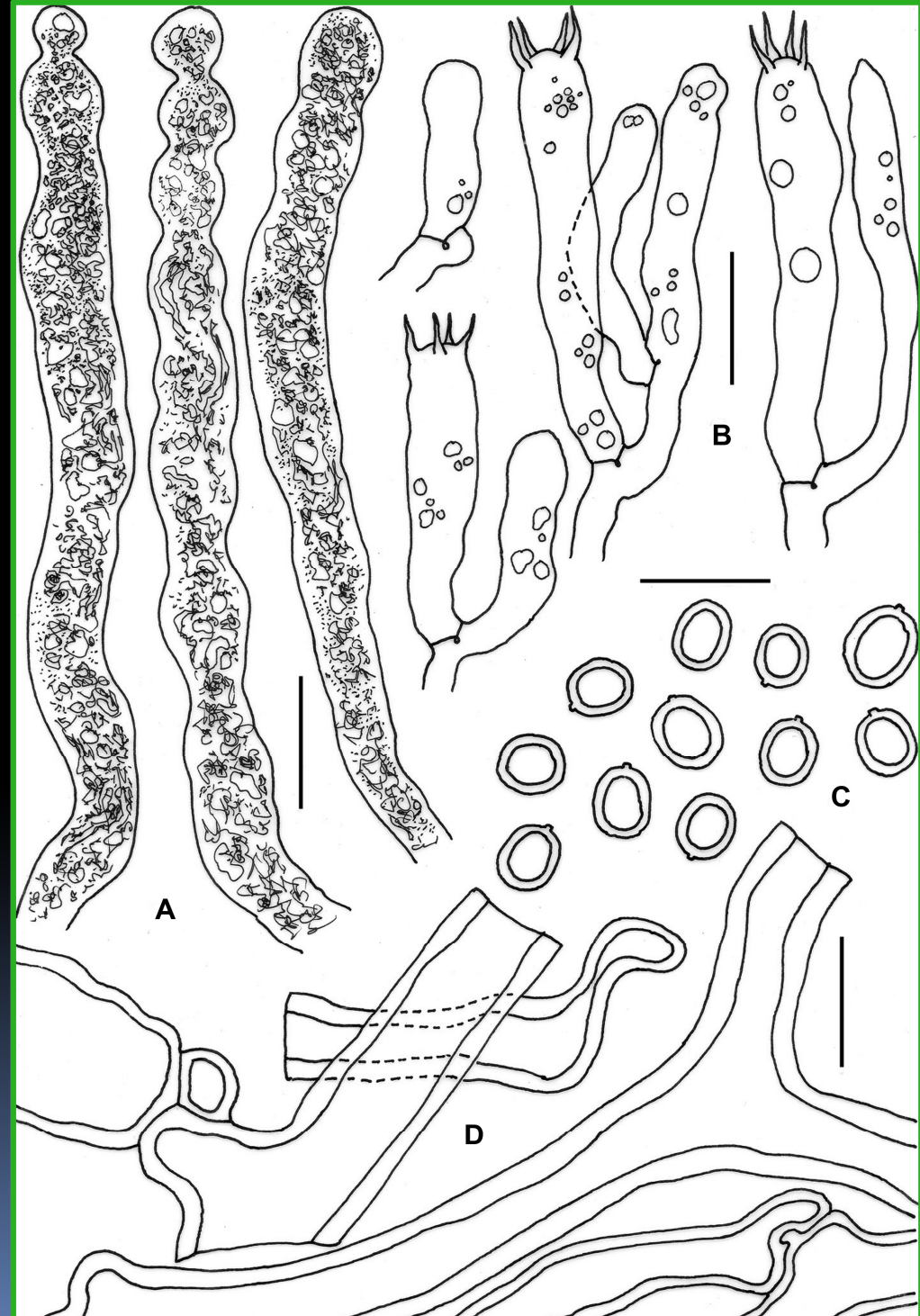
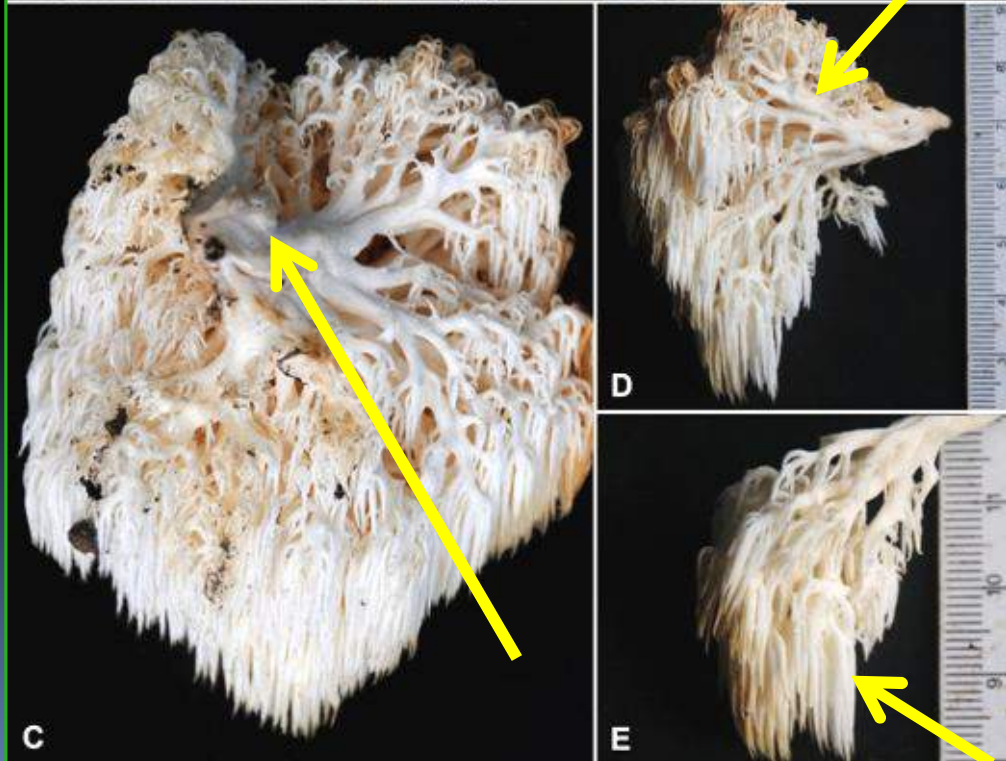


Xeroocomus doodhcha (Mycologia, 2016)

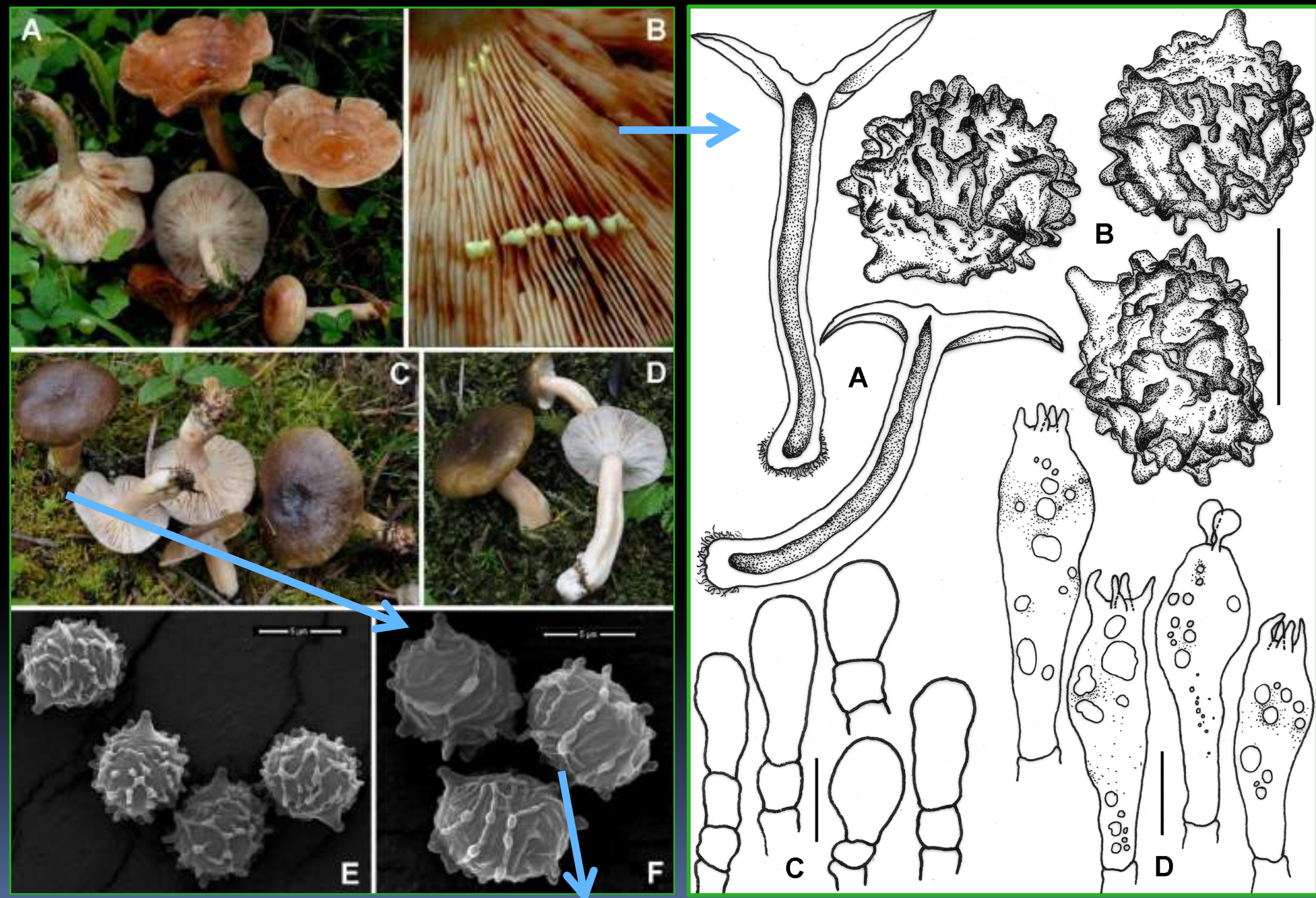




Hericium yumthangense K. Das, Stalpers & Stielow (*IMA Fungus* 4: 359-369)



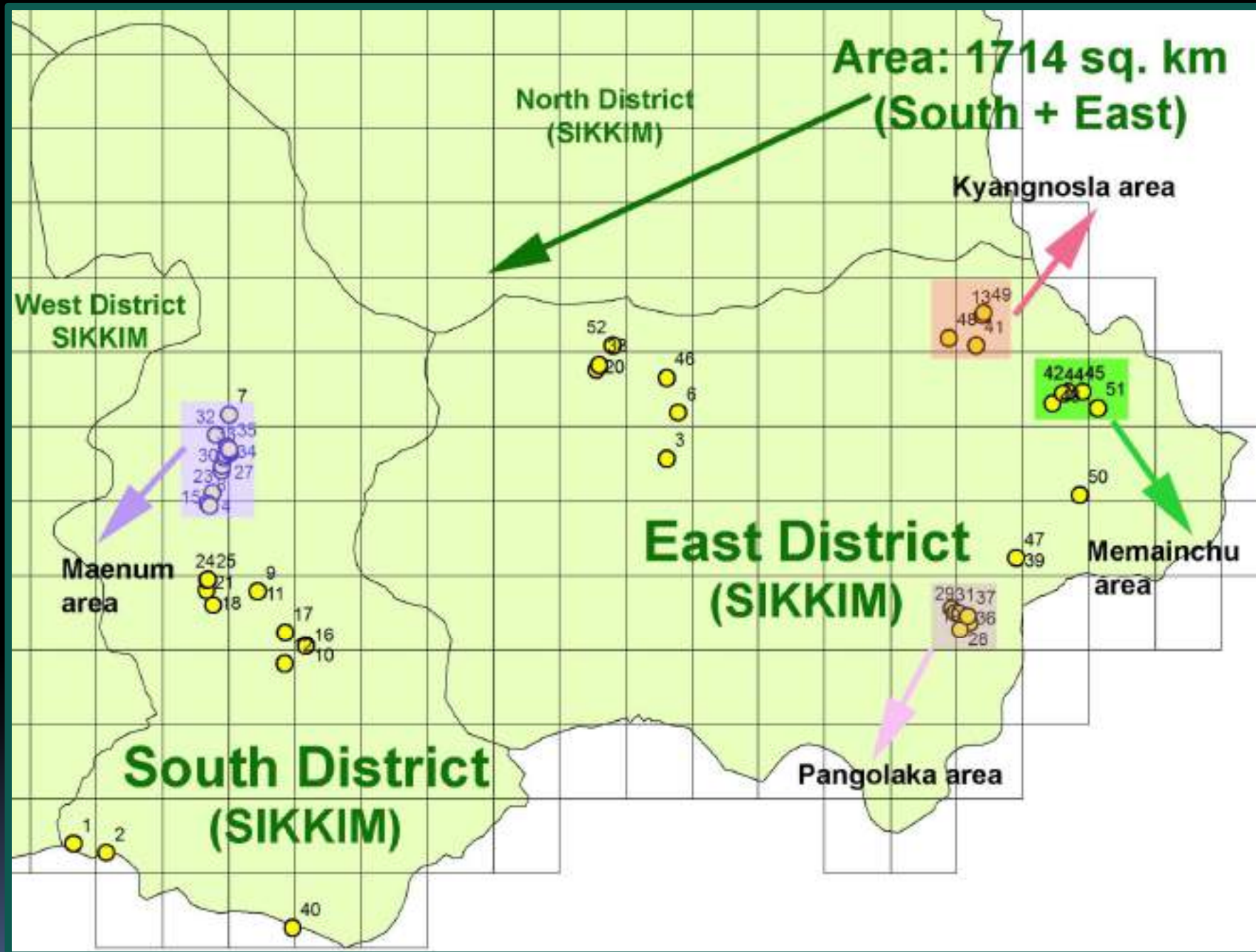
Lactarius indochoyrorheus (Mycotaxon 130: 105-130)



Lactarius olivaceoglutinus K. Das & Verbeken

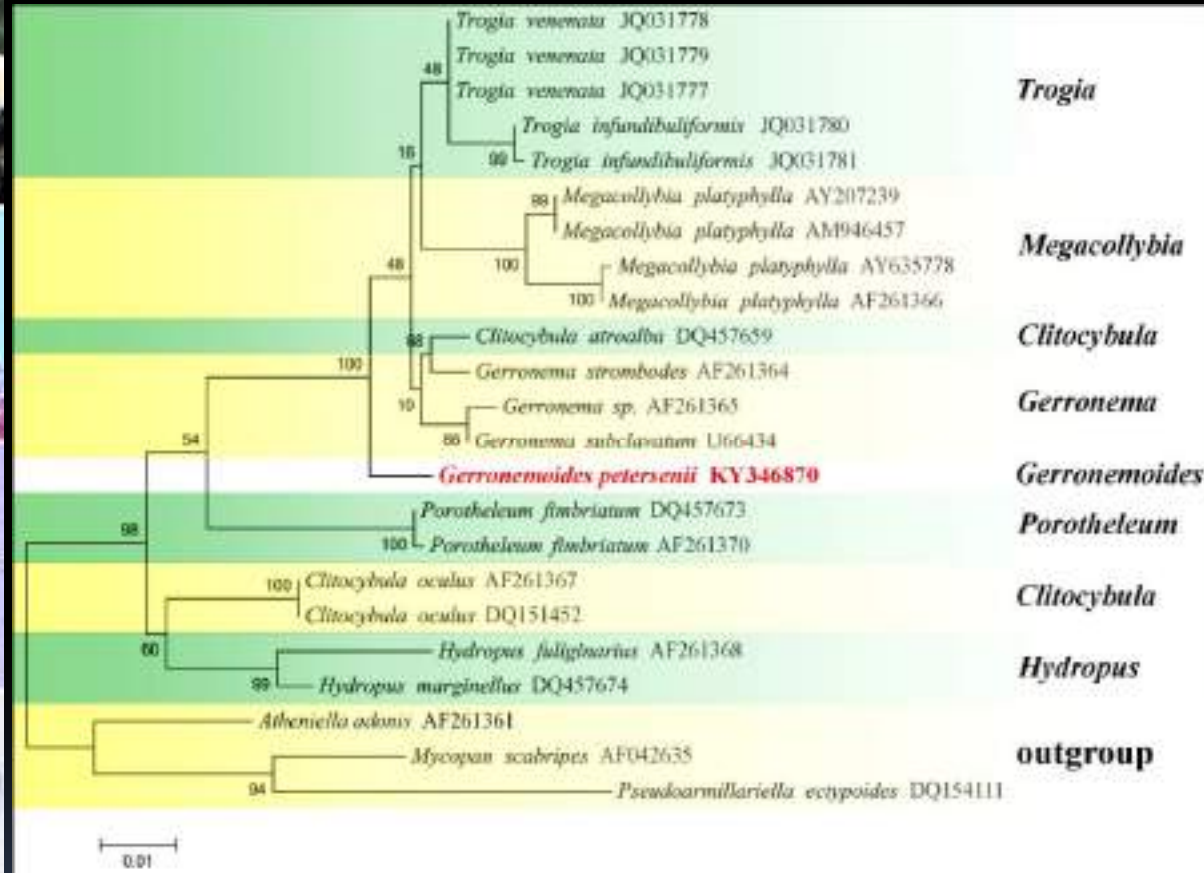
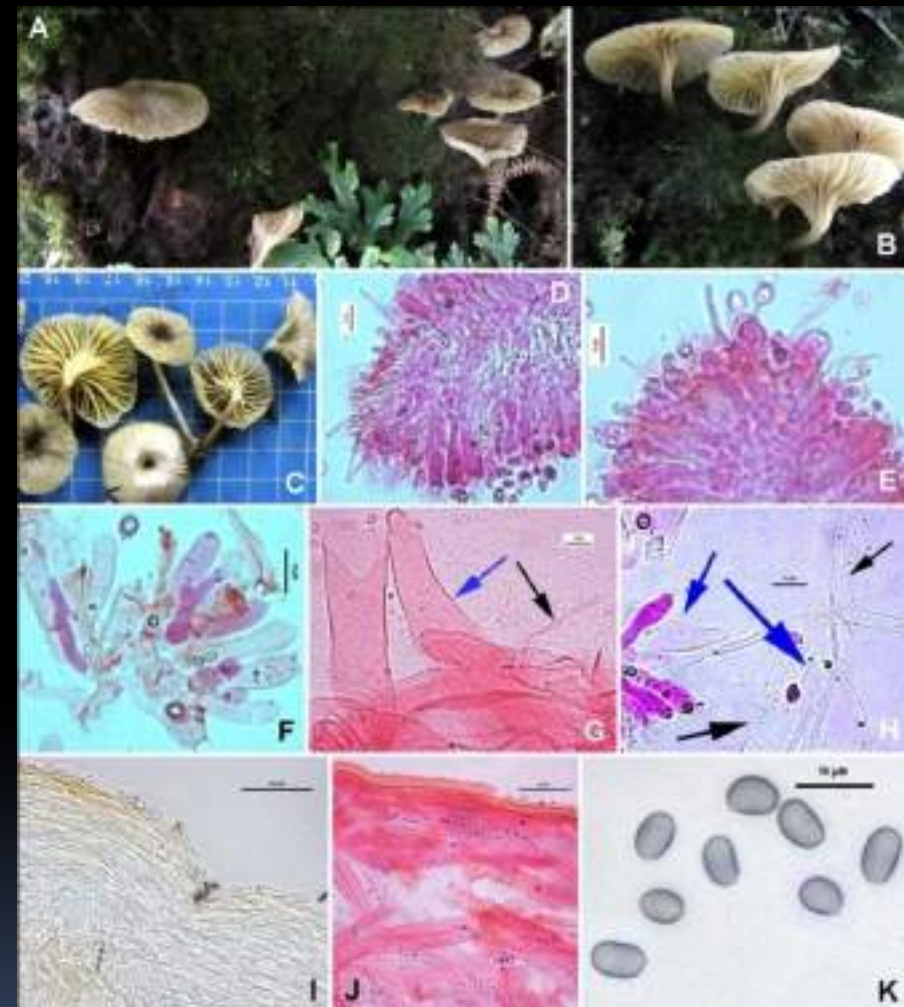
Project 4

1	Name of the Project	Studies on wild mushrooms of East and South Sikkim (excluding Agaricaceae, Hygrophoraceae, Boletaceae, Suillaceae and Cantharellaceae)
2	Name of the Scientist	Dr. Kanad Das
3	Duration	2014 – 2019 (ongoing)
4	Macrofungal survey undertaken	2 long field trips (duration of 21 days) were undertaken in different parts of East and South Sikkim covering subtropical to subalpine areas. 108 field nos. were collected.
5	Result	Thorough macro- and micromorphological characterization of 70 collections revealed 54 species. 1 new genus , 5 new species , and 2 new records to India are the significant findings from this project till date.

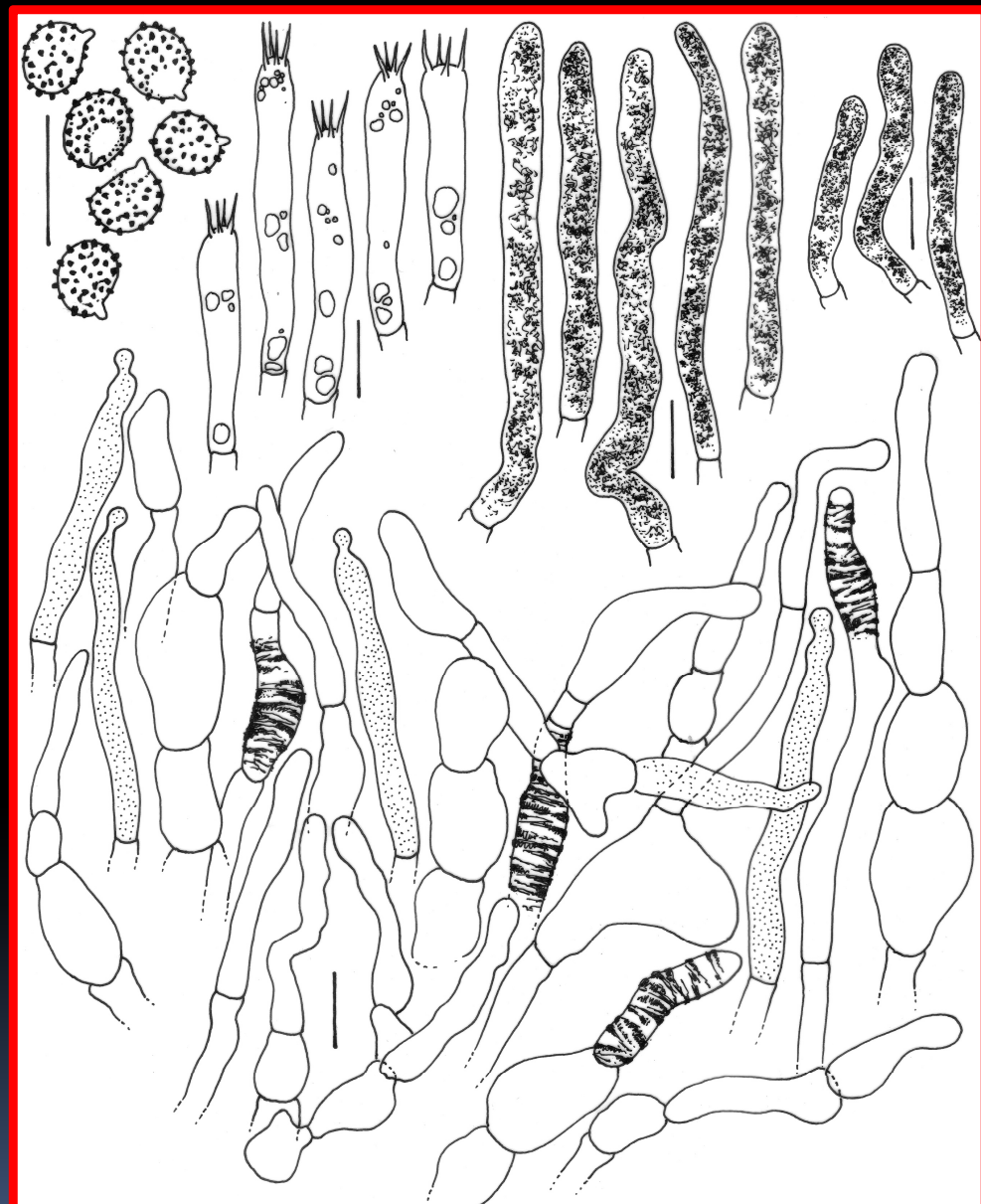


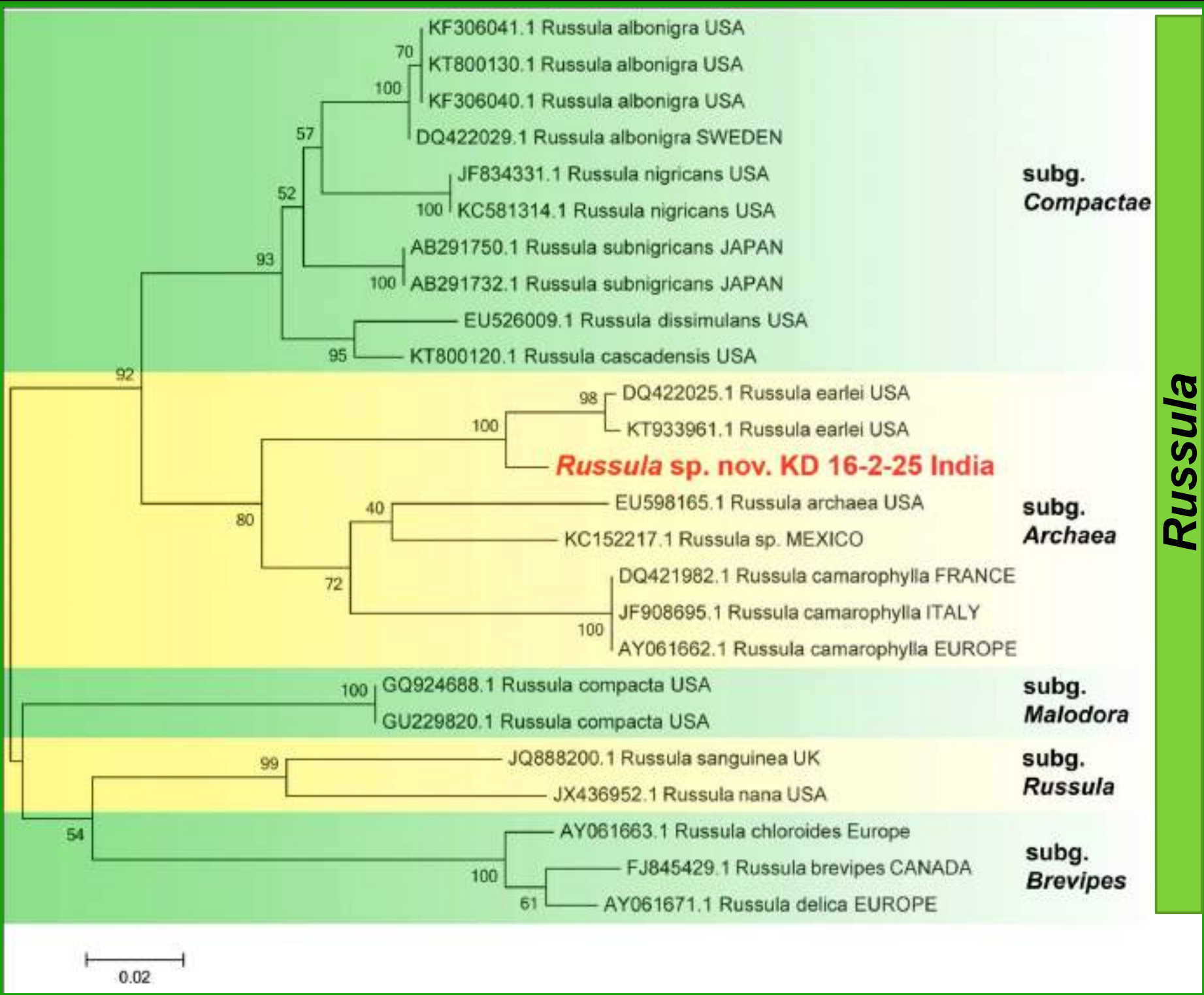
Major sites for collections in 2014 and 2016

Gerronemoides petersenii gen. & sp. nov.



Russula butyroindica K. Das, A. Ghosh & Buyck





Project 5

1	Name of the Project	Studies on the macrofungi of AJCBIBG
2	Name of the Official(s)	Dr. Kanad Das, Mr. Manoj E. Hembrom, Arvind Parihar
3	Duration	Sept. 2015 – Sept. 2017
4	Macrofungal survey undertaken	As the rainy season as almost over in 2015, we mainly collected the samples in 2016. Till date 83 field nos. were collected.
5	Result	Thorough macro- and micromorphological characterization of 83 collections revealed 33 species belonging to Ascomata and Basidiomata.
6	Report	Will duly be submitted to the Headquarters in 2017

Gilled fungi

Saproamanita thiersii (Bas) Redhead, Vizzini, Drehmel & Contu

Season: Mid August to mid september

Distribution in garden: Palmetum

Habitat: Humicolous, among grasses and herbs



Fruiting bodies medium to large. Cap 90–100 mm diam, convex to plano-convex to plane, knob like at centre, dark yellow, margin entire, densely covered with yellowish scales. Gills free, yellow, crowded, 12–17 per cm. Stalk 110–125 × 10–12 mm, cylindrical to clavate, fibrillose; context chalky white, solid but becoming hollow with maturity, basal bulb up to 20 mm diam, sub globose to bulbous; upper part covered with floccose to granular, yellowish scales. Annulas present, superior, yellow, soft, delicate, fairly veined, thin, membranous. Odour like button mushroom. Spores 7–9.5 × 7–9 μm, sub globose to broadly ellipsoid, colourless, thin-walled, hyaline, smooth



Teeth fungi

Mycorrhaphoides stalpersii Hembrom, Nilsson, A. Parihar, K. Das, A. Baghela & S.K. Singh

Season: August to October

Distribution in garden: Near Bicentenary Gate

Habitat: Lignicolous, at the base of a living tree trunk

Notes: Causing white rot to the host



Fruiting bodies annual, lignicolous, stalked, bracket-shaped. **Bracket** imbricate becoming laterally attached with a common stalk in several tiers, margin sterile, chalky white to pale ochraceous turning smoky to greyish on bruising or after maturity. **Fertile surface** spinoid, decurrent, spines acute, often laterally fused towards base, gradually becoming papillae to meruloid folds then smooth towards margin, chalky-white, ochraceous when dry. **Stalk** laterally fused, centrally grey to brownish orange, rest chalky white. **Basidiospores** 2.5–3.7 × 2.2–3.3 μm, sub-globose to ellipsoid, hyaline.



Project 6

Morphological characterization of *Strobilomyces mirandus* (DC 16-27)



1	Name of the Project	Studies on the families Agaricaceae, Boletaceae, Hygrophoraceae, Suillaceae and Cantharellaceae of East and South Districts of Sikkim
3	Name of the SPF	Dyutiparna Chakraborty
4	Duration of the project	Aug. 2013 to Aug. 2018
4	Macrofungal survey undertaken	Four field trips were undertaken to different parts of South and East Sikkim. 130 field nos. were collected.
5	Result	Thorough examination of 115 field nos. revealed 30 genera and 60 species. 7 appeared as new species, 6 were new generic records, 8 were the new species record for Indian mycobiota.
6	Report	Will duly be submitted to the Headquarters in the month of August 2018

Deputation/visit to abroad

Cordoba, Spain, 2007



Slovakia, 2014

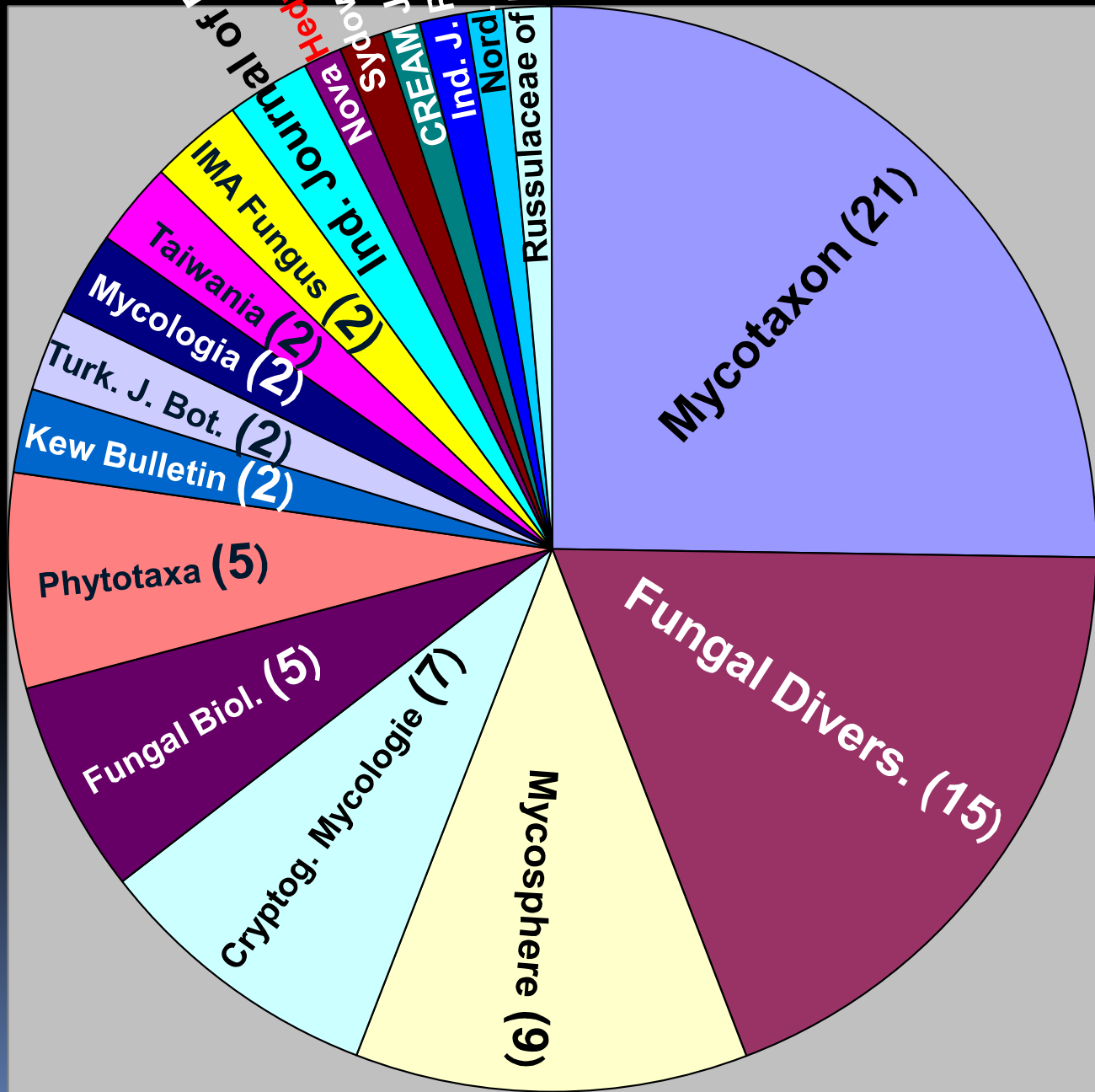
No	Year of visit	Country visited	Purpose
1.	2014	Slovakia	To participate in International Russulales Workshop 2014 . Also surveyed 8 forests of Central to West Slovakia during 7-13 September, 2014.
2.	2007	USA (Wyoming)	To undertake a training on molecular systematics of fungi from Nucleic Acid Exploration Facility of Wyoming University, Wyoming, USA . (Sponsored by National Science Foundation, USA & Wyoming University, USA)
3.	2007	Spain (Andalusia)	To deliver the invited talk in the opening session of 1st WORLD CONFERENCE ON THE CONSERVATION AND SUSTAINABLE USE OF WILD FUNGI on 10th December, 2007 at Cordoba, Spain. (Sponsored by Govt. of Andalusia, Spain)

Supervising Ph. D. candidates

No.	Name of the candidate	Rgistration (University)
1.	Aniket Ghosh	H.N.B. Garhwal University (A Central University)
2.	M.E. Hembrom	University of Kalyani
3.	Dyutiparna Chakraborty	University of Kalyani
4.	Arvind Parihar	Andhra Pradesh University

1.	Number of projects being carried out/ongoing (individually/jointly)	5 + 1
2.	Number of books written (individually/jointly)	3
3.	Number of papers published (individually/jointly/as a coauthor)	93
4.	New Genera Discovered	2
	New Species Established	80
	New Variety established	3
	New Records for India Reported	38

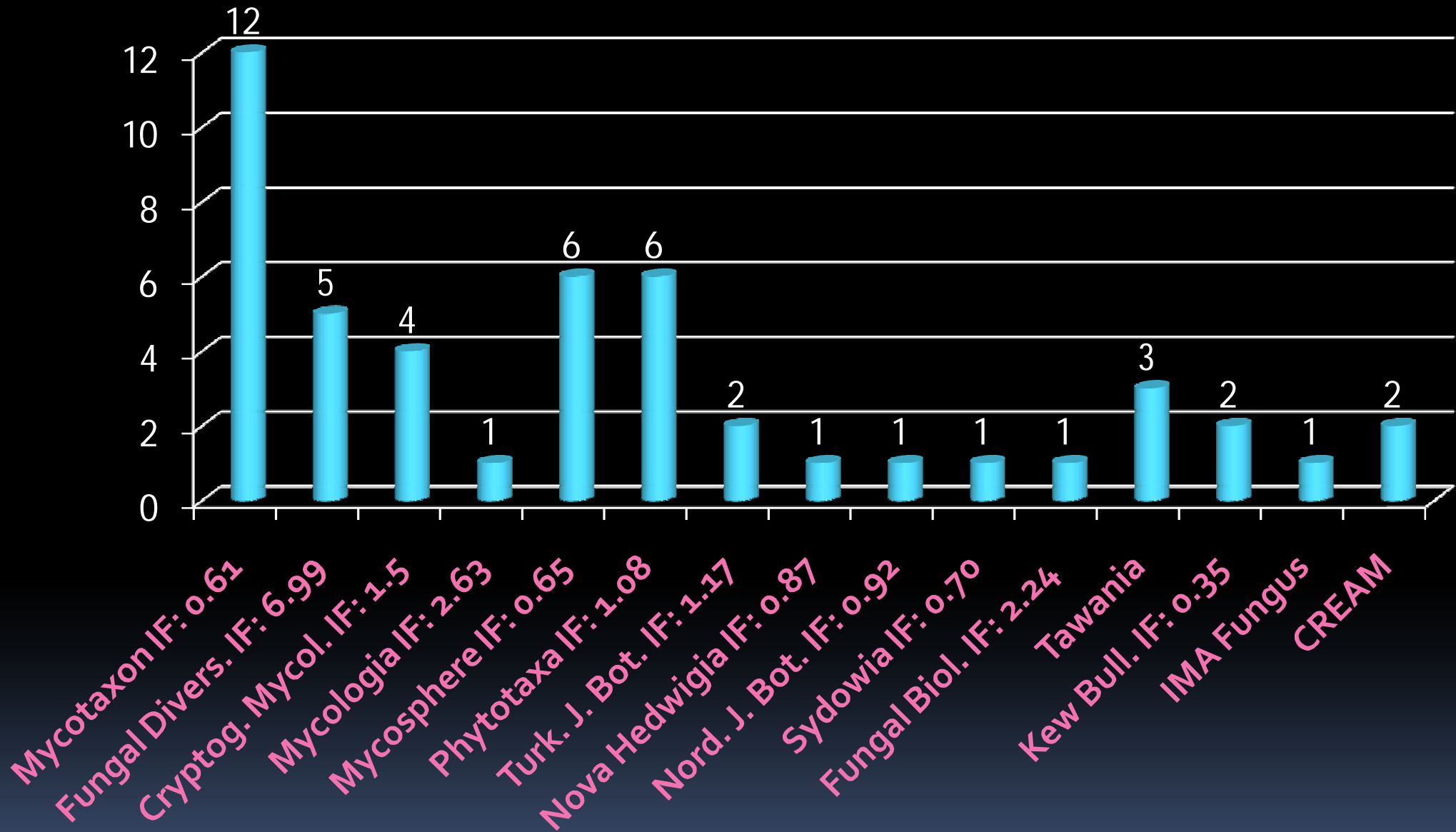
Journal wise breakup of 80 novel species



- Mycotaxon (IF: 0.61)
- Fungal Diversity (IF: 6.99)
- Mycosphere (IF: 0.65)
- Cryptogamie Mycologie (IF: 1.50)
- Fungal Biology (IF: 2.24)
- Phytotaxa (IF: 1.08)
- Kew Bulletin (IF: 0.35)
- Turk. J. Bot. (IF: 1.17)
- Mycologia (IF: 2.63)
- Taiwania
- IMA Fungus
- Ind. J. For.
- Nova Hedwigia (IF: 0.87)
- Sydowia (IF: 0.70)
- CREAM
- Ind. J. Pl. Science
- Nordic J. Bot. (IF: 0.92)
- Russulaceae of Kumaon Himalaya

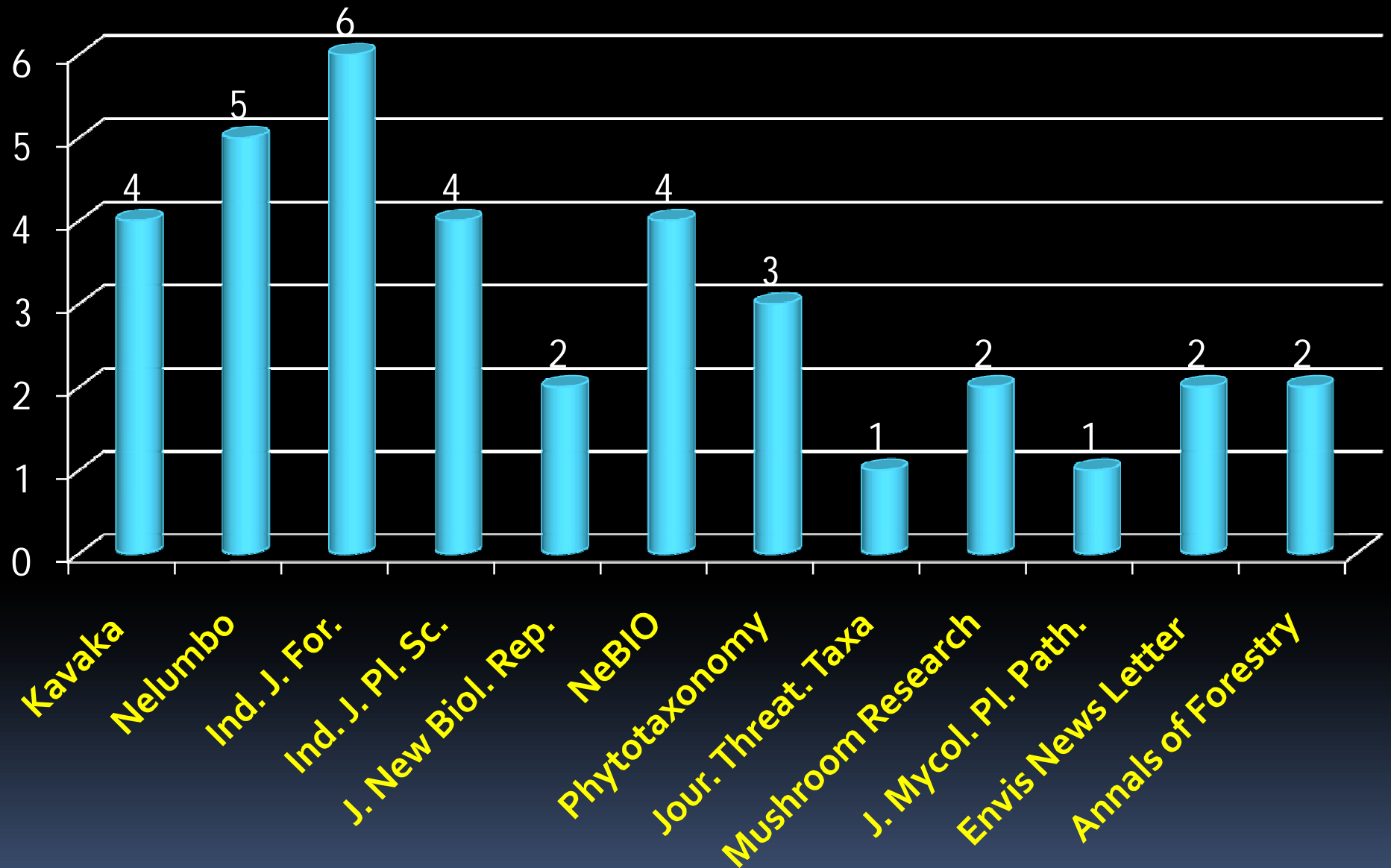
IF = Current Impact Factor assigned by Thomson and Reuters

Major 48 Publications in Foreign Periodicals



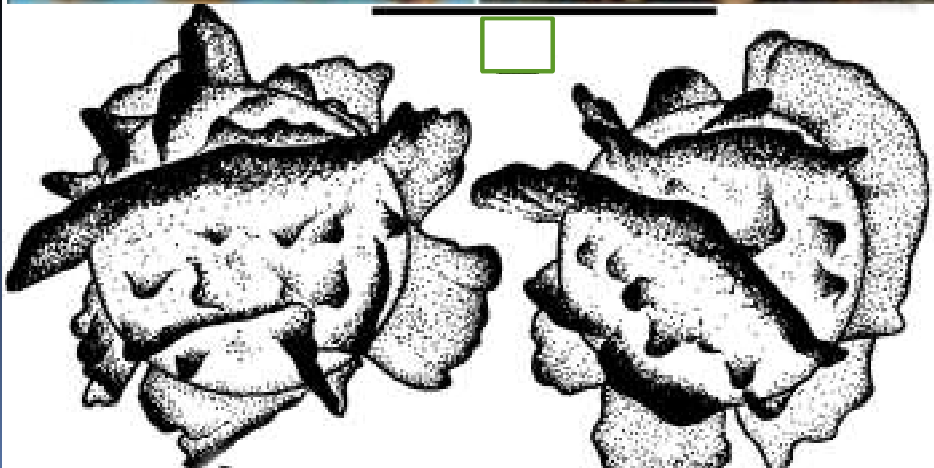
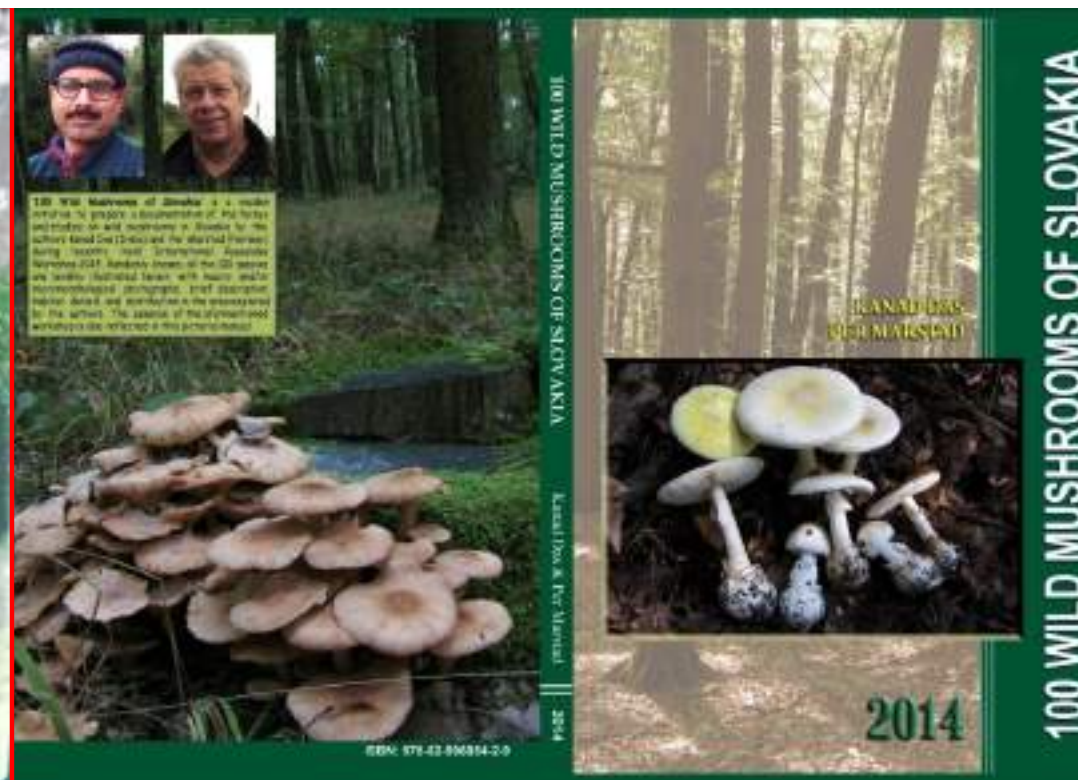
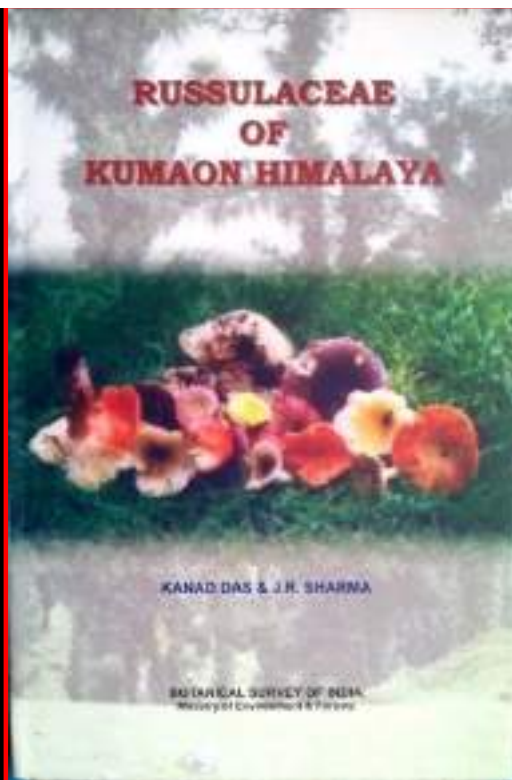
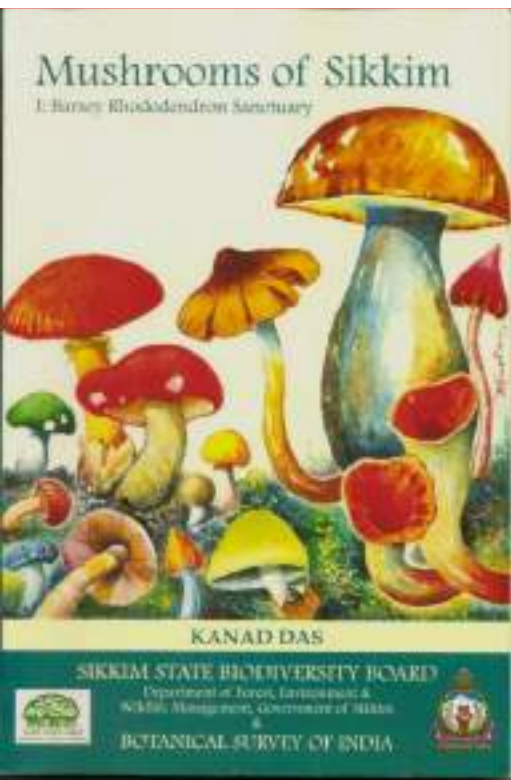
IF = Current Impact Factor assigned by Thomson and Reuters

Major 36 Publications in Indian Periodicals



Administrative Work

Duration	Centre/ Unit/Department	Designation	Work
20 Aug. 2009 to Mar. 2013	Sikkim Himalayan Regional Centre	Scientist -in- Charge	Undertook day to day work of this circle
1 Sept. 2016 to till date	Cryptogamic Unit (HQRS)	Scientist 'D'-in- Charge	Being undertaken the work as and when needed
1.10.2012 to 27.3.2013	Hindi Teaching Scheme, Gangtok, M/o Home Affairs, Dept. of Official Language	Overall-in-Charge, Hindi Teaching Scheme	Monitor day to day work of the Hindi Teaching Scheme in Gangtok



Latest Discovery
First and New Sequestrate Milk-cap
 Accepted in *Cryptogamie*
Mycologie, 2017



THANK
 YOU