Botanical Survey of India (BSI), established in 1890, serves the nation by providing scientific basis for conservation and sustainable utilization of wild plants through survey, inventory, documentation taxonomic research and creating environmental awareness.

Since reorganization of BSI in 1954, the scientists of BSI have discovered

- 1 new family
- 37 new genera
- 1,218 new species, subspecies and varieties.

During 2014, the Plant Taxonomists of BSI and other institutes have discovered

- 5 genera
- 148 species
- 20 infra specific taxa as new to science from India and
- 4 genera
- 101 species new records for Indian Flora

During the year 2014 the scientists of BSI published 1 new genus, 52 new species and
10 new subspecies/varieties of plants and discovered 2 genera, 47 species and
2 subspecies records for India.

It is also interesting to mention that, besides 16 new trees and 13 new climbers
wild germplasm of many economically important and ornamental plants such as
Orchids (10 species) Musa (4 new species and 5 new varieties), Syzygium
(4 species), Impatien (1 species) Zingiber (1 species), Amonium (1 species), Curcuma (1 species),
Crinum (1 species) have been discovered during 2014.
संदेश / MESSAGE

मैं, यह जानकर हर्षित हूँ कि भारतीय वनस्पति सर्वेक्षण अपने बहुमूल्य संकलन 'वनस्पति अन्देशण' की शुरूआत का 8वां संस्करण प्रकाशित कर रहा है। इस प्रकाशन के मुख्य लक्ष्य वर्गीकरण द्वारा वर्ष के दौरान देश से खोजी गई वनस्पतियों तथा नये वितरणार्थ अभिलेखों को संजोकर पाबंदी संपदा के प्रति जन जागरूकता उपलब्ध कराना है। यह प्रकाशन भारतीय वनस्पतिज्ञात के लिए एक नये संदर्भ के रूप में महत्त्वपूर्ण भूमिका का निर्धारण करेगा।

मैं, भारतीय वनस्पति सर्वेक्षण के वैज्ञानिकों द्वारा देश के विभिन्न भौगोलिक पैर-क्षेत्रों से नयी जातियों के अन्देशण में किये गये श्रमसाध्य प्रयासों की प्रशंसा करता हूँ। इस प्रकाशन में वर्ष 2014 के दौरान हामारे देश की वनस्पति विविधता के लिए 275 से भी अधिक नयी जातियों, कक्ख, जीवाणुओं की खोजों निर्धारित की गई है।

दुःख के विवाद है कि यह प्रकाशन देश के अन्द्रा जैव संसाधन एवं बहुमूल्य पादय संपदा के प्रति हमारे ज्ञान को संवर्धित करेगा एवं निकट भविष्य में नानाव कल्याण में उपयोगी सिद्ध होगा।

(प्रकाश जावडेकर)

I am pleased to know that, Botanical Survey of India is bringing out the series on Plant Discoveries for the eighth consecutive year. This publication, aimed at creating awareness about the plant wealth of our country, highlights new discoveries and new distributional records of plants made from India during the year gone by and the role played by the taxonomists in bringing to the fore these novelties. The present publication is an important reference book on new additions to the Indian flora.

I appreciate the painstaking efforts made by the scientists of BSI in unearthing these novelties from different geographical regions of our country. In this publication over 275 new plants, fungi, and microbes have been added to plant diversity of our country during the year 2014.

I am sure that the present document will increase our knowledge on some of the unknown yet valuable plant resources which may be of great utility to mankind in near future.

(Prakash Javadekar)
One of the prerequisites for plant conservation is to understand and document the plant diversity of a region. India has a remarkable range of biodiversity in its diverse habitats and ecosystems. To our present state of knowledge, India has more than 47750 plant species and this figure keeps on changing every year. The more we explore, new species are being added to our knowledge.

Botanical Survey of India (BSI) a premier research organization, under this ministry has been entrusted with the responsibility of plant exploration and survey of wild plants of Indian Union. BSI has been upgrading our knowledge on plant diversity and updating the current status of plant diversity of all groups of plants. I am happy to know that, BSI has prepared this compilation “Plant Discoveries 2014”. This publication includes information on more than 275 new species and new additions published by the scientists from BSI as well as other research organizations of India during 2014.

I congratulate Director, BSI and his team of scientists for their relentless effort to explore the unknown and update current status of plant diversity in the country. I am sure this document “Plant Discoveries 2014” will create general awareness about the expanding species count and also helps us in identifying the gap areas and groups that need to be given more attention for documentation and conservation.
प्राक्कथन / FOREWORD

यह एक सर्वप्रथम तथ्य है कि, वनस्पति एवं जलवायु परिवर्तन मंत्रालय

GOVERNMENT OF INDIA

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

ईंटिरा पर्यावरण भवन, जोर बाग रोड,

नई दिल्ली-110 003

INDIRA PARYAVARAN BHAWAN, JOR BAGH ROAD
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हेम पांडे, आई.ए.एस.
अपर सचिव

Hem Pande, IAS
Additional Secretary

हेम पांडे, आड.ए.एस.
अपर सचिव

Hem Pande, IAS
Additional Secretary

It is a well-known fact that plant diversity plays a vital role in providing essential resources for human well-being: food, shelter, medicines, fresh air, clean water and a healthy environment. A large proportion of this is under threat due to natural as well as man-made causes. Research on plants and its associated habitats, in the context of danger of extinction, threatened habitat transformation, over exploitation are greatest challenges.

Taxonomic research carried out by the taxonomists in different parts of country is yielding increasingly interesting findings in form of discovery of plant species both as new to science and new distributional records to the present political boundary of the country. Botanical Survey of India (BSI) has been compiling this information from our country for last eight years. In the present compilation “Plant Discoveries 2014” more than 275 species and infraspecific taxa of plants, fungi and microbes have been added to the Indian flora.

I congratulate Director, BSI and his entire team of scientists for exploring the unknown and unfolding new knowledge on plant diversity of our country. I am sure this set of compilation not only apprises us of current status of plant diversity, but it will also inspire others to explore further in various parts of our country.

Hem Pande
With great pleasure, I would like to present, the eighth volume of the Plant Discovery series. This publication was envisioned to represent the growing needs of updating the knowledge on biodiversity and the species count of our country. Today, this series is widely recognized and become an integral referral for various biodiversity and taxonomic studies. To make the periodical more accessible to general public an attempt in bringing the issue in bilingual since last two years was greeted with unprecedented success. Botanical Survey of India has been compiling the information on new discoveries of plants within the political boundary of our country, otherwise scattered in vast array of journals published from different parts of world, on yearly basis. It is our sincere hope that this compilation of scientific data will serve as a valuable resource for various researchers, policy makers and the common practitioners in areas ranging from biodiversity to environmental concerns particularly to all those working in the field of floristic studies. This will also definitely stimulate further progressive research into the vibrant areas of plant diversity. The Ministry of Environment, Forest and Climate Change and taxonomic fraternity has been extremely supportive in this effort.

The compilation of new discoveries of plants when analyzed shows that, more than 40 per cent plant species are contributed by seed plants while algae, fungi and lichens together contribute 38 per cent of total discoveries. These increasing trends of taxonomic research especially in the field of lower plants are quite encouraging in fulfilling the gap on these fields. During the year 2014 about 278 species and infra-specific categories of seed plants, ferns,
इस प्राधान में, हमें देश एवं विदेश में पादर वन्यजीवों में कार्यरत सभी वन्यजीवविद्याओं का सहयोग प्राप्त हुआ है। अपने शोध परियोजनामों, शोधकर्ताओं एवं एकाधिक विद्वानों को सहभागी करने वाले हम सभी का आम आदेश है।

पूर्व वर्ष की भाषा, ऐसा देखा गया है कि नौवीन वन्यजीव जानवरों के कुछ नये प्रजातियों को उल्लेखित पादरामों में जाना नहीं किया गया है। जैव विविधता अधिकरण, 2002 के अनुसार 39 तथा 50 उल्लेखित प्रजातियाँ स्रोतों में अंगूठा कहा कि “किसी भी व्यक्ति के द्वारा किसी नौवीन जानवर (टीकेसॉर्न) को अंगूठा किया जाता है, तो उसे विस्तृत किये गये समीक्षणों एवं सरकारी को अंगूठा किया जाएगा एवं अन्य विभागों द्वारा बारह महीने के नए अंगूठे सभी संस्थानों एवं सरकारियों में वापसी कराई जाएगी।” हम आशा करते हैं कि 2 नविंद्रित से भी अधिक पादर नौवीन के संख्या एवं विस्तृत संख्या ग्रहण करेंगे। (वैज्ञानिक-1) में से एक भारतीय वन्यजीव संरक्षण देश में ही नहीं अतिकृत वन्यजीव एवं अन्य वन्यजीव तथा पूर्वी पादर वन्यजीव अध्ययन में दृष्टिगोचर एवं उपलब्ध कराई जाएगी। इस प्राधान में, भारतीय वन्यजीव संरक्षण, मंडलों के द्वारा आधुनिकता (AICOPTAX) के प्रोजेक्ट संचालन हेतु नोडल ऐंडरसे द्वारा पर्यावरण कर रहा है।

पूर्व प्रकाशित अंकों की भाषा "जनसप्ति अनुसंधान 2014" वर्ष 2014 में प्रकाशित भारतीय वन्यजीव परिवर्तन से प्राप्त आकड़ों का संकलन है। (इसमें विभिन्न के कुछ नॉवीन भी हमें अभी उपलब्ध नहीं है) हमें आशा है कि यह गाते वर्ष की भाषा वन्यजीवशास्त्र, रोशनपथशास्त्र, रोषदेव, सामाजिक और जन-सामाजिक की एक उपयोगी संस्करण बना होगा। इसमें है गाई वन्यजीवित जानवरों तथा कुछ लागभग एकड़ 2000 रोशनपथशास्त्री एवं वेरिटेंशन, बालकोशीय जनता और लागभग 6000 वन्यजीवशास्त्र, फाँसी को प्रकोष्ठ बनाए रखा है। आईसिस, रोशनपथशास्त्री एवं जन-सामाजिक की एक उपयोगी संस्करण बना होगा। इसमें है गाई वन्यजीवित जानवरों तथा कुछ लागभग एकड़ 2000 रोशनपथशास्त्री एवं वेरिटेंशन, बालकोशीय जनता और लागभग 6000 वन्यजीवशास्त्र, फाँसी को प्रकोष्ठ बनाए रखा है।

क्रिकेट, बैरिस्टार, नाटककार, रसोईयों, वन्यजीवशास्त्री, वन्यजीवशास्त्री एवं वेरिटेंशन, बालकोशीय जनता और लागभग 6000 वन्यजीवशास्त्र, फाँसी को प्रकोष्ठ बनाए रखा है।

Paramjit Singh
Director
Botanical Survey of India
भारत की जैव विविधता का तीन मुख्य जैव भौगोलिक क्षेत्रों, जिनमें इंडो-मलाय, इंडो-आर्कटिक (युरोपियन) एवं एको-द्वीपक ध्रुतमंडल के पूर्वीय कारक अत्यधिक प्रगाढ़त करते हैं। भारत में जैव विविधता के चार मुख्य केंद्र हैं, जिनमें 1. इंडो-वर्ग—जिसके अंतर्गत मिजोरम, मणिपुर, नागालैंड, मेघालय, जिमुरा एवं अंध्र प्रदेश द्वीप का क्षेत्र शामिल है। 2. हिमालय—जो जम्मू एवं कश्मीर, हिमालय प्रदेश, उत्तराखंड, उत्तरी पश्चिम बंगाल, बिहार, असम एवं अरुणाचल प्रदेश के उत्तरी क्षेत्रों में वितरित है। 3. पश्चिमी तट—जिसमें बंगाल, कर्नाटक, पश्चिमी तमिलनाडु, गोवा, पश्चिमी महाराष्ट्र एवं दक्षिणी गुजरात राज्यों के पश्चिम क्षेत्र सम्मिलित हैं एवं 4. सुन्दरबंध—निकोबार द्वीप। मृदा, जलवायुयुक्त कारकों, वैज्ञानिक अवस्थितियों तथा भौगोलिक समृद्धि के फलस्वरूप मिश्रित प्रकार की परिवर्तनशील जंतुभाषा यथा—जंतु, धातु, नागदा, नाग, रक्षित, लंडवाटी एवं समुद्री पारंपरिक विविधता का निर्माण होता है, जो समुद्र वास्तविक विविधता को प्रदर्शित करते हैं। ये क्षेत्र वैज्ञानिक का उच्च परमाणु, दुर्दम एवं संकटपूर्ण वनस्पति जातियों की उच्च व्यापकता को दर्शाते हैं।

वर्तमान श्रेणियों के अनुसार भारत में आवश्यक जातियों की कुल जातियों 18159, अनातुर्कीजी जातियों 77, पाणिग्रंथ की 1274, कुक्कल की 14936, हरिताग्रहणीय की 2531 एवं वैद्य जातियों (लिच्य) की 2434 जातियों है, जो विश्व की समुच्चय अभिलेखित पादप जातियों का लगभग 11.4 प्रतिशत है। वनस्पतियों पर हमारे वर्तमान ज्ञान में वर्दीय संग्रहणों एवं प्रवेषणों से लगातार गुजरात वृक्ष हो रही है। भारत से अनेक एवं अभिलेखित पादप जातियों का समुच्चय बाद विवरण निम्नलिखित है।

<table>
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<th>समूह</th>
<th>भारत में पाई जाने वाली जातियों की संख्या</th>
<th>भारतीय वनस्पति में प्रतिशत भारतीय वनस्पति प्रतिशत</th>
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<td>क्वाक/Fungi</td>
<td>14936</td>
<td>31.26</td>
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<tr>
<td>शैवल/Lichens</td>
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<td>5.09</td>
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<tr>
<td>हरिताग्रहण/ब्रयोफाइट्स</td>
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<td>5.29</td>
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<tr>
<td>योग/TOTAL</td>
<td>47791</td>
<td>100.00</td>
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</tbody>
</table>

Plant diversity in India is highly influenced by different floristic elements from three major biogeographical realms, namely Indo-Malayan the Indo-Arctic (Eurasia) and Afrotropical. The Indian flora mainly is concentrated in four hotspots viz., 1. Indo-Burma covering Mizoram, Manipur, Nagaland, Meghalaya, Tripura and Andaman Islands, 2. Himalaya covering Jammu & Kashmir, Himachal Pradesh, Uttarakhand, northern part of West Bengal (Darjeeling), Sikkim, northern part of Assam and Arunachal Pradesh, 3. Western Ghats consisting of the states of Kerala, Karnataka, western parts of Tamil Nadu, Goa, western parts of Maharashtra and southern Gujarat and 4. The Sundaland covering the Nicobar Islands. The varied edaphic, climatic and topographic conditions and altitudinal variations have resulted in a wide range of ecosystems and habitats such as forests, grasslands, wetlands, deserts, and coastal and marine ecosystems which exhibit an extraordinary floristic diversity. These regions show high degree of endemism and higher incidence of rare and threatened plant species also.

Current estimations revealed, a total of 18159 species of angiosperms, 77 species of gymnosperms, 1274 species of pteridophytes, 14936 species of fungi, 2531 species of bryophytes and 2434 species of lichens in India, which is approximately 11.4 per cent of the total recorded plants species of the World. The knowledge on the flora is improving rapidly by floristic explorations and documentation which result in many new discoveries. The group wise current status of number of species known from India are given below:
During the year 2014, 05 new genera, 148 new species, 19 new varieties, and one new forma were discovered from India while 04 new genera and 101 species were reported for the first time from India. Scientists of BSI described and published 114 novelties while, scientists from institutes other than BSI have reported 164 novelties during the year 2014.

Seed plants contributed the maximum with 42 per cent of the total discoveries followed by fungi by 19 per cent, microbes by 13 percent, lichens by 12 percent, algae by 9 per cent of the total discoveries. pteridophytes and bryophytes contributed the least with 2 per cent and 3 percent respectively of the total discoveries during the year 2014.

Region wise, maximum discoveries were made from Western Ghats which account for 22 per cent of the total discoveries made during 2014 followed by the Eastern Himalaya (15 per cent), North East India (15 per cent), Andaman & Nicobar group of Islands (13 per cent), and Peninsular India (11 per cent), Western Himalaya (9 per cent). The Gangetic plains, eastern plains and central India together contribute 10 per cent of the total discoveries of 2014. It is interesting to note that, among non-seed plants, more microbes were discovered in peninsular India, more algae were discovered in Eastern plains while more Fungi were discovered in Western Ghats.

It is also interesting to mention that, besides 16 new trees and 13 new climbers wild germplasm of many economically important and ornamental plants such as Orchids (10 species), Musa (4 new species and 5 new varieties), Syzygium (4 species), Impatiens (1 species), Zingiber (1 species), Amomum (1 species), Curcuma (1 species), Cinnamom (1 species) have been discovered during 2014.
बीजीय पौधे/SEED PLANTS

Courtesy: M. Sabu
Seed plants (Spermatophytes) are the most evolved land plants on earth and are traditionally divided into flowering plants (or angiosperms) and gymnosperms.

In the present state of our knowledge India has about 18159 species of angiosperms and 77 species of gymnosperms. Many more are yet to be identified and described.

The collated information presented here includes 1 new genus, 69 new species (14 from Kerala, 09 from Andaman & Nicobar Islands, 08 from Arunachal Pradesh, 06 from Tamil Nadu, 05 from Meghalaya, 04 each from Maharashtra and West Bengal, 03 each from Andhra Pradesh and Sikkim, 02 each from Karnataka, Madhya Pradesh, Nagaland, and Uttar Pradesh, 01 each from Himachal Pradesh, Manipur, Mizoram, Tripura and Uttar Pradesh).

12 new infra specific taxa (varieties) and 36 new distributional records for India.

Some of the significant findings in 2014 include 9 new taxa of wild Musa, 4 species of wild black plum (Jamun), 3 species of wild ginger. Interestingly 16 new trees and 13 new climbers have also been discovered during 2014.

This new genus has been described and published from India. The new genus Canscorinella is characterized by the presence of actinomorphic corolla and isomorphic stamens. The genus is well distributed in Southern India and represented by two species Canscorinella stricta and C. bhotiana. The name of the genus indicates its close affinity to Canscora Lamark.


This new species has been discovered and described based on collections made from Tutimg to Nereng, Upper Siang district of Arunachal Pradesh, India at 600m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in Herbaria of Eastern Regional Centre, Shillong (ASSAM), Northern Regional Centre, Dehradun (BSD) and in Central National Herbarium, Howrah (CAL). The species is named in memory of Ms Kamala Devi, Mother of the senior author late Dr. M. K. Pathak.

Amaranthus bengalensi Saubhik Das & Iamonico, Phytotaxa 181(5): 293.2014. (AMARANTHACEAE)

This new species has been discovered and described based on collections made from Bhangar in the lower gangetic plains of 24-Parganas (North), West Bengal, India. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL), and isotypes are in Sapienza University of Rome, Italy (HFLA). The species is named after the region Bengali.

This new species has been discovered and described based on collections made from Pangthang, ICRI field station, East Sikkim district, Sikkim, India. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL), and isotypes are in Deptt. of Botany, Calicut University, Mallapuram, Kerala (CAL). This species is named in honour of Dr. M. Sabu, Professor of Botany, Calicut University.


This new species has been discovered and described based on collections made from Cheranmahadevi, Tirunelveli district of Tamil Nadu, India. The holotype is deposited in the Botanical Survey of India, Southern Regional Centre, Coimbatore (MH) and isotypes are in herbarium of Deptt. of Botany, St. John’s College, Tirunelveli (ICB). The species is named after the district of its occurrence.


This new species has been discovered and described based on collections made from Oosimala Top, Valparai, Coimbatore district of Tamil Nadu, India at 1344m altitude. The holotype is deposited in the Deptt. of Botany, Calicut University, Mallapuram, Kerala (CAL) and isotypes are in Botanical Survey of India, Southern Regional Centre, Coimbatore (MH). The species is named in honour of Dr. P.V. Madhusoodanan, Former Head, Deptt. of Botany, Calicut University.


This new species has been discovered and described based on collections made from Pangthang, ICRI field station, East Sikkim district, Sikkim, India. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL), and isotypes are in Deptt. of Botany, Calicut University, Mallapuram, Kerala (CAL). This species is named in honour of Dr. M. Sabu, Professor of Botany, Calicut University.


This new species has been discovered and described based on collections made from Cheranmahadevi, Tirunelveli district of Tamil Nadu, India. The holotype is deposited in the Botanical Survey of India, Southern Regional Centre, Coimbatore (MH) and isotypes are in herbarium of Deptt. of Botany, St. John’s College, Tirunelveli (ICB). The species is named after the district of its occurrence.


This new species has been discovered and described based on collections made from Oosimala Top, Valparai, Coimbatore district of Tamil Nadu, India at 1344m altitude. The holotype is deposited in the Deptt. of Botany, Calicut University, Mallapuram, Kerala (CAL) and isotypes are in Botanical Survey of India, Southern Regional Centre, Coimbatore (MH). The species is named in honour of Dr. P.V. Madhusoodanan, Former Head, Deptt. of Botany, Calicut University.
**Aristolochia guirindera** Ravi Kumar, Umesh Kumar Tiwari & N. Balachandran, Phyto-taxa 172 (2): 118.2014. (ARISTOLOCIACEAE)

This new species has been discovered and described based on collections made from North-South Road, Campbell Bay, Great Nicobar Island of Andaman & Nicobar Island, India. The holotype is deposited in Herbarium of Foundation for Revitalization of Local Health Traditions, Bangalore (FRLH). The species is named in honour of Gurinderjit Singh Goraya, IFS, Deputy Inspector General of Forests (Research) at Indian Council of Forestry Research and Education (ICFRE), Dehra Dun.

**Arundinella pradeepiana** Sunil & Naveen Kumar, Webbia. J. Plant Taxonomy & Geography, 69(2): 249.2014. (POACEAE)

This new species has been discovered and described based on collections made from Edamalayar forest range, Varyam, Ernakulam district of Kerala, India at 800m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL), and isotypes are in Herbaria of Botanical Survey of India, Southern Regional Centre, Coimbatore (MH) & Department of Botany, Calicut University (CAL). The species is named in honour of Dr. A. K. Pradeep for his contribution to the Plant taxonomy.

**Brachystelma mahajanii** Kambale & S. R. Yadav, Kew Bulletin 69.9493.2.2014. (APOCYNACEAE)

This new species has been discovered and described based on collections made from Ebbanad village, Nilgiri district of Tamil Nadu, India. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL), and isotypes are in Royal Botanical Garden, Kew (K), Deptt. of Botany, Shivaji University, Kolhapur (SUK) and Herbarium of Botanical Survey of India, Southern Regional Centre, Coimbatore (MH) respectively. The species is named after Mr. S. D. Mahajan, of Gokale College.

This new species has been discovered and described based on collections made from Periya, Kasargod district, Kerala, India. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL), and isotypes are in herbaria of Royal Botanical Garden, Kew herbarium (K), Dept. of Botany, Shivaji University, Kolhapur (SUK) and Botanical Survey of India, Southern Regional Centre, Coimbatore (MH) respectively. The species is named in honour of late Dr. V.D. Vartak, Agharkar Research Institute, Pune.


This new species has been discovered and described based on collections made from Cherrapunjee, East Khasi district of Meghalaya, India at 1460m altitude. The holotype is deposited in the Herbarium of Botanical Survey of India, Eastern Regional Centre, Shillong (ASSAM). The specific epithet given after its type locality Cherrapunjee.


This new species has been discovered and described based on collections made from Balphakram National Park, Khundol Gup, South Garo Hills district of Meghalaya, India at 182m altitude. The holotype is deposited in the Herbarium of Botanical Survey of India, Eastern Regional Centre, Shillong (ASSAM). The species is named in honour of Prof. Manabendra Dutta Choudhury of Assam University, Silchar.
**Chlorophyllum palghatense** K.M.P. Kumar & A. Asad, Phytotaxa 188(5): 282-2014. (ASPARAGACEAE)

This new species has been discovered and described based on collections made from Dhoni Hills, Palamala of Palakkad district, Kerala, India at 1900m altitude. The holotype is deposited in the Herbarium of Centre for Medicinal Plants Research, Arya Vaidya Sala, Kottakkal (CMPR) and isotypes are in Herbarium of Deptt. of Botany, Calicut University (CALU), Southern Regional Centre, Botanical Survey of India, Coimbatore (MH) and Herbarium Deptt. of Botany, Shivaji University, Kolhapur (SUK). The species is named after the district of its existence.

**Chlorophyllum sharmae** A. Asad, Leikakh & S.R. Yadav, Kew Bulletin 69: 95031.2014. (ASPARAGACEAE)

This new species has been discovered and described based on collections made from Munnar, Idukki district of Kerala, India at 1402m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CALI) and isotypes are in Herbarium Royal Botanical Garde, Kew (K) and Herbarium Deptt. of Botany, Shivaji University, Kolhapur (SUK). The species is named in honour of Prof. A. K. Sharma, emeritus Professor, Calcutta University for his significant contribution in plant cytogenetics.

**Kraussopterigium arunachalense** Bhaumik, Kew Bulletin 69: 9491.2014. (SAXIFRAGACEAE)

This new species has been discovered and described based on collections made from Renu II, Pass beyond Youlring, West Siang district of Arunachal Pradesh, India at 3438m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CALI), and isotypes are in Herbarium of Botanical Survey of India, Arunachal Pradesh Regional Centre, Itanagar (ARUN). The species is named after the state Arunachal Pradesh.
Cleistanthus nokrensii B. Singh, Taiwania 59(3): 198. 2014. (EUPHORBIAEAE)

This new species has been discovered and described based on collections made from Nokrek Biosphere Reserve, Rongaisingiri, of Meghalaya, India at 267m altitude. The holotype is deposited in the herbarium of Botanical Survey of India, Eastern Regional Centre, Shillong (ASSAM). The specific epithet refers to the type locality “Nokrek Hills” in the Eastern Himalaya of India.


This new species has been discovered and described based on collections made along Bima river in between Machnur and Kasur villages in Solapur district of Maharashtra, India at 469m altitude. The holotype is deposited in the Central National Herbarium, Howrah (CAL) and isotypes are in Western Regional Centre, Pune (BSS), Herbaria of Royal Botanical Garden, Kew (K) and Deptt. of Botany, Shivaji University Kolhapur (SUJ). The species is named after district of its occurrence “Solapur”.

Crotalaria shuklai Arjun Prasad Tiwari & Anis Ahmad Ansari, Taiwania 59(1): 54.2014. (FABACEAE)

This new species has been discovered and described based on collections made along the Chambal river, near Chakarnagar in Etawah district of Uttar Pradesh, India at 130m altitude. The holotype is deposited in the herbarium of Botanical Survey of India, Central Regional Centre, Allahabad (BSA) and isotypes are in Central National Herbarium, Howrah (CAL). The species is named in honour of Dr. B. K. Shukla, retired Scientist, Botanical Survey of India in recognition of his contribution to the Flora of Chambal area.
कुर्कुमा मुखरानियाई आर. कु. सिंह एवं आलेख गर्ग, इंडियन ज. फॉर्म, 37(4):419.2014. (जिनिबेरेसेसी)

हरदी चूल की इस नवीन जाति का अनेकषण तथा वर्णन कर्नाटक राज्य के हुडसरी जनपद के मुक्कलिया वनस्पतीय अम्नायारण्य, कोल्लूर से 500 मी. की ऊँचाई से प्रायः संग्रहों के आभार पर किया गया है। जाति का मूल-प्रकृत हेन्द्राय राष्ट्रीय पारा 2014,

हावड़ा (सीएए) एवं समग्र पारा 2014, शिशुमी क्षेत्रीय केन्द्र, गुण्डे (सीएएआई) में संग्रहित किया गया है। इस जाति लेकार का (आर. के. एस.) ने अपनी दादी स्व. श्रीमति मुखरानी देवी के सम्मान में किया है।


This new species has been discovered and described based on collections made from Mookambika Wildlife Sanctuary, Kollur of Udupi district of Karnataka, India at 500m altitude. The holotype is deposited in Central National Herbarium, Howrah (CAL) and isotypes are in herbarium of Western Regional Centre, Pune (BSI). The species is named in remembrance of late Smt. Mukhrani Devi, Grandmother of one of the authors (RKS).

साइक्स के दशाई आर. सी. शीर्षास्त एवं श्री. जाना, इंडियन ज. प्ल्ज. साइ. 3(2):152.2014. (साइक्सेसियोसी)

साइक्स के दशाई आर. सी. शीर्षास्त एवं श्री. जाना, इंडियन ज. प्ल्ज. साइ. 3(2):152.2014. (CYCADACEAE)


This new species has been discovered and described based on collections made from Acharya Jagdish Chandra Bose Indian Botanical Garden, Howrah district of West Bengal. The holotype is deposited in herbarium of Central National Herbarium, Botanical Survey of India, Howrah (CAL). The species is named after the grandson of the author “Darsh”.

साइक्स साइनीधार आर. सी. शीर्षास्त एवं श्री. जाना, इंडियन ज. प्ल्ज. साइ. 3(1):110.2014. (साइक्सेसियोसी)

साइक्स साइनीधार आर. सी. शीर्षास्त एवं श्री. जाना, इंडियन ज. प्ल्ज. साइ. 3(1):110.2014. (CYCADACEAE)


This new species has been discovered and described based on collections made from Acharya Jagdish Chandra Bose Indian Botanical Garaden, Howrah district of West Bengal. The holotype is deposited in Central National Herbarium, Howrah (CAL). The species is named in honour of Sai Baba' from Sirdi.

This new species has been discovered and described based on collections made from Dibang valley, Kupup to Geyling, Upper Siang district, of Arunachal Pradesh, India at 800m altitude. The holotype and isotypes are deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL). The species is named after the state Arunachal Pradesh.


This new species has been discovered and described based on collections made from Myar Nallah river, Lahul valley of Himanchal Pradesh, India at 2743m altitude. The holotype and isotypes are deposited in The Natural History Museum, London (BM). The species is named after the Lahul Valley, Himanchal Pradesh.

Eleocharis khandwaensis Mujaffar, Chandore & S. R. Yadav, Nordic J. Bot.32: 710. 2014. (CYPERACEAE)

This new species has been discovered and described based on collections made from Baranagao village, Khandwa district of Madhya Pradesh, India at 318m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in herbaria of Royal National Herbarium, Kew, London (K), Westren Regional Centre, Pune (BSI) and Dept. of Botany, Shivaji University, Kolhapur (SUK) respectively. The species is named after region of its occurrence.

Eria gleoensis Ormerod & Agrawala, Taiwania 59(3): 206. 2014. (ORCHIDACEAE)

This new species has been discovered and described based on collections made from Mishmi Hills, Kamlang Valley, Glo of Arunachal Pradesh, India at 1220m altitude. The holotype is deposited in the herbaria of Oakes Ames Orchid Herbarium, Harvard University, Cambridge, USA (AMES) and isotypes are in New York Botanical Gardern, New York, USA (NY). The species is named after the type locality “Glo” in Kamlang Valley.
इरियोकांतोलन गोपालाकृष्णानम् के. रशिम एवं जी. कृष्णानगर, नार्धिक ज. बाँटू. 32.146.2014. (हैरियोकोलेसी)

इस नवीन जाति का अन्वेषण तथा वर्णन केरल राज्य के कसारगोड जनपद के मावुमुल से 63मी. की ऊंचाई से प्राप्त संग्रहों के आधार पर किया गया है। जाति का मूल प्रमुख श्रेणी राष्ट्रीय पादपालय, भारतीय वनस्पति सर्वेक्षण, हावड़ा (सीएएल) एवं समस्त लक्ष्य क्षेत्र कृपया, भारतीय वनस्पति सर्वेक्षण, कोयम्बटूर (एमएस), रायवाड़ा वायुविविधता उद्यान, वृक्ष (कृष्णम) एवं प्राचीन वनस्पति विज्ञान विभाग, मंगलौर विज्ञानविद्यालय के पादपालयों में संग्रहित किया गया है। इस जाति का नामकरण के. गोपालाकृष्णन नदेंद्र उदगी, कर्नाटक के समाचार में उनके द्वारा इस क्षेत्र के पौधों पर किये गये उल्लेखनीय कार्यों के आधार पर किया गया है।

Eriocaulon gopalakrishnanum K. Rashmi & G. Krishnakumar, Nordic J. Bot. 32: 146. 2014. (ERIOCAULACEAE)

This new species has been discovered and described based on collections made from Mavungal of Kasaragod district in Kerala, India at 63m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in herbaria of Southern Regional Centre, Botanical Survey of India, Coimbatore (MI), Royal Botanical Garden, Kew (K) and Dept of Applied Botany, Mangalore University respectively. The species is named in honour of K. Gopalkrishna Bhat, Udupi, Karnataka for his long and dedicated commitment to taxonomic studies of the plants in this region.

युष्मोरिया कडापेन्सिस सरोजनीदेवी एवं कॅंटरक्ट, फायजोटैक्सा 181(3): 179.2014 (युष्मोरियेसी)

अवला कुटु की इस नवीन जाति का अन्वेषण तथा वर्णन आप्रवश्यक के कसारगोड जनपद के मावुमुल से 372मी. की ऊंचाई से प्राप्त संग्रहों के आधार पर किया गया है। जाति का मूल प्रमुख श्रेणी राष्ट्रीय पादपालय, भारतीय वनस्पति सर्वेक्षण, हावड़ा (सीएएल) एवं समस्त लक्ष्य क्षेत्र कृपया, भारतीय वनस्पति सर्वेक्षण, कुस्तोदिया विश्वविद्यालय, अनंतपूर, भारत प्रदेश (एसआई) एवं सम प्रमुख भारतीय वनस्पति सर्वेक्षण, दक्षिण कृष्णानगर कृपया, एडवर्ड अलाइडी एवं दक्षिण कृष्णानगर कृपया, कोयम्बटूर (एमएस) के पादपालयों में संग्रहित किया गया है। इस जाति का नामकरण इसके प्राप्त संग्रह के आधार पर किया गया है।

Euphorbia kadapensis Sarojindivi & Venkataraju, Phytotaxa 181 (3): 179. 2014. (EUPHORBIACEAE)

This new species has been discovered and described based on collections made from Mabbuchinthalapalle, Palakonda hills, Kadapa district of Andhra Pradesh, India at 372m altitude. The holotype is deposited in the herbarium of Deptt. of Botany, Sri Krishnadevaraya University, Anantapur, Andhra Pradesh (SKU) and isotypes are in herbaria of Botanical Survey of India, Deccan Regional Centre, Hyderabad (BSID) & Southern Regional Centre, Coimbatore (MI). The species is named after district of its occurrence.

क्रिसोडेलिया सहायद्रिका एन. भे. सर्वेशव, फायजोटैक्सा 158(3): 278.2014. (क्रिसोडेलियाइसी)

अवला कुटु की इस नवीन जाति का अन्वेषण तथा वर्णन कानून रक्षक के उत्तर कन्नडा जनपद के कांडलेकर संग्रहित संत्र क्षेत्र से 110मी. की ऊंचाई से प्राप्त संग्रहों के आधार पर किया गया है। जाति का मूल प्रमुख श्रेणी राष्ट्रीय पादपालय, भारतीय वनस्पति सर्वेक्षण, हावड़ा (सीएएल) एवं सम प्रमुख पश्चिमी कृष्णानगर कृपया, भारतीय वनस्पति सर्वेक्षण, पुणे (धीराइडी) एवं समस्त लक्ष्य क्षेत्र कृपया, कोयम्बटूर (एमएस) के पादपालयों में संग्रहित किया गया है। इस जाति का नामकरण सहायद्री के पौधों के आधार पर किया गया है।

Friesiodendron sahyadrica N.V. Page & Surveswar, Phytotaxa 158 (3): 278. 2014. (ANNONACEAE)

This new species has been discovered and described based on collections made from Kathlekam Reserve Forest, Uttar Kannada district, Karnataka, India at 110m altitude. The holotype is deposited in Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in herbaria of Western Regional Centre, Botanical Survey of India, Pune (BSI). Raw Drug Repository, Bangalore (FRLH) and Centre for Ecological Sciences, Indian Institute of Science, Bangalore (JCB). The species is named after Sahyadri Mountain Range.
Glochidion kingii M. V. Ramana, Sanjappa, Venu & Alok Chorghe, Nordic J. Bot. 0: 1. 2014. (EUPHORBIEACEAE)

This new species has been discovered and described based on collections made from Saddle Peak National Park, Kalpong River; North Andaman Islands, Andaman & Nicobar Islands, India at 225m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isolotypes are in herbaria of Deccan Regional Centre, Botanical Survey of India, Hyderabad (BSID) and Andaman & Nicobar Regional Centre, Botanical Survey of India, Port Blair (PBL). The species is named in honor of Sir George King, British Botanist and the founder Director of the Botanical Survey of India.


This new species has been discovered and described based on collections made from Tirumala hills, on the way to Kumarakonda Pusuputara Dam in Andhra Pradesh, India at 978m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isolotypes are in herbarium of Deccan Regional Centre, Botanical Survey of India, Hyderabad (BSID). The species is named after the type locality, Tirupathi, a famous temple town in Andhra Pradesh.
**Habenaria osmastonii** Karthig, Maina, Sumathi, Jayanthi & Jalal, Phytotaxa 166 (2): 151.2014. (ORCHIDACEAE)

This new species has been discovered and described based on collections made from Rutland Island, Dyer Point, South Nicobar Islands. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL). The species is named after Bertram Beresford Osmaston, who made the first collection of this species from Rutland Island in South Andaman.


This new species has been discovered and described based on collections made from stream side on the way to Megamalai hills near Kardana Estate, Theni district of Tamil Nadu, India at 1350m altitude. The holotype is deposited in the herbarium of Botanical Survey of India, Southern Regional Centre, Coimbatore (MH) and isotypes are in herbaria of Madura College, Madurai and Central National Herbarium, Botanical Survey of India, Howrah (CAL). The species is named in honour of Dr. K. M. Rajasekaran, Deptt. of Botany, Madura College.


This new species has been discovered and described based on collections made near river bank, Sadam, South district, Sikkim, India at 1500m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in herbaria of Forest Research Institute, Dehradun (DD) & National Herbarium of Cultivated Plants, NBPGRC, New Delhi (NHCP). The specific epithet refers its characteristic lid like feature (operculum) at styal end of the fruit.
Himalaiella lusahaensis Y.S. Chen & Q. Yuan, Phytotaxa 173 (4): 293.2014. (ASTERACEAE)

This new species has been discovered and described based on collections made from open grassland, South of Lushai of Mizoram, India at 1372m altitude. The holotype is deposited in the herbarium Royal Botanical Garden, Kew (K). The species is named after the type locality Lushai.

Hydrocotyle longipedunculatus Robi, Sasidh & Jose, Webbia: journal of Plant Taxonomy and Geography 69(2): 243.2014. (FLACCOURTACEAE)

This new species has been discovered and described based on collections made from, Kollamavu of Idukki district, Kerala, India at 750m altitude. The holotype is deposited in the Southern Regional Centre, Botanical Survey of India, Coimbatore (MH1) and isotypes are in Central National Herbarium, Botanical Survey of India, Howrah (CAL) & Herbarium of Kerala Forest Research Institute (KRFI). The specific epithet refers to the longpeduncle, which is a unique character of this species.

Impatiens paramjittana Gogo & Borah, Phytotaxa 175 (3):171.2014. (BALSAMINACEAE)

This new species has been discovered and described based on collections made from Daporijo, Along, West Siang district of Arunachal Pradesh, India at 400m altitude. The holotype is deposited in Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in herbaria of Botanical Survey of India, Eastern Regional Centre, Shillong (ASSAM) and Arunachal Pradesh Regional Centre, Itanagar (ARUN). The species named is given in honour of Dr. Paramjit Singh, Director, Botanical Survey of India, for his contribution to Indian plant taxonomy.
Indigofera kudiraimoziensis Selvak. & Rajakumar, Indian J. Forest. 37(3): 309. 2014. (FABACEAE)

This new species has been discovered and described based on collections made from Kudiraimozi Theni, Puchikadu of Thoothukudi district, Tamil Nadu, India. The holotype is deposited in herbarium of Botanical Survey of India, Southern Regional Centre, Coimbatore (MH) and isotypes are in Department of Botany, St. John's College, Tirunelveli (CH). The specific epithet is based on the type locality.


This new species has been discovered and described based on collections made from Katchal Island towards Kapanga, Andaman & Nicobar Island, India. The holotype is deposited in Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in herbarium of Botanical Survey of India, Andaman & Nicobar Regional Centre, Port Blair (PBL). The species is named after Dr. P Chakraborty for his valuable contribution to the flora of Andaman and Nicobar Islands.


This new species has been described based on collections made from Western Himalaya, Uttarakhand at 6000ft. altitude. The holotype and isotypes are deposited in the Herbarium of Forest Research Institute, Dehradun (DD). The species is named in honour of the German Botanist D. Brandis, who has collected this specimen.

This new species has been discovered and described based on collections made from, North slopes above Sebu-La of North Sikkim district of Sikkim at 4750m. altitude. The holotype is deposited in the herbarium of Sikkim Himalayan Regional Centre, Botanical Survey of India, Sikkim (BSSH). The species is named to honour of Dr. Paramjot Singh, Director, Botanical Survey of India.


This new species has been discovered and described based on collections made from Mobo Mountain top Upper Siang district of Arunachal Pradesh at 315m. altitude. The holotype is deposited in the herbarium of Arunachal Pradesh Regional Centre, Botanical Survey of India, Itanagar (ARUN). The species is named after the author RCS grandson.


This new species has been discovered and described based on collections made from Vijayanarayanaam Tirunelveli district of Tamil Nadu, India at 40m. altitude. The holotype is deposited in the herbarium of Deptt. of Botany, Calicut University, Calicut (CALI) and isotypes are in Herbaria of (CALI) and Southern Regional Centre, Coimbatore (MH). The specific epithet is refers its origin from state “Tamil Nadu”.

Memecylon ponmudianum Sivu, N.S.Pradeep & Pandur. Phytotaxa 162 (1): 44.2014. (MELASTOMATAECE)

This new species has been discovered and described based on collections made from Ponmudi Hills, Kowdiyamottali, Thrivaranthapuram district of Kerala India at 779m. altitude. The holotype is deposited in the Herbarium of Jawaharal Nehru Tropical Botanic Garden and Research Institute, Karimankode, Palode(TBG) and isotypes are in Herbarium of Botanical Survey of India, Southern Regional Centre, Coimbatore (MH). The species is named after type locality in Ponmudi Hills.

This new species has been discovered and described based on collections made from Darjeeling, West Bengal India at 1200m, altitude. The holotype is deposited in the herbarium of Royal Botanical Garden, Edinburgh (RBGE) and isotypes are in Arnold Arboretum, Harvard University (AAH). The specific epithet refers bell like appearance of its flowers.

Musa argentea Gogoi & Borah, Edinburgh J. Bot. 71 (2): 181. 2014 (MUSACEAE)

This new species was discovered and described based on collections made along the road to Debhan from the zero point junction at Wakro, Lohit district of Arunachal Pradesh, India at 488m, altitude. The holotype is deposited in the Central National Herbarium Botanical Survey of India, Howrah (CAL) and isotypes are in Botanical Survey of India, Arunachal Pradesh Regional Centre, Itanagar (ARUN) and Herbarium of Botanical Survey of India, Eastern Regional Centre, Shillong (ASSAM). The new species is named in honour of Dr George Argent, Royal Botanic Garden, Edinburgh, for his contribution to Musaceae.
**Musa indandamanensis** L. Singh Taiwania, 59(1): 27. 2014. (MUSACEAE)

This new species has been discovered and described based on collections made from, Hut Bay, Krishna Nalah, Little Andaman, Andaman & Nicobar Islands, India at 23m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isolotypes are in Herbarium Andaman & Nicobar Regional Centre, BSI, Port Blair (PBL). The species is named after India and Andaman.

**Musa nagalandiana** S. Dey & Gogoi, Nordic J. Bot., 32: 584. 2014. (MUSACEAE)

This new species has been discovered and described based on collections made from, Makham village near V. K. Town at Zunheboto district of Nagaland, India at 463m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isolotypes are in Herbarium Eastern Regional Centre, BSI, Shillong (ASSAM). The specific epithet refers the state Nagaland, from where it has collected.

**Nymphaea manipurensis** Asharani & Biseshwori, Phytotaxa 188(2): 112. 2014. (NYMPHAEACEAE)

This new species has been discovered and described based on collections made from Narankanji in, Imphal West district, Manipur India at 726m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India. Howrah (CAL) and isolotypes are in Herbarium of Institute of Bioresources and Sustainable Development, Imphal. The species is named after the state of its occurrence.
Pancratium nairii Sasikala & Reema Kumari, Indian J. Forest. 36(4): 543. 2014. (AMARYLLIDACEAE)

This new species has been discovered and described based on collections made from Temple Gate, Thalassery, Kerala, India at 213m altitude. The holotype & isotypes are deposited in the herbarium of Botanical Survey of India, Southern Regional Centre, Coimbatore (MH). The specific epithet is given to honour Dr. V. J. Nair, for his contribution to grass flora of India.


This new species has been discovered and described based on collections made from Tlangsiang, Jampui hill range, North district of Tripura, India at 770m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in Herbarium, Botanical Survey of India, Eastern Regional Centre, Shillong (ASSAM). The species is named after type locality in Jampui hill.

Picrorhiza tubergana E. P. Shukla, N. V. Nair, J. B. Tiet., 32.311.2014. (SCROPHULARIACEAE)

This new species has been discovered and described based on collections made from Tungnath, Rudraprayag district of Uttarakhand, India. The holotype is deposited in the Herbarium of Northen Regional Centre, Botanical Survey of India, Dehradun (BSD) and isotypes are in Central National Herbarium, Botanical Survey of India, Howrah (CAL). The species is named after the Lord Tungnath, Uttarakhand.

Pteropetalum arunachalense M. Bhaumik & P. Satyanar., Nordic J. Bot. 32: 471. 2014. (APIACEAE)

This new species has been discovered and described based on collections made from Mechuka to Yourlung near Hanuman camp, West Siang district of Arunachal Pradesh, India at 2300m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in Herbarium of Arunachal Pradesh Regional Centre, BSI, Itanagar (ARUN). The species is named after the state of its origin.
Rhyncnosia ravii K. Prasad & A. Naray., Phytotaxa 175(3): 156. 2014. (LEGUMINOSAE : PAPILIONOIDEAE)

This new species has been discovered and described based on collections made from Anantapuram district, Talapula village of Andhra Pradesh, India at 550m altitude. The holotype is deposited in the Herbarium of Botanical Survey of India, Deccan Regional Centre, Hyderabad (BSID) and isotypes are in Deptt. of Botany, Sri Krishnadevaraya University, Anantapuram (SKU).

Rhyncchospora panduranganii Viji, Shaju & Geetha Kum., Kew Bull. 69(3):9519.1.2014. (CYPERACEAE)

This new species has been discovered based on collections from Wayanad district, Kerala, India at 550m altitude. The holotype is deposited in the Herbarium of Tropical Botanical Garden and Research Institute, Trivandrum (TBGT) and isotypes are in Central National Herbarium, Botanical Survey of India, Howrah (CAL) and Herbarium of Botanical Survey of India, Southern Regional Centre, Coimbatore (MH). The species is named in honour of Dr. A. G. Pandurangan, Jawahar Lal Nehru Tropical Botanical Garden & Research Institute, Palode, for contribution in plant taxonomy & conservation.

Rotala dhaneshiana Sunil, Ratheesh & Sivadasan, Phytotaxa 188 (4): 227.2014. (LYTHRACEAE)

This new species has been discovered and described based on collections made from Wayanad Wildlife Sanctuary, Maragadha, Wayanad district, Kerala, India at 900m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in Botanical Survey of India, Southern Regional Centre, Coimbatore (MH), and Herbarium of Tropical Botanical Garden & Research Institute, Trivandrum (TBGT). The specific epithet is given in honour of Mr. P. Dhanesh Kumar, Divisional Forest Officer, South Wayanad Forest Division, Kerala.
रोटाला सहयाद्रिका एस. पी। गायकवाड़, सरदेसाई एवं एस. ग्राम यादव, नॉर्डिक ज. बॉट., 32:575.2014. (लाइफ्रैसी)
इस नवीन जाति का अवक्षेपण तथा वर्गन महाराष्ट्र राज्य के सातारा जनपद के कांस घाटी के क्षेत्र से 900मी. की ऊंचाई से प्राप्त संग्रहों के आधार पर किया गया है। जाति का मूल प्रजाति केंद्रीय राष्ट्रीय पारदर्शण, भारतीय वनस्पति संरक्षण, हावड़ा (सीएसए) एवं समन्वय पारदर्शण जॉ हीरोम अभिज्ञान, नसावला विज्ञानविद्यालय, औरंगाबाद (सीएसए), पारदर्शण पश्चिमी केंद्र, भारतीय वनस्पति संरक्षण, पुणे (सीएसए) एवं पारदर्शण वनस्पति विविध विभाग, निजराज विश्वविद्यालय, कोलकाता (सीएसए) में संग्रहित किया गया है। इस जाति का नामकरण परिसरी घाट की सहयाद्री पर्वतमाला के नाम पर आधारित है।

This new species has been discovered and described based on collections made from Kas plateau, Satara district of Maharashtra, India at 900m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in Herbarium of Deptt. of Botany, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (BAMU), Herbarium, Western Regional Centre, BSI, Pune (BSI) and Herbarium Deptt. of Botany, Shivaji University, Kolhapur (SKU). The specific epithet is refers type locality in Sahyadri Mountains of Western Ghats.

सोरोगैटम मेघालयेंसे भी. के. रॉय, ए. डी. लातूकडार, भी. के. सिंहा एवं एम. दत्ता बीरभूम, भी—वाय अ.स. की. 5(3):1.2014. (एरावी)
इस नवीन जाति का अवक्षेपण तथा वर्गन मेघालय राज्य सातारा जनपद के हैरिशंकर प्रांत संग्रहों के आधार पर किया गया है। जाति का मूल प्रजाति पारदर्शण, पुणे केंद्र, भारतीय वनस्पति संरक्षण, शिलांग (सीएसए) में संग्रहित किया गया है। इस जाति का नामकरण जाति के प्राणी संरक्षण वनस्पति के नाम पर आधारित है।

This new species has been discovered and described based on collections made from Hatisa, South Garo Hills district of Meghalaya, India. The holotype is deposited in the Herbarium, Eastern Regional Centre, Botanical Survey of India, Shillong (ASSAM). The species is named after the state of its occurrence.

स्टाउरोगायनी अंडमानिका एम.वी. रमान, संजयप्रा, बेपु एवं योगी, बबू बूलेटिन 69: 9506.1.2014. (एकेनेब्री)
इस नवीन जाति का अवक्षेपण तथा वर्गन अंडमान एवं निकोबर द्वीप समूह के उत्तरी अंडमान द्वीप सिरिज राष्ट्रीय स्वर्ण, काळ्यांगे से प्राप्त किये गए संग्रहों के आधार पर किया गया है। जाति का मूल प्रजाति केंद्रीय राष्ट्रीय पारदर्शण, भारतीय वनस्पति संरक्षण, हावड़ा (सीएसए) एवं समन्वय पारदर्शण केंद्र, हैदराबाद (सीएसए) एवं अंडमान एवं निकोबर केंद्र, पोट्स ब्लॉक (सीआई) के पारदर्शणों में संग्रहित किया गया है। इस जाति का नामकरण अंडमान द्वीप समूह के नाम पर आधारित है।

This new species has been discovered and described based on collections made from Saddle Peak National Park, Kalpong, North Andaman Island, Andaman & Nicobar, India. The holotype is deposited in Central National herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in Herbaria of Botanical Survey of India, Deccan Regional Centre, Hyderabad (BSID) and Andaman & Nicobar Regional Centre, Port Blair (PBL). The species is named after the Andaman Island.
This new species has been discovered and described based on collections made from Saddle Peak National Park, Kalipur, Andaman Island, Andaman & Nicobar, India at 586m altitude. The holotype is deposited in Central National herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in herbaria of Botanical Survey of India, Deccan Regional Centre, Hyderabad (BSID) and Andaman & Nicobar Regional Centre, Port Blair (PBL) respectively. The species is named in honour of Sir J.D. Hooker for his great contribution to the flora of British India.

This new species has been discovered and described based on collections made from Valara, Idukki district of Kerala India at 370m altitude. The holotype is deposited in Tropical Botanical Garden and Research Institute, Trivandrum, (TBGT) and isotypes are in Botanical Survey of India, Southern Regional Centre, Coimbatore (MH) and TBGT respectively. The species is named after the region from where it has been collected.

This new species has been discovered and described based on collections made from Silent Valley National Park, Munnar, Idukki district of Kerala India at 2100m altitude. The holotype is deposited in Botanical Survey of India, Southern Regional Centre, Coimbatore (MHI) and isotypes are in herbaria of Kerala Forest Research Institute, Thrissur (KFRi) and Central National Herbarium, Botanical Survey of India, Howrah (CAL) respectively. The species is named after the Sahyadri Hills of western Ghats.

Siqaijizym Sanjappaiana M.V. Ramana, Blumea 59:45.2014. (MYRTACEAE)

This new species has been discovered and described based on collections made from Sadicle Peak National Park, Andaman Island of Andaman & Nicobar, India at 228m altitude. The holotype is deposited in Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in herbaria of Botanical Survey of India, Deccan Regional Centre, Hyderabad (BSD) and Andaman & Nicobar Regional Centre, Port Blair (PBL) respectively. The species is named in honour of Dr. M. Sanjappa, former Director, Botanical Survey of India.
**Thottahua adichilhottiana** Sunil & Naveen Kumar, Webbia: J. Pl. Tax. & Geog. 69 (2):239. 2014. (ARISTOLOCHIACEAE)

This new species has been discovered and described based on collections made from Edamalayar Forest Range, Adichilhotty, Ernakulam district of Kerala, India at 758m altitude. The holotype is deposited in Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in Herbarium of Botanical Survey of India, Southern Regional Centre, Coimbatore (MH). The species is named after the type locality Adichilhotty.

**Thottahua sasisedaraniana** Robi, Nordic J. Bot. 31: 101. 2014. (ARISTOLOCHIACEAE)

This new species has been discovered and described based on collections made from Kakkayam, Kozhikode district of Kerala, India at 750 altitude. The holotype is deposited in Herbarium of Botanical Survey of India, Southern Regional Centre, Coimbatore (MH) and isotypes are in herbaria of Deptt. of Botany, Calicut University (CAL) and Kerala Forest Research Institute, (KFR). The specific epithet of this new taxon is in honor of Dr. N. Sasidharan, for his valuable contribution in plant taxonomy.

**Tinospora maqsoodiana** Muqaffar, Moinuddin and Mustakim, Indian Forester 140(5):528.2014. (MENISPERMAECEAE)

This new species has been discovered and described based on collections made from Babangaoon and Tirandag village, Khandwa district of Madhya Pradesh, India at 318m altitude. The holotype is deposited in Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in herbaria of Royal Botanical Garden, Kew (K) and Botanical Survey of India, Western Regional Centre, Pune (BSS) respectively. The species is named after its collector, Shaikh Maqsood.
विन्या कोन्कानेन्सिस (तता, के. दी. भट्ट, आई. एस. हदूर, स्पिनिया, जोसेफ जोन एवं कृष्णासर, येक्क्हिया : जर्नल ऑफ प्लांट टेक्स्चरोलॉजी एवं फिलोप्रोफिस्की 69(1): 49.2014, (के०)०) मात्र कुल की यह नवीन जाति का अनुभवक तथा वर्णन महाराष्ट्र राज्य के रतनगरी जनपद, पश्चिमी भारत से प्राप्त किये गए संग्रहों के आधार पर किया गया है। जाति का मूल प्रकार भोपाल शहरी अध्ययन के एकीकृत फ्लांट एंटिकीजीजेचर, नई दिल्ली (एनएलसी) एवं समापन के रायपुर राज्य पादपालय, भारतीय वनस्पति सर्वेक्षण, रायपुर (वसा), वनस्पति विभाग चिकित्सा, आयुक्त विभाग (सीएसटीआई), भारतीय वनस्पति सर्वेक्षण, दलितों के क्षेत्रीय केंद्र, कोयंबटूर (एमके) एवं दुड़ेक वनस्पति उद्यान एवं अनुसंधान संस्थान, विजेन्द्र (दीजीएटीआई) के पादपालयों में संग्रहित किया गया है। इस जाति का नामकरण कोक्केन्सिस में इसकी प्राप्ति होने पर आधारित है।


This new species has been discovered and described based on collections made from western coast of Ratnagiri district of Maharashtra, India. The holotype is deposited in the National Herbarium of Cultivated Plants, NBGPR, New Delhi (NHCP) and isotypes are in herbaria of Central National Herbarium, Botanical Survey of India, Howrah (CAL), Deptt. of Botany, Calcut University (CAL), Southern Regional Centre, Coimbatore (M'H) and Tropical Botanical Garden and Research Institute, Trivandum (TBGT). The species is named after the region of its occurrence, Konkan.

विन्या यादवाई (एल. दी. गायकवाड, आई. दी. गोर, एस. दी. राणीदीव एवं ए०. पू. गर्ग, बायोडायविज्ञानिकी डाया जर्नल, 2.1.2014, (के०)०) मात्र कुल की यह नवीन जाति का अनुभव क्षेत्र वर्णन महाराष्ट्र राज्य के नारिक जनपद के पश्चिमी भारत में का नामकरण के संग्रहों से 365 मी. की ऊँचाई से प्राप्त किये गए संग्रहों के आधार पर किया गया है। जाति का मूल प्रकार भोपाल शहरी अध्ययन के एकीकृत फ्लांट एंटिकीजीजेचर, नई दिल्ली (एनएलसी) एवं समापन के रायपुर राज्य पादपालय, भारतीय वनस्पति सर्वेक्षण, रायपुर (वसा) एवं समापन पादपालय, भारतीय वनस्पति सर्वेक्षण, पश्चिमी क्षेत्रीय केंद्र, पूर्व (सीएसटीआई) में संग्रहित किया गया है। इस जाति का नामकरण प्रथा. एस. आर. यादव, वनस्पति विभाग चिकित्सा, आयुक्त विभाग (सीएसटीआई), रायपुर के समान के उपर द्वारा पश्चिमी भारत की पादप विभागीय चिकित्सा द्वारा पद्धति गोरे द्वारा योगदान पर आधारित है।


This new species has been discovered and described based on collections made from Kasara Ghat near Lgtpuri, Western Ghats, Nashik district of Maharashtra, India at 365m. altitude. The holotype is deposited in Central National Herbarium, Botanical Survey of India, Howrah (CAL), and isotypes are in Botanical Survey of India, Western Regional Centre, Pune (BSI). The species is named in honor of Prof. S.R. Yadav, Department of Botany, Shivaji University Kolhapur, in recognition of his valuable contribution to taxonomy of flowering plants of Western Ghats of India.

जिजीबर पर्मिसेअंससिस विशेषज्ञ एवं विज्ञान, फाइटोटेक्सस 178(3):221.2014, (जिजीबर) इस नवीन जाति का अनुभवक तथा वर्णन नागा०००० राज्य के विद्यापुर जनपद के फियरिया ग्राम के निकट वन क्षेत्र से 87मी. की ऊँचाई से प्राप्त किये गए संग्रहों के आधार पर किया गया है। जाति का मूल प्रकार पादपालय भारतीय वनस्पति सर्वेक्षण, पूर्वी क्षेत्रीय केंद्र, शिलांग (एसएसएसएम) एवं समापन पादपालय इंडीएसटीएम ओवर वनस्पति विभाग, इंदिरा गांधी नगर (आईआईएसएम) में संग्रहित किया गया है। इस जाति का नामकरण प्रथा. एस. आर. यादव, वनस्पति विभाग चिकित्सा, आयुक्त विभाग (सीएसटीआई) के पादप विभागीय चिकित्सा के पद्धति गोरे द्वारा योगदान पर आधारित है।

Zingiber pericmaense Bisheshwori & Bipin, Phytotaxa 178 (3):221.2014. (ZINGIBERACEAE)

This new species has been discovered and described based on collections made from forest nearby Pherima village, Dimapur district of Nagaland India at 870m altitude. The holotype is deposited in the Herbarium of Botanical Survey of India, Eastern Regional Centre, Shillong (ASSAM) and isotypes are in Herbarium Institute of Bioresources and Sustainable Development, Imphal (BISD). The species is named after the type locality Pherima.
This new variety has been discovered and described based on collections made from Salt Lake on EM Bypass, 24-Parganas (North) district of West Bengal, India. The holotype is deposited in the Central National Herbarium Botanical Survey of India, Howrah (CAL). The varietal epithet is refers to the acute apex of the bracts, bracteoles and tepals.

Amaranthus cruentus L. var. albus S. Das, Nordic J. Bot., 30:7EV.2012. (AMARANTHACEAE)
This new variety has been discovered and described based on collections made Phagli, Regional Station, NBPG, Shimla district of Himachal Pradesh, India. The holotype is deposited in the Central National Herbarium Botanical Survey of India, Howrah (CAL). The varietal epithet is refers to white to greyish white colour of the seed coat.

Bambusa tulda Roxb. var. gamblei P. Kumari & P. Singh, Bamboos of Meghalaya 58:2014. (POACEAE)
This new variety has been discovered and described based near Nokrek, Garo hills of Meghalaya, India. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL). The varietal epithet is given in honour of the Botanist J.S. Gamble.

Musa aurantiaca Baker var. homenborgohainiana Gogoi, Nordic J. Bot., 32:702.2014. (MUSACEAE)
This new variety has been discovered and described based on collections made 10 km before of Kayeng to Tato, West Siang district of Arunachal Pradesh, India. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in Eastern Regional Centre, Shillong (ASSAM) and Arunachal Pradesh Regional Centre, Itanagar (ARUN). This new variety is named after the Assamese writer Homen Borgohain.

This new variety has been discovered and described based on collections made in between Jenging to Karko, Upper Siang district of Arunachal Pradesh, India. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in herbaria of Eastern regional Centre, Shillong (ASSAM) and Arunchal Pradesh Regional Centre, Itanagar (ARUN). This new variety is named after its type locality, Jenging in the Upper Siang district, Arunachal Pradesh, India.

Musa balbisiana Colla var. elavazhai A.Joe, Sreejith & M.Sabu, Phytotaxa 175 (2):113.2014. (MUSACEAE)

This new variety has been discovered and described based on collections made from Calicut University Botanical Garden (cultivated), Malappuram district of Kerala, India. The holotype is deposited in the Deptt. of Botany, Calicut University, Calicut (CALI) and isotypes are in Herbarium of Botanical Survey of India, Southern Regional Centre, Coimbatore (MI-). The varietal epithet based on its common name ‘elavazhai’ in Malayalam language.
Musa manii Baker var. namdangensis Gogoi & Borah, Taiwania 59(2): 94. 2014. (MUSACEAE)

This new variety has been discovered and described based on collections made from Namdang just near the check gate Changiang district of Arunachal Pradesh, India. The holotype is deposited in Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in herbaria of Botanical Survey of India, Eastern Regional Centre, Shillong (ASSAM) and Arunachal Pradesh Regional Centre, Itanagar (ARUN). The variety is named after its type locality, Namdang.


This new variety has been discovered and described based on collections made from makum road, Thermal Gate, Tinsukia district of Assam, India at 146m. altitude. The holotype is deposited in Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in Herbarium of Deptt. of Botany, Calicut University, Calicut (CAL). The varietal epithet variegata derived from its variegated bracts.

Nymphaea manipurensis var. versicolor Asharani & Biseshwori, Phytotaxa 188(2): 113. 2014. (NYMPHAEACEAE)

This new variety has been discovered and described based on collections made from Yaralpat, Imphal East district, Manipur, India at 779m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in Herbarium of Institute of Bioresources and Sustainable Development, Imphal. The variety is named after the streaks on the outer surface of the sepal.
फानेश ग्लाको बेंथ. उपजाति टेनिलफिला (Bönt एक्स सी. बी. क्लाओ) ए शुमीलज प्रमेद गांधीयाना गगोई एवं कबीयाशील, ज. बोन्ट, रिसर्च, इंस्टीट्यूट, टेक्सास, 8(1):71.2014. (केठेली : शिक्षज्ञानिकी)

सोयाशिकी कुल के इस नवीन प्रमेद का अन्वेषण तथा वर्णन अनुसारित प्रेद के अलावा जनवर के चांगवतीय एवं वालीगी के तालह को एवं नागर 8000 फीट को अनुसारित संयोजन का आधार पर किया गया है। जाति का भूल प्रवेश एवं रास्ते खालिल, बाली हाइड्रा (सीएएम) एवं समर्पण पादपालय, भारतीय वनस्पति संख्या, अरुणाचल उपजाति प्रदेश स्वरूप, इंडियाना (एएसएएम) एवं पूर्वी क्षेत्रगती, हाइड्रा (एएसएएम) में संग्रहित किया गया है। ऐसा प्रमेद का नामकरण उनके. एक्स गांधी के समान में उनके द्वारा पादप वर्गों के विज्ञान योग्यता के आधार पर किया गया है।


This new variety has been discovered and described based on collections made in between Changwanti and Walong, Arunachal Pradesh, India at 800m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes in herbaria of Botanical Survey of India, Arunachal Pradesh Regional Centre (ARUN) and Eastern Regional Centre, Shillong (ASSAM). The variety has been named to honor Dr. K.N. Gandhi for his valuable contribution in the field of plant nomenclature.

फानेश ग्लाको बेंथ. उपजाति टेनिलफिला प्रमेद मुरलिनेंसिस रम कुमार, बंगाल. एवं एस गांधी, फायटोडेटा 166 (2):155. 2014. (फेब्जेली)

मात्र कुल के इस नवीन प्रमेद का अन्वेषण तथा वर्णन मिलोमर राज्य में स्थित गुलारन राज्यीय उद्यान के बाद जोन में दादर एवं नागर के बीच से 14000 फीट की ऊँचाई से प्राप्त संग्रहों के आधार पर किया गया है। जाति का भूल प्रवेश कंडीश राज्यीय पादपालय, भारतीय वनस्पति संख्या, हाइड्रा (सीएएम) एवं समस्त पादपालय, भारतीय वनस्पति संख्या, पूर्वी क्षेत्रीय, हाइड्रा (एएसएएम) में संग्रहित किया गया है। इस प्रमेद का नामकरण मुरलिन राज्यीय उद्यान के नाम पर आधारित है।

Phanera glauca Benth. subsp. tenuiflora var. murlenensis Ram. Kumar, Bandyop. et S.Sharma, Phytotaxa 166(2):155.2014. (फेब्जेली)

This new variety has been discovered and described based on collections made from the buffer region of Murlen National Park, between Vapar and Nagur of Mizoram, India at 1400m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in Botanical Survey of India, Eastern Regional Centre, Shillong (ASSAM). The variety has been named after the Murlen National Park.

राईविना ह्युमिलिस लिः प्रमेद ब्रेक्टेटा डी. मैती, सोनिया मित्रा, मानसी मंडल एवं मैती, रिहेडया 24(2):103.2014. (फाइटोलोजी)

इस नवीन प्रमेद का अन्वेषण तथा वर्णन पश्चिम बंगाल राज्य के कोलकाता से प्राप्त संग्रहों के आधार पर किया गया है। जाति का भूल प्रवेश पादपालय कंडीश विश्वविद्यालय, कंडीश (सीएएम) एवं समान प्रबंध राज्यीय पादपालय, भारतीय वनस्पति संख्या, हाइड्रा (सीएएम) में संग्रहित किया गया है। इस प्रमेद का नामकरण इसके सह-विशेषज्ञ के विशेष संबंधित पर आधारित है।

Rivina humilis L. var. bracteata D. Maity, Sonia Mitra, Manasi Mandal et Maiti, Rheedia 24(2): 103.2014. (PHYTOLACCACEAE)

This new variety has been discovered and described based on collections made from the Kolkata, West Bengal, India. The holotype is deposited in the Calcutta University Herbarium, Kolkata (CUH) and isotypes are in Central National Herbarium, Botanical Survey of India, Howrah (CAL). The vernacular epithet is refers to its prominent bract.
NEW DISTRIBUTIONAL RECORDS

Achyranthes diandra Roxb. (AMARANTHACEAE)
This herbaceous species earlier known from Sri Lanka has been reported for the first time from India based on the collection made from Chandal, Mellon Hill range of Manipur. The specimen is deposited in the Herbarium, Foundation for Revitalisation of Local Health and Traditions (FRLH), Bangalore. It has been published by Balachandran N. and K. Ravikumar in Rheedia 24(2): 124-2014.

Acrotera costatum Jack. (DILLENIACEAE)
This perennial shrub species earlier known from Peninsular Siam and Malaya Peninsula of Myanmar has been reported for the first time from India based on the collection made from Kamba to Along, West Siang district of Arunachal Pradesh at 350m altitude. The specimen is deposited in the Herbarium, Botanical Survey of India, Arunachal Pradesh Regional Centre, Itanagar (ARUN). It has been published by M. Bhoumik and P. Satyanarayana in Indian J. For. 37(4): 414.2014.

Adonis davidii Franchet (RANUNCULACEAE)
This perennial herb earlier known from Buhutan and China has been reported for the first time from India based on the collection made from Lamang Camp, West Siang district of Arunachal Pradesh at 3000m altitude. The specimen is deposited in the Herbarium, Botanical Survey of India, Arunachal Pradesh Regional Centre, Itanagar (ARUN). It has been published by M. Bhoumik and P. Satyanarayana in Indian J. For. 37(4): 413.2014.
Arisaema bannaense H. Li (ARACEAE)
This evergreen species earlier known from China, Yunnan has been reported for the first time from India based on the collection made from Sessa, behind Military Base, West Kameng district of Arunachal Pradesh at 1200m. altitude. The specimen is deposited in the Herbarium, Botanical Survey of India, Arunachal Pradesh Regional Centre, Itanagar (ARUN). It has been published by Rajib Gogoi, Vladmir Bajur Theodore Tham and Ashiho Asossi Majo in J. Jp. Bot., 89:18.2014.

Arisaema lingyunense H. Li (ARACEAE)
This evergreen species earlier known from China and Myanmar has been reported for the first time from India based on the collection made from Dzukou Valley, at border of Manipur and Nagaland at 2450m. altitude. The specimen is deposited in the Herbarium, Botanical Survey of India, Eastern Regional Centre, Shillong (ASSAM). It has been published by Rajib Gogoi, Vladmir Bajur Theodore Tham & Ashiho Asossi Majo in J. Jp. Bot. 89:18.2014.

Bulbophyllum dicksonii Seidenf. (ORCHIDACEAE)
This epiphytic herb species earlier known from Burma has been reported for the first time from India based on the collection made from Chandel district, Chakpikarang, Manipur at 1434m. altitude. The specimen is deposited in the Herbarium of Centre for Orchid gene Conservation Eastern himalaya Region, Hengbong. It has been published by K. Chowlu & al. in Kew Bulletin 69:9495.1.2014.
Centrathemum punctatum Cass. subsp. punctatum Kirkman (ASTERACEAE)
This species earlier known from South Central America and West Indies has been reported for the first time from India based on the collection made from Bogamati, Barnadi wildlife Sanctuary, Udaiguri district of Assam. The specimen is deposited in the Herbarium of Botanical Survey of India, Eastern Regional Centre, Shillong (ASSAM). It has been published by S. R. Talukdar and Chaya Deori in NeBio 5(1):22014.

Codonopsis tubulosa Kom. (CAMPANULACEAE)
This species earlier known from China and Mayanmar has been reported for the first time from India based on the collection made from Dzukou valley, Manipur and Nagaland border, India at 2200m altitude. The specimen is deposited in the Herbarium of Botanical Survey of India, Eastern Regional Centre, Shillong (ASSAM). It has been published by A.A. Mao and H.A. Barbhuiya in Nelumbo 56.234.2014.

Cotoneaster chengkangensis T.T. Yu (ROSACEAE)
This shrubby species earlier known from China has been reported for the first time from India based on the collection made from Mechuka. West Siang district of Arunachal Pradesh at 1850m altitude. The specimen is deposited in the Herbarium, Botanical Survey of India, Arunachal Pradesh Regional Centre, Itanagar (ARUN). It has been published by M. Bhoumik and P. Satyanarayana in Indian J. For. 37(4):415.2014.
Dendrobium kratense Kerr (ORCHIDACEAE)

This epiphytic herb species earlier known from Thailand has been reported for the first time from India based on the collection made from Kousalyanagar, Middle Andamans, Andman & Nicobar Island. The specimen is deposited in the Herbarium of Department of Botany, Sri Krishnadevaraya University, Anantapur (SKU). It has been published by K. Prasad, M. Bheemalingappa and B. Ravi Prasad Rao in Rheedia 24(2):131.2014.

Dendrophoe glabrescence (Blakely) Barlow (LORANTHACEAE)

This hemi parasitic shrub earlier known from Australia, Malesia, Sunda Island and Papua New Guinea has been reported for the first time from India based on the collection made from V Vet Guest House, Hut Bay Little Andaman at altitude of about 25m. The specimens are examined and deposited in the Botanical Survey of India, Andaman and Nicobar Regional Centre, Port Blair (PBL). It has been published by Lal Ji Singh and C. Murugan in Geophytology 43(1):41.2014.

Desmodium intortum (Mill.) Urb (FABACEAE)

This species earlier known from United States of America, Brazil, Colombia and Puerto Rico has been reported for the first time from India based on the collection made from Chinnakanal, Idukki district of Kerala at 1250m altitude. The specimen is deposited in the Herbarium, Botanical Survey of India, Southern Regional Centre, Coimbatore (MH). It has been published by A.P. Balan & al., in Rheedia 24(2):113.2014.
**Ficus geocarpa** Tejsm. ex Miq., (MORACEAE)

This tree species earlier known from Malesia has been reported for the first time from India based on the collection made from Doimukh, Papum Pare district of Arunachal Pradesh at 200m altitude. The specimen is deposited in the Herbarium, Deptt. of Botany, Kashmir University, Srinagar (KASH). It has been published by R. Buragohain & al., in Rheedia 24(2).110.2014.
हायपरिकम पिटियोलाटम उपजाति युनानेन्स (फ्रांच.) एन. रोब्सन (हायपरिकम पिटियोलाटम उपजाति बोर्नेंसी)

पूर्वा: चीन एवं वियतनाम से जाता इस जाति का पता भारत में प्रथम बार मानवीय संसाधन अरुणाचल प्रदेश से 1600मी. की ऊँचाई से प्राप्त किये गये संग्रहों के आधार पर लगाया गया है। जाति के प्रतिरूप को पादपालय, भारतीय वनस्पति सर्वेक्षण, अरुणाचल प्रदेश केंद्र, इटानगर (आरप्रू) में संग्रहित किया गया है। इसे एम. भौमिक एवं शी. सत्यनारायण के द्वारा इंडियन ज. फॉर., 37(4):414.2014 में प्रकाशित किया गया है।

Hypericum petiolatum subsp. yunnanense (Franch.) N. Robson (HYPER/CACEAE)

This species earlier known from China & Vietnam has been reported for the first time from India based on the collection made from Manigong, West Siang district of Arunachal Pradesh at 1600m altitude. The specimen is deposited in the Herbarium, Botanical Survey of India, Arunachal Pradesh Regional Centre, Itanagar (ARUN). It has been published by M. Bhoomik and P. Satyanarayana in Indian J. For., 37(4):414.2014.

आईपोमेया तेनूरियपस वर्ड्स. (कोन्याभूमि)

पूर्वा: बोत्सवाना, मोजाबाक्को, जाम्बाब्वे एवं जिबर्नीबे से जाता इस जाति का पता भारत में प्रथम बार पादपालय, अरुणाचल प्रदेश महाराष्ट्र से प्राप्त किये गये संग्रहों के आधार पर लगाया गया है। जाति के प्रतिरूप को पादपालय, भन्सात्मक विज्ञान विभाग, द इयो, कालेज, कोल्हापुर में संग्रहित किया गया है। इसे जीवन विज्ञान एवं भूमि संसाधन के द्वारा रिपोर्ट 24(2):117.2014 में प्रकाशित किया गया है।

Ipomoea tenuepis Verdc. (CONVOL/VULCAEAE)

This species earlier known from Botswana, Mozambique, Zambia, Zimbabwe has been reported for the first time from India based on the collection made from Paithan Aurangabad district of Maharashtra. The specimen is deposited in the Herbarium, Department of Botany, The New College, Kolhapur. It has been published by Vinod B. Shimpale & all in Rheedea 24(2):117.2014.

कोब्रेसिया कणाई राजम. एवं राजम. ओहाना (सायपेरसी)

पूर्वा: नेपाल से जाता इस जाति का पता भारत में प्रथम बार कुपुर, इस्त लिक्सम जनपद, लिक्सम से प्राप्त किये गये संग्रहों के आधार पर लगाया गया है। जाति के प्रतिरूप को कंद्रीय राष्ट्रीय पादपालय, भारतीय वनस्पति सर्वेक्षण, हाव्वा (सीएएल) में संग्रहित किया गया है। इसे क्वालिटी ज्ञान एवं आर्थिक सेवाओं द्वारा इंडिनियन ज. प्रूट 3(2): 104.2014 में प्रकाशित किया गया है।

Kobresia kanaii Rajb. & H. Ohba (CYPERACEAE)

This species earlier known from Nepal has been reported for the first time from India based on the collection made from Kupur, East Sikkim district of Sikkim. The specimen is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL). It has been published by Bikash Jana and R.C. Srivastava in Indian Journal of Plant Sciences 3 (2):104.2014.

लेप्टोमिशस प्रिमुलोइडिस ड्रेक (रुबियेशी)

पूर्वा: चीन, म्यानमार एवं वियतनाम से जाता इस जाति का पता भारत में प्रथम बार टाडो, वेस्ट शियांग जनपद, अरुणाचल प्रदेश से 1200मी. की ऊँचाई से प्राप्त किये गये संग्रहों के आधार पर लगाया गया है। जाति के प्रतिरूप को पादपालय, भारतीय वनस्पति सर्वेक्षण, अरुणाचल प्रदेश क्षेत्रीय केंद्र, इटानगर (आरप्रू) में संग्रहित किया गया है। इसे एम. भौमिक एवं शी. सत्यनारायण के द्वारा इंडियन ज. फॉर., 37(4):416.2014 में प्रकाशित किया गया है।

Leptomischus primuloides Drake (RUBIACEAE)

This species earlier known from China, Myanmar and Vietnam has been reported for the first time from India based on the collection made from near Tato, West Siang district of Arunachal Pradesh at 1200m altitude. The specimen is deposited in the Herbarium, Botanical Survey of India, Arunachal Pradesh Regional Centre, Itanagar (ARUN). It has been published by M. Bhoomik and P. Satyanarayana in Indian J. For., 37(4):416.2014.
Lindernia dubia (L.) Pennell (LINDENIACEAE)

This species was earlier known from Argentina, Belize, Bolivia, Brazil, Canada, Chile, Colombia, Cuba, Dominican Republic, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, U.S.A. and Venezuela has been reported for the first time from India based on the collection made from Karappara Nelliyampathi, Palghat District of Kerala. The specimen is deposited in the Herbarium, Botanical survey of India, Southern Regional Centre, Coimbatore (MH-1). It has been published by Mangayavath Govindan Prasad & Purayidathkandy Sunojkumarr in Phytotaxa 187(4): 166.2014.

Macrosolen melintangensis (Korth.) Miq. (LORANTHACEAE)

This woody herb earlier known from Peninsular Malaysia to Cambodia, Sumatra, Borneo, Java, Celebes, Thailand and Philippines has been reported for the first time from India based on the collection made from Dhanikan, South Andaman, Andaman & Nicobar Island. The specimen is deposited in the Herbarium, Botanical Survey of India, Andaman & Nicobar Regional Centre, Port Blair (PBL). It has been published by Lal Ji Singh in Rhedea 23(2): 110.2013.

Mazus celsioides Hand.-Mazz. (SCROPHULARIACEAE)

This species was earlier known from China has been reported for the first time from India based on the collection made from Tato to Mechukha, West Siang district of Arunachal Pradesh at 1600m altitude. The specimen is deposited in the Herbarium, Botanical survey of India, Arunachal Pradesh Regional Centre, Itanagar (ARUN). It has been published by M. Bhoomik and P. Satyanarayana in Indian J. For., 37(4):417.2014.

Millusa amplexicaulis Ridi. (ANNONACEAE)

This small tree species earlier known from Thailand & Peninsular Malaysia has been reported for the first time from India based on the collection made from Lafal, Great Nicobar Island, Andaman & Nicobar. The specimen is deposited in the Herbarium, Botanical Survey of India, Andaman & Nicobar Regional Centre, Port Blair (PBL). It has been published by S. Prabhu & C. Murugan in Indian J. For. 36(4): 516.2013.
Oreorchis patens Lindley (ORCHIDACEAE)

This herbaceous species earlier known from Russia, South Korea, Japan, China and Taiwan has been reported for the first time from India based on the collection made from Triyuginarayan, Aorida district of Uttarakhand at 2200m altitude. The specimen is deposited in the Herbarium, Botanical Survey of India, Northern Regional Centre, Dehradun (BSD). It has been published by Dinesh K. Agarwala, H.J. Chowdhery and Vikas Kumar in Richardiana 268.2013.

Ormocnia pinnata (Lour.) Merr. (FABACEAE)

This tree species earlier known from China, Thailand and Vietnam has been reported for the first time from India based on the collection from Phulerial forest, Cacher of Assam. The specimen is deposited in the Herbarium, Botanical Survey of India, Eastern Regional Centre, Shillong (ASSAM). It has been published by Durgesh Verma and Dillip Kumar Roy in Rheedia 24(2): 128.2014.

Pogonia japonica Rchb. (ORCHIDACEAE)

This annual herbaceous species earlier known from China, Japan and Korea has been reported for the first time from India based on the collection made from Mechuka, West Siang district of Arunachal Pradesh at 1850m altitude. The specimen is deposited in the Herbarium, Botanical Survey of India, Arunachal Pradesh Regional Centre, Itanagar (ARUN). It has been published by M. Bhoumik and P. Satyanarayana in Indian J. For. 37(3): 302.2014.

Pteranotetum gracillum (H. Wolff) Hand.-Mazz. (APIACEAE)

This species earlier known from China has been reported for the first time from India based on the collection made from Lamang-Lolla Pass, West Siang district of Arunachal Pradesh at 3700m altitude. The specimen is deposited in the Herbarium, Botanical Survey of India, Arunachal Pradesh Regional Centre, Itanagar (ARUN). It has been published by M. Bhoumik and P. Satyanarayana in Indian J. For., 37(4):416.2014.
Pterigylla bartschioides Hand.—Mazz. (ORCHIDACEAE)
This annual herb species earlier known from China has been reported for the first time from India based on the collection made from Moko Mountain top near Tato, West Siang district of Arunachal Pradesh at 3600m altitude. The specimen is deposited in the Herbarium, Botanical Survey of India, Arunachal Pradesh Regional Centre, Itanagar (ARUN). It has been published by M. Bhourmik and P. Satyanarayana in Indian J. For. 37(3): 299.2014.

Schisandra incarnata Stapf. (SCHISANDRACEAE)
This perennial woody climber earlier known from China has been reported for the first time from India based on the collection made from Nying to Detung Camp, Mangong, West Siang district of Arunachal Pradesh at 3600m altitude. The specimen is deposited in the Herbarium, Botanical Survey of India, Arunachal Pradesh Regional Centre, Itanagar (ARUN). It has been published by M. Bhourmik and P. Satyanarayana in Indian J. For., 37(4):414.2014.

Smilax davidiana A.D.C. (SMILACACEAE)
This herb species earlier known from China has been reported for the first time from India based on the collection made from Maw Phlang, East Khasi Hills of Meghalaya. The specimen is deposited in the Herbarium, Foundation for Revitalisation of Local Health and Traditions (FRLH), Bangalore. It has been published by Balachandran N. and K. Ravikumar in Rheedia 24(2): 126.2014.

Smilax ocreata A. DC. (SMILACACEAE)
This shrub species earlier known from China, Bhutan, Nepal, Myanmar, Bangladesh and Vietnam has been reported for the first time from India based on the collection made from Hangrung, North Cacher Hills of Assam. The specimen is deposited in the Herbarium of Botany department, Gauhati University, Guwahati (GUBH). It has been published by S. Baruah and S. K. Borthakur in J. Econ. Taxon. Bot. 38(2):228.2014.
**Smilax zeylanica** L., (SMILACACEAE)

This climbing species earlier known from Myanmar has been reported for the first time from India based on the collection made from Likhabali, Dhemaji district of Assam. The specimen is deposited in the Herbarium of Botany department, Gauhati University, Guwahati (GUBH-I). It has been published by S. Baruah and S. K. Borthakur in J. Econ. Taxon. Bot. 38(2):228.2014.

**Solidago dahurica** (Kttag.) Kitag. Ex Juz. (ASTERACEAE)

This perennial herb species earlier known from China, Kazakhstan, Kyrgyzstan, Mongolia, Nepal, Russia and Uzbekistan has been reported for the first time from India based on the collection made from Chitkul, Kinnaur of Himachal Pradesh at 3430m altitude. The specimen is deposited in the Herbarium, Botanical Survey of India, Northern Regional Centre, Dehradun (BSD). It has been published by Prashant K. Pusalkar, D. K. Singh and S. K. Srivastava in Ann. For. 22(1):53.2014.

**Sonneratia lanceolata** Blume (LYTHRACEAE)

This tree species earlier known from Australia, Indonesia and Papua New Guinea has been reported for the first time from India based on the collection made from Galathea Bay. Great Nicobar Island of Andaman and Nicobar. The specimen is deposited in the Herbarium, Botanical Survey of India, Andaman Regional Centre, Port Blair (PBL). It has been published by Padsamy Ragavan & al. in Biodiversitas 15(2):416.2014.
Swertia handeliana Harry Sm. (GENTIANACEAE)

This perennial herb species earlier known from China has been reported for the first time from India based on the collection made from Mobo mountain top near Tato, West Siang district of Arunachal Pradesh at 3600m altitude. The specimen is deposited in the Herbarium, Botanical survey of India, Arunachal Pradesh Regional Centre, Itanagar (ARUN). It has been published by M. Bhoumik and P. Satyanarayana in Indian J. For., 37(4):416.2014.

Vandelia diffusa L. (UNDERNIACEAE)

This creeping herb species earlier known from Africa has been reported for the first time from India based on the collection made from Vallikavu-Chengannore, Alappuzha district of Kerala. The specimen is deposited in the Herbarium, Deptt. of Botany, Calicut University, Calicut (CALI). It has been published by Mangavayal Govindan Prasad & all in Phytotaxa: 163(1):55.2014.
पर्णांग/PTERIDOPHYTES

Courtesy: B.S. Kholia
Ferns and Fern-allies (Pteridophytes) live in a wide variety of habitats and often succeed in places where environmental factors discourage growth of flowering plants.

The Indian ferns account for about 2 per cent of the total Indian flora. In the present state of our knowledge India has about 1274 species of ferns and fern-allies. Many more are yet to be identified and described.

The collated information presented here includes one species, two varieties and one forma been described from Sikkim as new to Indian Pteridophytic flora, while one species from Goa and one species from Sikkim has been recorded as new distributional record for Indian pteridophytic flora.
This new fern species has been discovered and described based on the collections made from Singha Rhododendron Sanctuary, Sikkim, India at 2600m altitude. The holotype and isotypes are deposited in the Herbarium of Botanical Survey of India, Sikkim Himalayan Regional Centre, Gangtok (BSHC). The species is named after C. R. Fraser- Jenkins for his contribution in Indian ferns.

**Tectaria coadunata** (Wall. ex Hook. & Grev.) C. Chr. var. *elongata* Kholia in Ferns and fern-alleis of Sikkim: A Pictorial Handbook Part II, 90. 2014. (DRYOPTERIDACEAE)

This new fern variety has been discovered and described based on the collections made from Bermellii and Manebhangyang area of South district of Sikkim, India at 1500m altitude. The holotype and isotypes are deposited in the Herbarium, Botanical Survey of India, Sikkim Himalayan Regional Centre, Gangtok (BSHC). The varietal epithet refers to its elongated lanceolate leaves.

This new fern has been discovered and described based on the collections made from Talam, Kyangnosia, Lachen and Kataw in Sikkim. The holotype and isotypes are deposited in the Herbarium, Botanical Survey of India, Sikkim Himalayan Regional Centre, Gangtok (BSHC). The forma name is refers to Himalaya where it occurs.

Thelypteris (Stegnogramma) mollissima var. truncata Khola in Ferns and fern-alleis of Sikkim: A Pictorial Handbook Part-II, 196. 2014. (THELYPTERIDACEAE)

This new fern variety has been discovered and described based on the collections made from Bansoi area of North Sikkim, at 2000m altitude. The holotype is deposited in the Herbarium, Botanical Survey of India, Sikkim Himalayan Regional Centre, Gangtok (BSHC). The varietal epithet refers to its truncated base of fronds.
एडिएंटम टेनेरम स्वार्ट्ज़ (एडिएंटेसी)

पूर्वत: श्रीलंका, फेरू, मैक्सिको एवं वेस्ट इंडीयाव द्वीप से जाता इस जाति का पता भारत में प्रथम बार गोवा के बोंडला वन क्षेत्र से 30मी. की कंधारी से प्राप्त किये गये संश्रवों के आधार पर लगाया गया है। प्रशिक्षण को पादपालय, वनस्पति विभाग, शिवाजी विश्वविद्यालय, कोलकाता में संग्रहित किया गया है। इसे एम. आर. निरन्जना एवं अन्य के द्वारा इंडियन फर्न. ज. 30:119. 2014 में प्रकाशित किया गया है।

Adiantum tenerum Swartz (ADIANTACEAE)

This species earlier known from Sri Lanka, Peru, Mexico and West Indian Island has been reported first time from India based on the collection made from Bondla Forest Region, Goa at 30m altitude. The specimen is deposited in Herbarium, Deptt. of Botany, Shivaji University. It has been published by M.R. Niranjana & all, in Indian Fern J. 30:119.2014.

शैलेन्स्स तिबेतिका क्रेजर-जेक. एवं वांडी (टेरिडेसी)

पूर्वत: जीन एवं भूटान से जाता इस जाति का पता भारत में प्रथम बार शिकिम के लाउंग, कट्टा मार्ग से 2700मी. की कंधारी से प्राप्त किये गये संश्रवों के आधार पर लगाया गया है। प्रशिक्षण को पादपालय, भारतीय वनस्पति सर्वेक्षण, शिकिम हिमालय केंद्र, गंगटोक (श्रीनगर) में संग्रहित किया गया है। इसे बी. एस. खोंशिया के द्वारा पुस्तक फर्न. एंड फर्न. एलाइज ऑफ शिकिम : ए पिक्टॉरियल हैंडबुक पार्ट-II, 155.2014 में प्रकाशित किया गया है।

Cheilanthes tibetica Fraser-Jenk. & Wangdi (PTERIDACEAE)

This species earlier known from China and Bhutan has been reported first time from India based on the collection made from Lachung Kataw Road , Sikkim, India at 2700m altitude. The specimen is deposited in the Herbarium, Botanical Survey of India, Sikkim Himalayan Regional Centre, Gangtok (BSHC). It has been published by B. S. Kholia in Ferns and fern-alleis of Sikkim: A Pictorial Handbook Part-II, 155. 2014.
Bryophytes, the amphibians of the 'Plant Kingdom', and the second largest group of green plants next only to the angiosperms constitute a fascinating component of biodiversity and are widely spread in almost all climatic conditions. They are among the very few groups of plants found in Antarctica.

The Indian bryophytes account for about 5.39 per cent of the total plant species of India.

In the present state of our knowledge India has about 2,531 species of bryophytes.

Many more are yet to be identified and described.

The collated information presented here includes

02 new species from India

(01 species each from Karnataka and Uttarakhand); and 06 new distributional records from India.
लिथोकोलिया इंडिका गीता अवधान, रेषाल, एक्स, सैंडे, सिट. 37(6):535.2014. (एक्सियोस्केलेटसी)

इस नवीन जाति का अवभेद एवं गर्गन उत्तराखंड राज्य के पौडी गड्डाल जनपद से 1788मी. की कूंयाई से प्राप्त किये गये संग्रहों के आधार पर प्रकट किया गया है। जाति का मूल प्रकार पादपालाय, वनस्पति विज्ञान विभाग, लखनऊ विश्वविद्यालय, लखनऊ (उत्तरप्रदेश) में संग्रहित किया गया है। इस जाति का नामकरण किया के प्राप्ति राष्ट्र के नाम पर आधारित है।


This new species has been discovered and described based on the collections made from Pauri Garhwal district of Uttarakhand, India at 1788m altitude. The holotype is deposited in the Herbarium Deptt. of Botany, Lucknow University (LWU). The specific epithet refers to the country of its origin.

फ़ाइकोलिथोलिया इंडिका प्राडेस्टे., जे. पी. प्राहम. एवं जू. स्वाटज. टैक्सोन 63(3):498.2014. (फायकोलिथोलिया)

इस नवीन जाति का अवभेद एवं गर्गन करण्डक समूह के सूची जनपद से माउंट सांडीआइमोल शिखर के निकट भाग से 1610मी. की कूंयाई से प्राप्त किये गये संग्रहों के आधार पर प्रकट किया गया है। जाति का मूल प्रकार पादपालाय, सिस्टेमेटिक इंट्रोडूक्शन विभाग, नेपाल विद्वान रुविज़याम, नेपाल (नेपाल) में संग्रहित किया गया है। इस जाति का नामकरण किया के प्राप्ति राष्ट्र के नाम पर आधारित है।


This new species has been discovered and described based on the collections made on way to Mount Tandiandamol, Coorg district of Karnataka, India at 1610m altitude. The holotype is deposited in herbarium Deptt. Systématique et Evolution, Museum National d'Histoire Naturelle, Paris (PC) and isotypes are in herbarium National Botanical Research Institute, Lucknow (LWG). The specific epithet refers to the country of its origin.

नवीन वितरण परक अभिलेख /New Distribution Record

बाँयाणियिलिया भुटानियिलिया ए. किताग. एवं योलिवी (लेपिदोजियासी)

पूर्व: भूटान से जाति इस जाति का पता भारत में प्रामाण्य वर्ग अर्नाचल प्रदेश के कोरिया, टाटो मार्ग, बेस्ट सियांग जनपद से 680मी. की कूंयाई से प्राप्त किये गये संग्रहों के आधार पर प्रकट किया गया है। प्रतिलोम को कंक्रिया राष्ट्रीय पादपालाय, भारतीय वनस्पति संस्थान, हास्य (स्पेन) में संग्रहित किया गया है। इसे इंडिया इंडिया देश एवं डी. के. सिंह के द्वारा विज्ञानिया 37:42. 2014 में प्रकाशित किया गया है।

Bazzania bhutanica N. Ktag. & Groll. (LEPIDOZIACEAE)

This species earlier known from Bhutan has been reported first time for India based on the collection made from Keying, on way to Tato, West Siang district of Arunachal Pradesh at 680m altitude. The specimen is deposited in Central National Herbarium, Botanical Survey of India, Howrah (CAL). It has been published by Siddhartha Singh Deo and D. K. Singh in Lindbergia 37: 42. 2014.

किलोजुनियिलिया ओसियोसिनिस (एस. हेट्टर).) नेप्युट. (लेपिदोजियासी)

पूर्व: चीन एवं जापान से जाति इस जाति का पता भारत में प्रामाण्य वर्ग अर्नाचल प्रदेश के अंजाम जनपद एवं शिक्षकम के दक्षिण शिल्यक जनपद से 1650मी. की कूंयाई से प्राप्त किये गये संग्रहों के आधार पर प्रकट किया गया है। प्रतिलोम को पादपालाय, भारतीय वनस्पति संस्थान, पूर्वी क्षेत्र वेंड, सियांग (एस.सियांग) में संग्रहित किया गया है। इसे डी. के. सिंह, गुप्त विजयवर्धन एवं देवेश शिंह के द्वारा निरंतर 56.259.2014 में प्रकाशित किया गया है।

Cheileolejeunea osumiensis (S. Hatt.) Mikut. (LEJUENIAEAE)

This species earlier known from China and Japan has been reported first time for India based on the collection made from Anjaw district of Arunachal Pradesh and South Sikkim district of Sikkim at 1650m altitude. The specimen is deposited in herbarium of Botanical Survey of India, Eastern Regional Centre, Shillong (ASSAM). It has been published by D. K. Singh, Shuvadeep Majumdar & Devendra Singh in Nelumbo 56.259.2014.
This species earlier known from Japan has been reported first time for India based on the collection made on way to Mayawati, Lohaghat of Uttarakhand, at 1520m altitude. The specimen is deposited in National Botanical Research Institute, Lucknow (LWG). It has been published by Vinay Sahu and A. K. Asthana in Indian Forester 140 (4): 391. 2014.

This species earlier known China, Indonesia, Malaysia, New Caledonia, Papua New Guinea, Philippines, Sri Lanka and Taiwan has been reported first time for India based on the collection made on way to Yapiik from Shikar, West Siang district of Arunachal Pradesh, India at 1500m altitude. The specimen is deposited in herbarium of Botanical Survey of India, Eastern Regional Centre, Shillong (ASSAM). It has been published by Siddhartha Singh Deo & D. K. Singh in Nelumbo 56.268.2014.

This species earlier known from Russia and North America has been reported first time for India based on the collection made from on way to Hemikund Sahib, Chamoli district of Uttarakhand at 3343m altitude. The specimen is deposited in herbarium National Botanical Research Institute, Lucknow (LWG). It has been published by Devendra Singh, Shuvadeep Majumdar and D. K. Singh in Taiwania 59(1):41.2014.

This species earlier known from China, Indonesia, Myanmar & Philippines has been reported first time based on the collection made from Eanippura, Shendurme Wild Life Sanctuary, Kollam district of Kerala, India at 950m altitude. The specimen is deposited in Central National Herbarium, Botanical Survey of India, Howrah (CAL). It has been published by A.E.D. Daniels & K.C. Kariyappa in Nelumbo 56.265.2014.
शैवाक/ LICENS

शैवाक, कथक एवं सामान्यतः हरे शैवालो अथवा सायनोजीभयां जैसे प्रकाश रंगकोटी सहभोगी के साथ सहजीवी संबंध बनाते हैं। शैवाक तैया यो व्यापक रूप में पाये जाते हैं फिर भी इनकी कई जातियों पर्यावरणीय विश्लेषण के अन्तराण-निकाय होती हैं, जिसके फलस्वरूप इनका उपयोग वायु प्रदूषण प्रबाह के आकलन में किया जा सकता है।

भारतीय संस्कृति में लगभग 5.09 प्रतिशत हिस्सा शैवाकों का है।

हमारी अब तक की जानकारी के अनुसार भारतीय शैवाक की लगभग 2434 जातियाँ हैं। इस प्रकार अनेकांक जातियों का अनुच्छेद एवं कर्णन अग्नि के शेष है।

इस क्रम्बार सूचना में भारत की 13 नई जातियाँ, जिनमें (09 जातियों अंतर्गत एवं निकोटिया हार्टफुल्स से, 02 जातियों मणिपुर से, उत्तराखंड एवं पश्चिम बंगाल में प्रत्येक से 01 जाति) नवीन अनुच्छेदित की गई है,

तथा भारत से 02 नए वंश अभिलेखों के साथ 17 नए विश्लेषणक अभिलेख समर्पित किए गये हैं।

Lichens are symbiotic association of a fungus with a photosynthetic partner
usually a green alga or cyanobacterium. Lichens are widespread, however
many species are sensitive to environmental disturbances and may be useful
in assessing the effect of air pollution. Lichens have also been used in making
dyes and perfumes as well as in traditional medicines.

The Indian lichens account for about 5.09 per cent of the total plant species of the India.

In the present state of our knowledge India has about 2434 species of lichens.

Many more are yet to be identified and described.

The collated information presented here includes 13 new species (09 species from Andaman & Nicobar islands,
02 species from Manipur, and 01 each from Uttarakhand and West Bengal);
02 genera record, 17 new distributional records of lichens from India.

विश्व राष्ट्रों से अन्वेषित शैवाक

LICENS DISCOVERED FROM DIFFERENT STATES
नवीन जाति/New Species

Bactrospora litoralis Jagadeesh, Phytotaxa 177 (3): 156. 2014. (ROCCCELLACEAE)

This new lichen species has been discovered and described based on the collections made from the Andaman Islands, North Andaman, Lamia Bay seashore forest, at 10m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and the isotypes are in Herbarium, Botanical Survey of India, Andaman and Nicobar Regional Centre, Port Blair (PBL). The species epithet refers to its habitat.

Bactrospora medians Jagadeesh, Phytotaxa 177 (3): 156. 2014. (ROCCCELLACEAE)

This new species of lichen has been discovered and described on the collections made from the Andaman Islands, North Andaman, Reef Island Wildlife Sanctuary and Henry Lawrence Island of South Andaman. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and the isotypes are in Herbarium, Botanical Survey of India, Andaman and Nicobar Regional Centre, Port Blair (PBL). The species is named after its intermediate size of ascospores.


This new species of lichen has been discovered and described based on the collections made from West Bengal, Darjeeling district, Kalimpong, Neora Valley National Park, Aaloabari and Arunachal Pradesh, West Kameng, Doran Sango, at 2306–2545 m altitude. The holotype is deposited in the Botanical Survey of India, Central Regional Centre, Allahabad (BSA) and the isotype is in the Herbarium, National Botanical Research Institute, Lucknow (LWG). The species is named after the country India.
Chiodecton andamanicum Jagadeesh, Phytotaxa 177 (3): 157. 2014. (ROCELLACEAE)

This new species of lichen has been discovered and described based on the collections made from Andaman Islands, South Andaman, John Lawrence Island, Mangrove forest, at 5 m altitude. The holotype was deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL), and the isotype is in the Herbarium, Botanical Survey of India, Andaman and Nicobar Regional Centre, Port Blair (PBL). The species is named after the Andaman Islands.


This new species of lichen has been discovered and described based on the collections made from Chandel district, Tengnoupal, Manipur India. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL). The species epithet refers to the state of its occurrence.


This new species of lichen has been discovered and described based on the collections made on way to Sirohi hill, on the bark of tree, Ukhrul district, Manipur India. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL). The species epithet refers to the type locality 'Siromi Hill'.
**Heiomasia pallescens** Jagadeesh, Lichenologist 46(1): 46. 2014. (GRAPHIDACEAE)

This new species of lichen has been discovered and described based on the collections made from Little Andaman Island. Huntington Bay, Nanjappar Nager, Evergreen forests around White Surf Waterfall, at 70 m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and the isotype are in Herbarium, Botanical Survey of India, Andaman and Nicobar Regional Centre, Port Blair (PBL). The species is named after colour of its thallus.

**Herpothallon coralloides** Jagadeesh, Lichenologist 46(1): 40. 2014. (ARTHONIACEAE)

This new species of lichen has been discovered and described based on the collections made from Andaman Islands. Baratang Island, Naya Dera, on *Rhizophora mucronata* in Mangrove forest, at 10m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and the isotypes are in Herbarium, Botanical Survey of India, Andaman and Nicobar Regional Centre, Port Blair (PBL). The species is named after its corallloid central thallus.
Herpothallon globuliferum Jagadeesh, Lichenologist 46(1): 42. 2014. (ARTHONIACEAE)

This new species of lichen has been discovered and described based on the collections made on leaves of Hirtiera littoralis in Mangrove forest, Naya Dera, Baratang Island, Andaman Islands, India at 10m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and the isotypes are in Herbarium, Botanical Survey of India, Andaman and Nicobar Regional Centre, Port Blair (PBL). The species is named after its globular thallus.

Herpothallon lutescens Jagadeesh, Lichenologist 46(1): 43. 2014. (ARTHONIACEAE)

This new species of lichen has been discovered and described based on the collections made from inland forests of Little Andaman Island at 120 m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in Herbarium, Botanical Survey of India, Andaman and Nicobar Regional Centre, Port Blair (PBL). The species is named after the colour of its thallus.
Herpotthallon minutum jagadeesh, Lichenologist 46(1):45. 2014. (ARTHONIACEAE)

This new species of lichen has been discovered and described based on the collections made from seashore and inland forests of the Andaman Islands at 10m altitude. The holotype is deposited in the Central National Herbarium, Howrah (CAL) and isotypes are in Herbarium, Botanical Survey of India, Andaman and Nicobar Regional Centre, Port Blair (PBL). The species epithet refers to its minute thallus.


This new species of lichen has been discovered and described based on the collections made from Banasur Fort, Champawat district, Uttarakhand. The holotype is deposited in the Herbarium, National Botanical Research Laboratory, Lucknow (LWG) and isotypes are in Lichenology Division, Department of Botany, S.S.I. Campus, Kumaun University, Almora (ALM). The species epithet refers to renowned lichenologist Dr. D.K. Upretii.

Sagenidiopsis atroalba Jagadeesh, Phytotaxa 177 (3):160.2014. (Roccellaceae)

This new species of lichen has been discovered and described on the collections made from Andaman Islands, South Andaman, Mount Harriet National Park, Evergreen forest, at 35 m altitude. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and the isotypes are in Herbarium, Botanical Survey of India, Andaman and Nicobar Regional Centre, Port Blair (PBL). The species is named after its black apothecia covered with dense whitish hyphae.
**Genera**

**Dictyonema** C. Agardh ex Kunt. (HYGROPHORACEAE)

This genus, earlier known from China, has been reported for the first time for India based on collections made from Great Nicobar Island, Campbell Bay, Govind Nagar, at 6m altitude. This is a first basidiolichen report from India. The specimens are deposited in Herbarium, Botanical Survey of India, Andaman and Nicobar Regional Centre, Port Blair (PBL). It has been published by T.A.M. jagadeesh Ram in Indian J. For. 37(3): 361. 2014.

**Immersaria** Rambold & Pietschin (PORPIDIAEAE)

This genus earlier known from Europe has been reported for the first time for India based on collections made from the Panchgani plateau, Satara district, Maharashtra. The specimens are deposited in Herbarium, Agshar Research Institute, Pune (AMH). It has been published by G.S. Pandit in Curr. Res. Environ. & App. Mycol. 4 (1): 137.2014.

**Koerberiella** Stein (PORPIDIAEAE)

This genus earlier known from North-America, Western Europe and Eastern Asia has been reported for the first time for India based on collections made from the Kas plateau of Maharashtra. The specimens are deposited in Herbarium, Agshar Research Institute, Pune (AMH). It has been published by G.S. Pandit, in Curr. Res. Environ. & App. Mycol. 4 (1): 138. 2014.

**Species**

**Anisomeridium polymorph** (Ellis & Everh.) M.E. Barr. (PHYSCIACEAE)

This species earlier Europe, Africa, America, Australia has been reported for the first time for India based on collections made from Syahi Devi and Kosi Katarml Sun Temples, Almora district of Uttarakhand. The specimens are deposited in Herbarium, Lichenology Division, Department of Botany, S.S.J. Campus, Kumaun University, Almora (ALM). It has been published by Yogesh Joshi, Chandra Shandar & Manish Tripathi in Phytotaxa 170(1):49.2014.
**Arthonia reindingeri** Grube. (ARTHONIACEAE)

This species earlier not known from India has been reported for the first time based on collections made East Khaki district, Meghalaya. The specimens are deposited in Herbarium, Central Regional Central, Botanical Survey of India, Allahabad (BSA). It has been published by Puspi Singh, in Indian J. For. 37 (4): 409, 2014.

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**Bactrospora acicularis** (Dodge) Egea & Torrente (ROCELLACEAE)

This species earlier known from Chile has been reported for the first time for India based on collections made from a tree in Tiger hill area of Darjeeling district in West Bengal. The specimens are deposited in Herbarium, National Botanical Research Institute, Lucknow (LWG). It has been published by A. R. Logesh, Santosh Joshi, Komal K. Ingle and Dalip K. Upreti in Tropical Pl. Res. 1(1):1, 2014.

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**Bactrospora intermedia** Egea & Torrente (ROCELLACEAE)

This species earlier known from Chile has been reported for the first time for India based on collections made from barks of Vetiveria spp. from Valli Kunnu, Malapuram district, Kerala. The specimens are deposited in Herbarium, National Botanical Research Institute, Lucknow (LWG). It has been published by A. R. Logesh, Santosh Joshi, Komal K. Ingle and Dalip K. Upreti in Tropical Pl. Res. 1(1): 2, 2014.
Bactrospora carolinensis (Ellis & Everh.) R.C. Harris (ROCCELLACEAE)

This species, earlier known from Florida and South Carolina of USA, has been reported for the first time for India based on collections made from trunk of Coconut tree at Long Island, Andaman Islands. The specimens are deposited in Herbarium, Botanical Survey of India, Andaman and Nicobar Regional Centre, Port Blair (PBL). It has been published by T.A.M. Jagadeesh Ram in Phytotaxa 177(3):160. 2014.

Cyphelium inquinans (Sm.) Trevison

This species earlier known from Australasia, North America & South America has been reported for the first time for India based on collections made from the barks of Abies spp. on the Jachup foot tract, hot spring, Lohit district, Arunachal Pradesh. The specimens are deposited in Herbarium, Botanical Survey of India, Central Regional Centre, Allahabad (BSA). It has been published by Pushpi Singh and K.P.singh in Check list 10(1):178. 2014.

Dicthyomyelena irrigatum (Berk. & M.A. Curtis) Lücking (HYGROPHORACEAE)

This species earlier known from China, has been reported for the first time for India based on collections made from Great Nicobar Island, Campbell Bay, Govind Nagar, at 6 m altitude. The specimens are deposited in Herbarium, Botanical Survey of India, Andaman and Nicobar Regional Centre, Port Blair (PBL). It has been published by T.A.M. Jagadeesh Ram in Indian J. For. 37(3):361. 2014.
Immersaria cf. olivacea Calatayud & Rambold. (PORPIDIACEAE)
This species earlier known from Europe, has been reported for the first time for India based on collections made from the Panchgani plateau, Satara District, Maharashtra. The specimens are deposited in herbarium of Agharkar Research Institute, Pune (AMH-I). It has been published by G.S. Pandit, in Curr. Res. Environ. & App. Mycol. 4 (1): 138. 2014.

Koeberberilla wimmeriana (Körb.) B. Stein (PORPIDIACEAE)
This species earlier known from North-America, Western Europe and Eastern Asia has been reported for the first time for India based on collections made from the Kas plateau of Maharashtra. The specimens are deposited in herbarium of Agharkar Research Institute, Pune (AMH-I). It has been published by G.S. Pandit, in Curr. Res. Environ. & App. Mycol. 4 (1): 138. 2014.

Opegrapha apomelaena A. Massal. (ROCCCELLACEAE)
This species earlier known from Australia, Indonesia, Kenya, Papua New Guinea, Rwanda, Tanzania, the Seychelles, the Solomon Islands, Thailand and Zambia, has been reported for the first time for India based on collections made from Reef Island of North Andaman and Henry Lawrence Island of South Andaman. The specimens are deposited in Herbarium, Botanical Survey of India, Andaman and Nicobar Regional Centre, Port Blair (PBL). It has been published by T.A.M. Jagadeesh Ram in Phytotaxa 177 (3): 161. 2014.
Opegrapha dekeselii Erz (ROCCCELLACEAE)
This species earlier known from Angola, Bénin, Nigeria, Papua New Guinea and Thailand, has been reported for the first time for India based on collections made from the Andaman Islands. The specimens are deposited in herbarium, Botanical Survey of India, Andaman and Nicobar Regional Centre, Port Blair (PBL). It has been published by T.A.M. Jagadeesh Ram in Phytotaxa 177 (3): 161. 2014.

Opegrapha irosina Vain. (ROCCCELLACEAE)
This species earlier known from Bénin, Gabon, Papua New Guinea, the Philippines, Singapore and the Solomon Islands has been reported for the first time for India based on collections made from John Lawrence Island of Andaman. The specimens are deposited in herbarium, Botanical Survey of India, Andaman and Nicobar Regional Centre, Port Blair (PBL). It has been published by T.A.M. Jagadeesh Ram in Phytotaxa 177 (3): 161. 2014.

Opegrapha robusta Vain. (ROCCCELLACEAE)
This species earlier known from Australia, Gabon, Indonesia, Malaysia, Papua New Guinea, Solomon Islands, Thailand and Zaire has been reported for the first time for India based on collections made from Andaman Islands. The specimens are deposited in herbarium of Botanical Survey of India, Andaman and Nicobar Regional Centre, Port Blair (PBL). It has been published by T.A.M. Jagadeesh Ram in Phytotaxa 177 (3): 161. 2014.

Polymeridium subcinereum (Nyl.) R. C. Harris (TRYPETHELIACEAE)
This species earlier known from Pantropical Asia has been reported for the first time for India based on collections made from Andaman group of Islands. The specimens are deposited in herbarium of Agharkar Mycological Herbarium (AMH). It has been published by P.K. Sethy, G.S. Pandit & B.O. Sharma in Paripex-Ind. J. Res. 3(9): 8.2014.
पेरिनुला ग्राइकोकार्य मुल्ल, अर्ग (पायरेनुलेसी)
पूर्वत: पैन्ट्राफिल्क एडिशिया से डाल इस शैवक जाति का पता भारत में प्रथम बार अहंकारी हिप समूह से प्राप्त संग्रहों के आधार पर लगाया गया है। इसके प्रतिरूपों को पादपालय आधारकर अनुसंधान संस्थान, पुणे (एमएसएच) में संग्रहित किया गया है। इसे श्री. के. सेंटी, जी. एस. पंडित एवं बी. ओ. शर्मा के द्वारा पारिपक्ष—ईडी. ज. रिस. 3(9):8.2014 में प्रकाशित किया गया है।

Pyrenula microcarpa Müll. Arg. (PYRENULACEAE)
This species was earlier known from Pantropical Asia has been reported for the first time for India based on collections made from Andaman group of Islands. The specimens are deposited in Herbarium of Agharkar Mycological Herbarium (AMH). It has been published by P.K. Sethy, G.S. Pandit & B.O. Sharma in Paripex-Ind. J. Res. 3(9):8.2014.

पेरिनुला पायरशिल्लस्पोरा एप्रुट (पायरेनुलेसी)
पूर्वत: पापुआ न्यू गिनिया से डाल इस शैवक जाति का पता भारत में प्रथम बार अहंकारी हिप समूह से प्राप्त संग्रहों के आधार पर लगाया गया है। इसके प्रतिरूपों को पादपालय आधारकर अनुसंधान संस्थान, पुणे (एमएसएच) में संग्रहित किया गया है। इसे श्री. के. सेंटी, जी. एस. पंडित एवं बी. ओ. शर्मा के द्वारा पारिपक्ष—ईडी. ज. रिस. 3(9):9.2014 में प्रकाशित किया गया है।

Pyrenula pyrgillospora Aptroot (PYRENULACEAE)
This species earlier known from Papua New Guinea has been reported for the first time for India based on collections made Andaman group of Islands. The specimens are deposited in herbarium of Agharkar Mycological Herbarium (AMH). It has been published by P.K. Sethy, G.S. Pandit & B.O. Sharma in Paripex-Ind. J. Res. 3(9):8.2014.

सिग्रिडिया आयोस्लूका (मुल्ल. अर्ग.) तेहर (रोसेल्लेसी)
पूर्वत: पैन्ट्रीपलेसा से डाल इस शैवक जाति का पता भारत में प्रथम बार सामग्री राशि के सारांग जनपद पमाललाई हिल के मुख्य पर्वत सतह क्षेत्र में फैला जाति का पुष्कर से समुद्र तल से 700 मी. की ऊंचाई से प्राप्त संग्रहों के आधार पर लगाया गया है। इसके प्रतिरूपों को पादपालय राष्ट्रीय वनस्पति अनुसंधान संस्थान, लखनऊ (एल्डब्ल्यूएच) में संग्रहित किया गया है। इसे श्री. अर. लोगेश, संतोष जोशी, कोमल के इंग्लेश एवं डिशिया के द्वारा ट्रेंफिकल पत्र. रिस. 1(1):3.2014 में प्रकाशित किया गया है।

Sigridea chloroleuca (Mull. Arg.) Tehler (ROCELLACEAE)
This species was earlier known from Venezuela has been reported for the first time for India based on collections made from Ficus trees at the dry deciduous forests of Palamalai Hills, Salem district of Tamil Nadu, India at 700m altitude. The specimens are deposited in herbarium National Botanical Research Institute, Lucknow (LWG). It has been published by A. R. Logesh, Santosh Joshi, Komal K. Ingle and Dalip K. Upreti in Tropical Pl. Res. 1(1): 3.2014.
Fungi

Courtesy: M. Kaur
Fungi distributed worldwide, perform an essential role in nature by decomposing organic matter and are indispensable in nutrient cycling.

They have long been used as source of food and in fermentation of various food products and now they are an important source of antibiotics.

The Indian fungi account for about 31 per cent of the total plant species of the India.

In the present state of our knowledge India has about 14,936 species of fungi.

Many more are yet to be identified and described.

The collated information presented here includes 01 new genus (from Maharashtra)

21 new species (13 species from Maharashtra, 03 species each from Kerala and Uttar Pradesh, 01 species each from Himachal Pradesh and Sikkim) from India;

05 new varieties (02 from Maharashtra and 03 from Punjab) and 26 new distributional records for India.
नवीन वंश/ New Genus

शिशनेमा दुबे एवं मुनामेह, ज. थिटन. टैक्सा, 6(12):6650.2014. (स्टिल्लेलोवीसी)
इस नवीन कक्ष वंश का अन्वेषण एवं वर्ग महाराष्ट्र राज्य के शिशनेमा जनपद, सावंतवाड़ी तहसील से स्टिल्लेलोवीस सेल. एक्स पार्क के वाद्याव्रोहय भागों से प्राप्त किये गये संग्रहों के आधार पर किया गया है। जाति का मूल प्रकाश आधारकक्ष कक्ष–पादवायु, पुष्प (एलएमए) एवं समस्तपादवायु भारतीय वनस्पति सर्वेक्षण, फलवटी वेशजय केंद्र, युगे (प्राइमरी) में संग्रहित किया गया है। इस वंश का नामकरण इसमें सर्वसाधारण प्रकाश की साथ (शीर्ष) की उपस्थिति के आधार पर किया गया है।

Sheathnema Dubey and Moonnambeth, J. Threat. Taxa, 6(12): 6550. 2014. (STILLBELLACEAE)
This new genus of synematal fungus discovered and described based on the collection made from the aerial parts of Pandanus tectorius Sol. ex Park., from Savantwadi Taluka, Sindhudurg district of Maharashtra, India at 111m altitude. The holotype is deposited in Agharkar Research Institute, Pune (AMH-i) and isotype in herbarium of Botanical Survey of India, Western Regional Centre, Pune (BSI). The genus name refers to the sheath of synematal form.

नवीन जाति/ New Species

अधिनियम जैट्रोफाइ शोहेट शर्मा, नायकोसाइस 55.119.2014. (एपियोरोपोरेशी)
इस नवीन अंतःपरजीवी कक्ष जाति का अन्वेषण एवं वर्ग महाराष्ट्र राज्य के युगे (प्राइमरी) से जैट्रोफाइ पॉडाग्रिका फुक. के स्वस्थ पॉडाटेल्स से प्राप्त किये गये संग्रहों के आधार पर किया गया है। जाति का मूल प्रकाश आधारकक्ष कक्ष–पादपायु, पुष्प (एलएमए) में संग्रहित किया गया है। इस जाति का नामकरण इसके पोषक पौधे जैट्रोफाइ पॉडाग्रिका के नाम पर किया गया है।

Arthrinium jatrophae Rohit Sharma, Mycoscience 55.119.2014. (APIOSPORACEAE)
This new endophytic fungal species has been discovered and described based on the collection made from healthy petiole of Jatropha podagrica Hook., from Pune (Pimpri), Maharashtra, India. The holotype is deposited in Agharkar Research Institute, Pune (AMH). The species epithet refers to the host plant Jatropha podagrica.

एस्टरिना लेस्स्लीयोलेटा पाटिल, नीतिके एवं पाटिल, कांट सिरसा इन इन्डोरेमेंटल एंड एलाइड नायकोलोजी 4(1):81.2014. (एस्टरिना)
इस नवीन कक्ष जाति का अन्वेषण एवं वर्ग महाराष्ट्र राज्य के कोल्हापुर जनपद के पादपायु से सिजाजिमय लेस्लीयोलेटा की स्वस्थ पाटियों से प्राप्त किये गये संग्रहों के आधार पर किया गया है। जाति का मूल प्रकाश पादपायु क्रिह्योमोएल इंडियाई आर्सियेटेंस, भारतीय कृषि अनुसंधान संस्थान, नई दिल्ली (एस्टरिना) में संग्रहित किया गया है। इस जाति का नामकरण इसके पोषक पौधे की जाति के नाम पर आभारित है।

This new fungal species was discovered and described based on the collection made from leaves of Syzygium lanceolatum, from Patgnaon, Kolhapur district of Maharashtra, India. The holotype is deposited in Cryptogamiae Indicae Orientalis, Indian Agricultural Research Institute, New Delhi (ICFIO). The species name refers to the species epithet of host plant.


This new fungal species has been discovered and described based on the collection made from leaves of Elaeagnus conferta, from Chandoli Wildlife Sanctuary, Sangli, Petland of Maharashtra, India. The holotype is deposited in Cryptogamiae Indicae Orientalis, Indian Agricultural Research Institute, New Delhi (HCIO). The species name refers to the host plant. Asterina latifoliae Patil, Bhise & Patil, Curr. Res. Environ. Appl. Mycol. 4 (1): 81, 2014. (ASTERINACEAE)

This new fungal species has been discovered and described based on the collection made from leaves of Elaeagnus conferta, from Chandoli Wildlife Sanctuary, Sangli, Petland of Maharashtra, India. The holotype is deposited in Cryptogamiae Indicae Orientalis, Indian Agricultural Research Institute, New Delhi (HCIO). The species name refers to the host plant.


This new fungal species has been discovered and described based on the collection made from leaves of Syzygium cumini, from Renotsi forest, Mahableshwar, Maharashtra, India at 676m altitude. The holotype is deposited in Cryptogamiae Indicae Orientalis, Indian Agricultural Research Institute, New Delhi (HCIO). The species epithet refers to the host family Myrtaceae.


This new fungal species has been discovered and described based on the collection made from bark of a dicotyledonous tree from Silent Valley National Park, Sainadnny Section, Palakkad district of Kerala, India. The holotype is deposited in herbarium of Royal Botanical Garden, Kew (K). The specific epithet refers to the state of its occurrence.


This new fungal species has been discovered and described based on the collection made from leaves of Ficus hispida, from Sonhehada, Uttar Pradesh, India. The holotype is deposited in herbarium of Cryptogamiae Indicae Orientalis, Indian Agricultural Research Institute, New Delhi (HCIO) and isotypes are in Deprt. of Botany, Banaras Hindu University, Banaras (BHU). The species name refers to the family of host plant Moraceae.

This new fungal species has been discovered and described based on the collection made from leaves of *Zizyphus oenoplia* (L.) Mill. from Panvel, Ratnagiri of Maharashtra, India. The holotypes deposited in herbarium of Botanical Survey of India, Western Regional Centre, Pune (BSI). The species is named after the type location in Ratnagiri.

**Dermoloma indicum** K.N.A. Raj & Manim, Phytotaxa 177(4):239.2014. (AGARICACEAE)

This new fungal species has been discovered and described based on the collection made from Peechi forest, Thrissur district of Kerala, India. The holotype is deposited in herbarium of Royal Botanical Garden, Kew (K). The species epithet is based on the country of its occurrence.


This new fungal species has been discovered and described based on the collection made from Thennmala Shenduruni forest division, Kollam district of Kerala, India. The holotype is deposited in herbarium of Royal Botanical Garden, Kew (K). The species is named after state of its occurrence.


This new fungal species has been discovered and described based on the collection made from stems and petioles of *Bambusa arundinacea* (Retz.) Willd. from Kume Lanja, Ratnagiri of Maharashtra, India. The holotypes deposited in herbarium of Agharkar Research Institute, Pune (AMH) and isotype are in Botanical Survey of India, Western Regional Centre, Pune (BSI). The species name refers to the host plant genus.

This new fungal species has been discovered and described based on the collection made from Bansoi, North district of Sikkim, India at 2323m altitude. The holotype is deposited in Central National Herbarium, Botanical Survey of India, Howrah (CAL). The species is named in honour of Dr. Jan Vesterholt (Denmark) for his contribution to the family Russulaceae.


This new fungal species has been discovered and described based on the collection made from living leaves of Syzygium rubicundum, from Pratapgad, Mahabaleshwar of Maharashtra, India at 829m altitude. The holotype is deposited in Cryptogamiae Indiae Orientalis, Indian Agricultural Research Institute, New Delhi (HClO). The species epithet refers to the type locality.


This new fungal species has been discovered and described based on the collection made from living leaves of Olea dioica Roxb., from Par-Wada, Mahabaleshwar of Maharashtra, India at 762m altitude. The holotype is deposited in Cryptogamiae Indiae Orientalis, Indian Agricultural Research Institute, New Delhi (HClO). The species name is based on name of the host plant species.
This new fungal species has been discovered based on the collection made from living leaves of *Ligustrum pedotetris* A.D.C., from old Mahabaleshwar of Maharashtra, India. The holotype is deposited in Cryptogamiae Indiae Orientalis, Indian Agricultural Research Institute, New Delhi (HClO). The species epithet refers to its host genus name.

*Sheathnema indicum* Dubey and Moonnambeth, J. Threat. Taxa, 6(12):6550.2014. (STILLBELLAECES)

This new species of synematal fungus discovered and described based on the collection made on aerial parts of *Panaculis tectorius* Sol. ex Park, from Sawantwadi Taluka, Sindhudurg District of Maharashtra, India at 111 m altitude. The holotype is deposited in Agharkar Research Institute, Pune (AMF-1) and isotype in Herbarium of Botanical Survey of India, Western Regional Centre, Pune (BSI). The species is named after the country of its occurrence.


This new ectomycorrhizal species of fungus discovered and described based on the collection made under the *Pinus roxburghii*, from Kasog, Himachal Pradesh, India at 1404 m altitude. The holotype is deposited in herbarium of Deptt. of Botany, Punjab University (PAN). The species epithet refers to the occurrence of new species with three-needle pine.


This new fungal species discovered and described based on the collection made from dead stems of *Carica papaya* L., BSI garden, Pune, Maharashtra. The holotype is deposited in Herbarium of Botanical Survey of India, Western Regional Centre, Pune (BSI). The species is named after the host plant.

This new fungus species discovered and described based on the collection made from leaves of Dioscorea oppositifolia L., from Bans, Sidharthnagar, Uttar Pradesh, India. The holotypes deposited in Cryptogamiae Indicae Orientals, Indian Agricultural Research Institute, New Delhi (HClO) and isotypes are in Deptt. of Botany, D.D.U. Gorakhpur University, Gorakhpur (GPU). The species is named after genus of host plant.


This new fungus species discovered and described based on the collection made from living leaves of Prunus L., from Kusumhi Forest, Gorakhpur, Uttar Pradesh, India. The holotypes deposited in Cryptogamiae Indicae Orientals, Indian Agricultural Research Institute, New Delhi (HClO) and isotypes are in Deptt. of Botany, D.D.U. Gorakhpur University, Gorakhpur (GPU). The species epithet refers to its rough nature.


This new fungus species discovered and described based on the collection made from dead stems of Cocos nucifera L. BSI garden, Pune, Maharashtra. The holotype is deposited in Herbarium of Botanical Survey of India, Western Regional Centre, Pune (BSI). Species epithet refers to the genus of host plant.


This new fungus species discovered and described based on the collection made from living leaves of Delenlia pentagyna Roxb., from Savantwadi of Maharashtra, India. The holotype is deposited in Herbarium, Botanical Survey of India, Western Regional Centre, Pune (BSI). The species epithet named after the host plant genus.

This new fungal variety has been discovered and described based on the collection made from living leaves of Olea dioica Roxb., from Par-Wada, Mahabaleshwar of Maharashtra, India at 762m altitude. The holotype is deposited in Cryptogamiae Indiæ Orientalis, Indian Agricultural Research Institute, New Delhi (HCI). The varietal epithet is based on name of the host genus.


This new fungal variety has been discovered and described based on the collection made from leaves of Maytenus puberula, from Satara, Mahaharashtra of Maharashtra, India. The holotype is deposited in Cryptogamiae Indiæ Orientalis, Indian Agricultural Research Institute, New Delhi (HCI). The variety name refers to the host family Celastraceae.


This new fungal variety has been discovered and described based on the collection made from growing in groups on horse dung from Barnala, Salempur of Punjab, India at 228m altitude. The holotype is deposited in herbarium, Deptt. of Botany, Punjabi University, Patiala (PUN). The varietal epithet derived from the scientific name for horse.


This new fungal variety has been discovered and described based on the collection made from buffalo dung from Bhasaur, Sangrur of Punjab, India at 231m altitude. The holotype is deposited in the herbarium of Deptt. of Botany, Punjabi University, Patiala (PUN). The varietal epithet refers large size of carpophores.

This new fungal variety has been discovered and described based on the collection made from dung at Nadampur Village, Sangrur of Punjab, India at 231m altitude. The holotype is deposited in the herbarium of Deptt. of Botany, Punjabi University, Patiala (PUN). The varietal epithet refers to smaller size of its spores.

### New Distribution Records

**Genus**

Acarocybillina (Matsush.) Subram.

This genus of fungi earlier known from Peru, Cuba, New Zealand and Japan, has been reported for the first time from India based on the collection made from growing on spadix of Cocos nucifera L., from Sawantwadi forest in Sindhudurg district of Maharashtra. The specimens are deposited in Indian Agricultural Research Institute, New Delhi (HClO) and Botanical Survey of India, Western Regional Centre, Pune (BSI). The species has been published by Rashmi Dubey and Neelima A. Moonnambethin Indian Phytopath. 66 (3): 326. 2013.

**Species**

Acarocybillina arengae (Matsush.) Subram.

This species earlier known from Peru, Cuba, New Zealand and Japan, has been reported for the first time from India based on the collection made from growing on spadix of Cocos nucifera L., from Sawantwadi forest in Sindhudurg district of Maharashtra. The specimens are deposited in Indian Agricultural Research Institute, New Delhi (HClO) and Botanical Survey of India, Western Regional Centre, Pune (BSI). The species has been published by Rashmi Dubey and Neelima A. Moonnambethin Indian Phytopath. 66 (3): 326. 2013.
बोरोफुट्स ठाकूनस होलेन एवं ज्यू, एल. यंग (बोलीटेसी)।

बोरोफुट्स बंगालवेश से ज्वाल इस जाति का पता भारत में प्रथम बार चाराखंड राज्य के कोटड़ा वन्य जीव अन्तर्गत, चाराखंड से 38000 से. कोडवाई से प्राप्त किये गये संग्रहों के आधार पर लगाया गया है। प्रतिलय को केंद्रीय वार्षिक पादपालय, भारतीय वन्यजीवन विभाग, बांग्लादेश (सीपोलन) में संरक्षित किया गया है। इसे अभिविद्या, ए. ई. हेमरेद एवं ज्यू बाद के द्वारा गिल्दूनो 56.342 2014 में प्रकाशित किया गया है।

Borofutus dhakanus Hosen & Zhu L. Yang (BOLETAACEAE).

This species earlier known from Bangladesh has been first time reported for India based on the collection made from Chatarbar, Kodema Wild life Sanctuary, Jharkhand at 380m. altitude. The specimens are deposited in Central National Herbarium, Botanical Survey of India, Howrah (CAL). The species has been published by Arvind Panwar, M.E. Hembrom and Kanad Das in Nelumbo 56.342 2014.

कैटेनुलारिया क्यूबेलिस्ता होल-जेच ए.सी.सी. पीरिसीई.

कैटेनुलारिया व्यूँ जाति का पता भारत में प्रथम बार महाराष्ट्र राज्य के पुणे में नागरिक वन्यजीव व्यूलिफेक्ट लिए जाति को पत्तियों से प्राप्त किये गये संग्रहों के आधार पर लगाया गया है। प्रतिलय को पादपालय भारतीय वन्यजीवन संवेदन, परिखा चौकी पंजीय केंद्र, पुणे (बीड़ीसाइड) में संरक्षित किया गया है। इसे रश्मि दुबे एवं नीलमा ए. मुनामाईह द्वारा ज्यू बाद रिपोर्ट्स 3(3):200 2014 में प्रकाशित किया गया है।

Catenularia cubensis Hol-Jech (CHAETOSPHARIACEAE).

This species earlier known from Cuba is reported for the first time for India based on collection made from leaf sheath of Cocos nucifera L. The specimens are deposited in herbarium of Botanical Survey of India, Western Regional Centre, Pune (BSI). The species has been published by Rashmi Dubey and Neelima A. Moonnambeth in J. New Biol. Reports 3(3): 200 2014.

क्लोरोफ्यल्म स्कोरेरोपॉरम जे.ज्यू, एल. यंग (एगारिकेसी).

इस मशीना जाति का पता भारत में प्रथम बार पंजाब राज्य के पतंगालय स्थित पंजाबी विश्वविद्यालय के कृष्ण दृष्टि में हुगनकोलस मूडा से प्राप्त किये गये संग्रहों के आधार पर लगाया गया है। प्रतिलय को पादपालय वन्यजीव विभाग, पंजाबी विश्वविद्यालय, पतंगालय (बीडियर) में संरक्षित किया गया है। इसे मुगली खान, नरेन्द्रक खान एवं मनोज अकबर के द्वारा ज्यू बाद रिपोर्ट्स 3(2):81 2014 में प्रकाशित किया गया है।

Chlorophyllum sphaeroporum Z.W.Ge & Zhu L. Yang (AGARICACEAE).

This mushroom species is reported for the first time for India based on the collection made from humidcool soil, Punjab University Campus, Patiala, Punjab. The specimens are deposited in herbarium Deptt. of Botany, Punjab University, Patiala (PUN). The species has been published by Muniruchi Kaur, Narinderjit Kaur and Naseema Aqabnn J. New Biol. Reports 3(2):81 2014.
कोप्रीनोप्सिस स्यूडोमिया (Bender एंड उल्जे) रेडेडिज़, विलगिलिस एंड मोनकल्वो
पूर्व: नीरदर्गांचे से ज्ञात इस जाति का पता भारत में ध्वस्त बार पंजाब राज्य के संगठ के लेनोयन से प्राप्त किये गए संग्रहों के आधार पर लगाया गया है। प्रतिरूप को वनस्पति विज्ञान द्वारा फ्लॉरा पंजाब की प्रयोगी प्राकृतिकविज्ञान, (पीएसएफ़) में संग्रहित किया गया है। इसे के. अनन्दपीत, एन. एस. अशोक, एवं मनोज के द्वारा ग्रामकोस्मेयर 5(1):22.2014 में प्रकाशित किया गया है।

Coprinopsis pseudonevia (Bender and Ulij) Redhead, Vigilays and Moncalvo
This species, earlier known from Netherland has been reported for the first time for India based on the collection made from Sangrur, Langrian of Punjab. The specimens are deposited in Dept. of Botany, Punjab University (PUN). The species has been published by K. Amandeep, N.S. Ati and K. Munruchi in Mycosphere 5(1):22.2014.

कोप्रीनोप्सिस वर्न्कुतिलीफरा (जॉस्ट: डेनिस) रेडेडिज, विलगिलिस एवं मोनकल्वो
पूर्व: यूरोप, आफ्रिका, दक्षिण आसिया, संयुक्त राज्य, आस्ट्रेलिया एवं इटली से ज्ञात इस जाति का पता भारत में प्रथम बार पंजाब राज्य के गृहरक्षक, वेजिलिया पुरे से प्राप्त किये गये संग्रहों के आधार पर लगाया गया है। प्रतिरूप को वनस्पति विज्ञान द्वारा फ्लॉरा पंजाब की प्रयोगी प्राकृतिकविज्ञान, पोटियाला (पीएसएच) में संग्रहित किया गया है। इसे के. अनन्दपीत, एन.एस.अशोक, एवं मनोज के द्वारा ग्रामकोस्मेयर 5(1):3.2014 में प्रकाशित किया गया है।

Coprinopsis vermiculifera (Joss: Dennis) Redhead, Vigilays and Moncalvo
This species, earlier known from Europe, Africa, South Georgia, United Kingdom, Australia and Italy has been reported for the first time on India based on the collection from Garhshankar, Hoshiarpur of Punjab at 293m altitude. The specimens are deposited in Dept. of Botany, Punjab University, Pataula (PUN). The species has been published by K. Amandeep, N.S. Ati and K. Munruchi in Mycosphere 5(1):3.2014.

कुकुरबिकोथिस पिथियोफिला (सिमिडेट एवं कुडी) पेटर.
इस जाति का पता भारत में प्रथम बार जार्मन ग्रेगर्सन द्वय की पत्रिका से प्राप्त किये गये संग्रहों के आधार पर लगाया गया है। प्रतिरूप को पादनवर भारतीय वनस्पति सर्वेक्षण, पश्चिमी क्षेत्रीय केन्द्र, पुणे (सीएसएस) में संग्रहित किया गया है। इसे रंगभूम दुबे एवं नीलामिता ने नागायल के द्वारा ज्ञात, नागायल, पलट, फैलोलाजी 43(4):489.2013 में प्रकाशित किया गया है।

Cucurbitoidis pithyophila (Schmidt and Kunze) Petr.
This species has been first time reported from India based on the collection made from leaves of Dracaena fragans L. The specimens are deposited in herbarium, Botanical Survey of India, Western Regional Centre, Pune (BSI). The species has been published by Rashmi Dubey and Neelima A Moonnambethin J. Mycol. Plant Pathol., 43(4):489. 2013.

सायकलोमायरिस क्रूसकस्टर्ड़ (स्मिथनामिनिक्टर्सिस)
पूर्व: जापान एवं लाइबर्न से ज्ञात इस जाति का पता भारत में प्रथम बार नेपाल राज्य से 1900 मीटर की ऊंचाई पर नागायल के पद्धतिक के में कितने कल्प से प्राप्त किये गए संग्रहों के आधार पर लगाया गया है। प्रतिरूप को नागायल इन्फोमोर्फिकल स्लेटरिया, वनस्पति विज्ञान द्वारा फ्लॉरा नेपाल की प्रयोगी प्राकृतिकविज्ञान, (फ्लॉरा नेपाल) में संग्रहित किया गया है। इसे अरोमा तिमोड़ एवं ममताज एस दक्षार के द्वारा ग्रामकोस्मेयर 3(1):25.2014 में प्रकाशित किया गया है।

Cyclomyces fuscus Fr. (HYMENOCHAETACEAE)
This species, earlier known from Japan and Taiwan has been reported from India based on the collection made from log of hardwood, in Mawphlang sacred grove, Meghalaya, India at 1900m altitude. The specimens are deposited in Microbial Ecology Laboratory, Deptt. of Botany, North Eastern Hill University, Shillong (NEHU). The species has been published by Aroma Lyngdoh and Mantaj S. Dikhar in J. New Biol. Reports 3(1):25.2014.
**Diplomitopsis crustulinus** (Bres.) Domanski (FOMITOPSISIDACEAE)

This species has been first time reported from India based on the collection made from gymnospermic log, from Rudraprayag district of Uttarakhand. The specimens are deposited in herbarium, Botany Deptt. Panjab University, Chandigarh (PAN). The species has been published by Lalita and I. B Prashen J. New Biol. Reports 3(1):31.2014.

**Fomitopsis lilacinogilva** (Berk.) J.E. Wright & J.R. Deschamps (FOMITOPSISIDACEAE)

This species has been first time reported from India based on the collection made from *Cedrus deodara* log, from Dhinout, Mandi district of Himachal Pradesh. The specimens are deposited in herbarium of Botany Deptt. Panjab University, Chandigarh (PAN). The species has been published by Deepali Ashok and I. B. Prasher in J. New Biol. Reports 3(1):4.2014.

**Hemibetria nectandrae** (Batista & Maia) Pirozynski

This species of foliicolous fungi is reported for the first time from India based on collection made from living leaves of *Litsea* stockii, Lonavla of Maharashtra. The specimens are deposited in herbarium of Botanical Survey of India, Western Regional Centre, Pune (BSI). It has been published by Rashmi Dubey and Neelima A. Moonnambeth in J. New Biol. Reports 3(3):200.2014.
Humphreya coffeatum (Berk.) Steyart (GANODERMATAECEAE)

This species, earlier known from Brazil, Bolivia, Cuba and Puerto Rico has been first time reported from India based on the collection made from living tree of Eloeocarpus lanceolatus, in Mawphlang sacred grove, Meghalaya, India at 1900m altitude. The specimens are deposited in Microbial Ecology Laboratory, Deptt. of Botany, North Eastern Hill University, Shillong (NEHU). The species has been published by Aroma Lyngdoh and Mamta S. Dikhar in J. New Biol. Reports 3(1):26.2014

Hyphodontia barbajovis (Bull.) J. Erikss (FOMITOPSISIDACEAE)

This species has been first time reported from India based on from the collection made from angiospermic log, Near Renuka Lake, Sirmour of Himachal Pradesh. The specimens are deposited in herbarium of Botany Department, Panjab University, Chandigarh (PAN). The species has been published by Deepali Ashok and I. B. Prasher in J. New Biol. Reports 3(1):7.2014

Idriella lunata P. E. Nelson & S. Wilhelm (HELOTIAECEAE)

This species of follicolicous fungi is reported for the first time from India based on collection made from living leaves of Allophylus cobe, Koyna, Satara, Maharashtra, India. The specimens are deposited in Herbarium of Botanical Survey of India, Western Regional Centre, Pune (BSI). The species has been published by Rashmi Dubey and Neelima A. Moonnambeth in J. New Biol. Reports 3(3): 201. 2014.
Lepiota brunneoïncarnata Chodat & C. Martin (AGARICACEAE)
This light spored mushroom species is reported for the first time from India based on collection made from humicolic soil, Punjabi University Campus, Patiala, Punjab. The specimens are deposited in herbarium Department of Botany, Punjabi University, Patiala (PUN). The species has been published by Munnuchi Kaur, Nairinderjit Kaur and Naseema Aqbarin J. New Biol. Reports 3(2):81. 2014.

Mycovellosiella solani-torvi (Frag. & Gf.) Deighton (MYCOCOSPHAERELLACEAE)
This species of follicolic fungi is reported for the first time from India based on collection made from leaves of Vtex trifolia L.f. from Sawantwadi Taluka, Maharashtra, India. The specimens are deposited in herbarium of Botanical Survey of India, Western Regional Centre, Pune (BSI). The species has been published by Rashmi Dubey and Neelima A. Moonnambaheth in J. New Biol. Reports 3(3):201. 2014.

Perenniporia fraxinophila (Peck) Ryvarden (FOMITOPSISIDACEAE)
This species has been first time reported from India based from the collection made from angiospermic log, Ner Chowk, Mandi district of Himachal Pradesh. The specimens are deposited in herbarium of Botany Department, Panjab University, Chandigarh (PAN). The species has been published by Deepali Ashok and I. B. Prasher in J. New Biol. Reports 3(1):6.2014.
**Periconiella telopeae** (Hansf.) M. B. Ellis (MYCOSPHAERELLACEAE)

This species of folliculous fungi is reported for the first time for India based on collection made from Savantwadi Taluka, Maharashtra, India. The species has been published by Rashmi Dubey and Neelima A. Moonnambeth in J. New Biol. Reports 3(3): 201.2014.

**Phragmospathula brachyspathula** Mercado

This species of fungi is reported for the first time from India based on collection made from leaves of *Roystonea regia* (Kunth) O.F. Cook at Garden of Botanical Survey of India, Western Regional Centre, Pune, Maharashtra. The specimens are deposited in herbaria of Agharkar Research Institute, Pune (AMFI) and Botanical Survey of India, Western Regional Centre, Pune (BSI) respectively. The species has been published by Rashmi Dubey and Neelima A. Moonnambeth in *NeBio Interl.* J. Environ. Biodiver. 5(1):25.2014.

**Physopella hiratsuke** (Syd.) Cummins & Ramachar. (PHAKOPSORACEAE)

This species of fungi is reported for the first time from India based on collection made from living leaves of *Bambusa arundinacea* Wild., from Malshhej Ghat, Thane district of Maharashtra, India. The specimens are deposited in herbarium of Botanical Survey of India, Western Regional Centre, Pune (BSI). The species has been published by Rashmi Dubey and Neelima A. Moonnambeth in *J. New Biol.* Reports 2(2):124. 2013.
Postia ceriflua (Berk. & M.A. Curtis) Jülich (FOMITOPSISACEAE)

This species has been first time reported from India based on the collection made from decaying Pinus sp. log, from Lal Tibba, Mussoorie, Dehradun district of Uttarakhand. The specimens are deposited in herbarium of Botany Deptt. Panjab University, Chandigarh (PAN). The species has been published by Lalita and I. B Prasrerin J. New Biol. Reports 3(1): 29-2014.

Verticillium tenuissimum Corda. (PLECTOSPHAERELLACEAE)

This species has been first time reported from India based on the collection made from soil samples collected from Pine forest at Forest Research Institute, Dehradun district of Uttarakhand. The specimens are deposited in National type Culture Collection, Forest Pathology Devision, Forest Research Institute, Dehradun (DD). The species has been published by Jyoti Bisht, N.S.K. Harsh, L.M.S. Palini and V. Pande in Indian Forester 140(1): 547-2014.

Xanthoporus peckianus (Cooke) Audel

This species earlier known from China, Japan and Europe has been first time reported for India based on the collection made on log of Cedrus deodora from Mussoorie, Dehradun district of Uttarakhand. The specimens are deposited in herbarium of Botany Deptt. Panjab University, Chandigarh (PAN). The species has been published by Lalita and I. B Prasrerin J. New Biol. Reports 3(3): 185-2014.
Xenasma tulasnelloideum (Höhn. & Litsch.) Donk (XENASMATACEAE)

This species has been first time reported from India based on the collection made from decaying angiospermic twig, from Karanpayaag, Chamoli district of Uttarakhand. The specimens are deposited in herbarium of Botany Deptt. Panjab University, Chandigarh (PAN). The species has been published by Lalita and I. B Prasher in J. New Biol. Reports 3(1):35, 2014.
**Algae**

Algae are large and diverse group of simple, typically autotrophic organisms from unicellular to multicellular forms.

Though algae are becoming more and more open to exploitation worldwide, knowledge on algae in India increasing tremendously in recent times.

The Indian algae account for about 15.29 per cent of the total species of the India. In the present state of our knowledge India has about 7,309 species of algae.

Many more are yet to be identified and described.

The collated information presented here includes 01 genus from Rajasthan, 09 new species (02 species each from Goa, Maharashtra and Rajasthan, 01 species each from Andhra Pradesh, Jharkhand and West Bengal); and 15 species as new distributional records for India.
This new cyanobacterial algae species is discovered and described based on the collection made from Thar Deserts of Rajasthan, India. The holotype is deposited in the herbarium of Botanical Museum, Berlin, Dahlem, Germany (B) and isotypes are in herbaria of Culture Collection of Algae and Protozoa, UK (CCAP) and Birla Institute of Scientific Research, Jaipur (BISR). The species epithet refers to its geographic origin, the Thar Deserts, Rajasthan.
जॉनेसबाप्तिस्टिस देसिकाचार्य राज. के. गुप्ता एवं सुविदिता के. दास, निलुमबो 56:283.2014. (ENTHOPHYALCACEAE)

इस नवीन शैवाल का अवलोकन एवं वर्णन क्राफ्टस्ट राज्य के जनसाधन में कक्षमता घाट के सभी रक्षा जीव द्वारा से प्राप्त किये गये संग्रहों के आधार पर किया गया है। जाति के मूलप्रकृति को क्राफ्टस्टिक प्रमाण, क्राफ्टस्ट राजस्थान पादपालय, भारतीय वनस्पति संरक्षण, हावड़ा (सीएचए) में संरक्षित किया गया है। जाति का नामकरण स्व. श्री. सी. वी. देसिकाचार्य के सम्मान में उनके द्वारा भारतीय शैवालो पर दिये गये उल्लेखनीय कार्यों के आधार पर किया गया है।


This new algae species has been discovered and described based on collections made from freshwater lotic water bodies adjacent to Karamlah Ghat, Jamtara, Jharkhand. The holotype is deposited, Cryptogamic section, Central National Herbarium, (CAL). This species has been named after late Prof. T.V. Desikachary as a tribute to his invaluable contribution to Indian algae.

मायकोनेस्टरस पुष्पांग्रहण, सी. बोक्च, दविथिक एवं प्रोफेसर, फाइकोलॉजिज्या 50(1):103.2011. (क्राफ्टस्टिक)

इस नवीन सुविदी शैवाल का अवलोकन एवं वर्णन राजस्थान के जनसाधन प्राप्त किये गये संग्रहों के आधार पर किया गया है। जाति के मूलप्रकृति को क्राफ्टस्ट राजस्थान ऑफिस एंड प्रॉडेक्टेंशन, दोकु (सीएचए) एवं समस्तक को क्राफ्टस्टिक प्रमाण, वल्लिं, जर्मनी (B) में संरक्षित किया गया है। जाति का नामकरण प्रशिक्षण भारतीय शैवालिक डा. पुष्पा शैवालिक के सम्मान में किया गया है।


This new algae species is discovered and described based on the collection made from a Pond in the foothills of the Amber Fort, Jaipur, Rajasthan, India. The holotype of the strain is cryopreserved at Culture Collection of Algae and Protozoa, Oban, Scotland (CCAP) and isolates are in Botanical Museum Berlin-Dahlem, Germany (B). The species is named in honour of Indian Physiologist Dr. Pushpa Srivastava, Jaipur.

निरिक्षण खोशीयोलॉजिक अलकानदा, श्री. कार्तिक, जे. सी. टेलर एवं श्री. हैंसिन्टन, फाइकोलॉजिज्या, 2.2014. (क्राफ्टस्टिक)

इस नवीन शैवाल का अवलोकन एवं वर्णन महाराष्ट्र के बुद्धन जनसाधन के कमल जाती नारिंद्र प्राणां में पक्षी जलाशय से 5833. की कोंडवाई पर प्राप्त किये गये संग्रहों के आधार पर किया गया है। जाति के मूलप्रकृति पादपालय, अध्यक्ष अनुसंधान संस्थान, पुराण (एएसएच) एवं समस्तक को क्राफ्टस्टिक प्रमाण, वल्लिं, जर्मनी (B) में संरक्षित किया गया है। जाति का नामकरण जो. जे. पैट्रिथ क्राफ्टस्टिक, क्राफ्टस्टिक प्रदर्शनीय, के सम्मान में किया गया है।


This new algae species is discovered and described based on the collection made from Bird feeding pond in Kamajia Devi Temple, Budhana district of Maharashtra, India at 563m altitude. The holotype is deposited in the herbarium of Agharkar Research Institute, Pune, (AMH) and isolates are in herbaria of Deptt. of Botany, North West University Potchefstroom, South Africa (NWU) and National Herbarium of Canada, Canadian Museum of Nature, Ottawa, Canada (CAN). This species is named after Professor J. Patrick Kociolek, University of Colorado, USA.

निरिक्षण ट्राईपुडो अलकानदा, श्री. कार्तिक, जे. सी. टेलर एवं श्री. हैंसिन्टन, फाइकोलॉजिज्या, 6.2014. (क्राफ्टस्टिक)

इस नवीन शैवाल का अवलोकन एवं वर्णन महाराष्ट्र के बुद्धन जनसाधन के कमल जाती नारिंद्र प्राणां में पक्षी जलाशय से 5833. की कोंडवाई पर प्राप्त किये गये संग्रहों के आधार पर किया गया है। जाति के मूलप्रकृति पादपालय, अध्यक्ष अनुसंधान संस्थान, पुराण (एएसएच) में संरक्षित किया गया है। जाति का नामकरण इसके प्रस्तुत की संरचना पर आधारित है।


This new algae species is discovered and described based on the collection made from Bird feeding pond in Kamajia Devi Temple, Budhana district of Maharashtra, India at 563m altitude. The holotype is deposited in the herbarium of Agharkar Research Institute, Pune, (AMH). This species tripudo refers to the structure of the areolae.
ओडोगोनियम सागरेन्सेस सालिस के सादु, बी के दस्ता एवं प्रान्तलीय शर्मा, एल्गोलॉजिकल स्टडीज 144.11.2014. (ओडोगोनियम)
इस नवीन हरे शैवाल का अन्वेषण एवं वर्गन परिशिष्ट बंगाल राज्य के सागर द्वीप, सुंदरबन से प्राप्त किये गये संग्रहों के आधार पर किया गया है। जाति के मूलतः अभिव्यक्त को वनस्पति विज्ञान विभाग, बर्मन्त्र विश्वविद्यालय, बर्मन्त्र (बीजौशार) में संग्रहित किया गया है। जाति का नामकरण सुंदरबन के सागर द्वीप के नाम पर आधारित है।


This new green algae species is discovered and described based on the collection made from rice fields of Sagar Island, Sundarbans of West Bengal, India. The holotype is deposited in the Department of Botany, The University of Burdwan, West Bengal (BURD). The species is named after the Sagar Island (Sagar Island) of Sundarban.

ट्रेस्लेमिस इंडिका अरोरा एवं अनिल, यू.जी. फायको., 48(1):81.2013. (क्लॉरोडेंड्रोफ्लोयस)
इस नवीन शैवाल का अन्वेषण एवं वर्गन गोवा के मणीपुर, मंडोवा पुल के निकट खारे पानी की चील से प्राप्त किये गये संग्रहों के आधार पर किया गया है। जाति के मूलतः रूप को नेशनल कैंडोलोरियर मैरिन सामनोवैक्टरिया, भारतीय वातावरण विश्वविद्यालय, तिरुपतिपल्ली, तमिलनाडु (बीजौशार) में संग्रहित किया गया है। जाति का नामकरण इसको प्रान्तिक देश के अंतर्गत नाम 'इंडिया' पर आधारित है।


This new algae species is discovered and described based on the collection made from Salt pan near Mandovi Bridge, Panaji, Goa, India. The holotype is deposited in the National Facility for Marine Cyanobacteria, Bharathidasan University, Tiruchirappalli, Tamil Nadu (BDU). The species is named after the country India.

आल्वा पाशिमा बास्ट, जोसां दस, 9(10):8.2014. (अल्वोफ्लोयस)
इस नवीन हरे समुद्री घास शैवाल का अन्वेषण एवं वर्गन गोवा के अंतर्गत समुद्रतट, पारिसियों—डी-घास से प्राप्त किये गये संग्रहों के आधार पर किया गया है। जाति के मूलतः रूप को बंगाल राज्य पानीपात, भारतीय वनस्पति संस्थान, मुंबई (बीजौशार) एवं समुद्रतट की वनस्पति विज्ञान विभाग, पंजाब विश्वविद्यालय (मोंटरा) में संग्रहित किया गया है। जाति का नामकरण भारतीय पाशिमी तट के संप्रकृत नाम पर आधारित है।

**Ulva paschima** Bast, PLOS ONE, 9(10):6.2014. (ULVOPHYCEAE)

This new green seaweed algae species is discovered and described based on the collection made from Paraíso de Goa, Anjuna Beach, Goa, India. The holotype is deposited in the Central National Herbarium, Botanical Survey of India, Howrah (CAL) and isotypes are in Punjab Central University Herbarium (PUN). The specific epithet refers to West coast of India.
Chlorococcum ellipsipodium Deason & H. C. Bold

This species of algae earlier known from Texas is reported from India for the first time based on the collection made from Manshu lake, East Sikkim, India. The cultured strain of the alga is deposited at CCALA and Vishva Bharti University, Santiniketan, Bolpur's strain number Sudipta 2012/9. It has been published by Sudipta K. Das in Nelumbo 56:286.2014.

Dictyochloropsis splendidula Gutler

This species of algae earlier known from Texas is reported from India for the first time based on the collection made from Nagula lake, Tawang district, Arunachal Pradesh. The specimens are deposited in the Cultured strain of the alga was deposited at CCALA and Visva Bharati University, Santiniketan as strain number Sudipta 2012/9. It has been published by Sudipta K. Das in Nelumbo 56:289.2014.

Neospongioecoccus gelatinosum (P.A. Archibald & H.C. Bold) H. Ettl & G. Gartner

This species of algae earlier known from Texas is reported from India for the first time based on the collection made from Paradise lake, Tawang district, Arunachal Pradesh. The specimens are deposited in the Cultured strain of the alga was deposited at CCALA and Visva Bharati University, Santiniketan as strain number Sudipta 2012/9. It has been published by Sudipta K. Das in Nelumbo 56:289.2014.

Oedogonium autumnale var. subrapestre Jao (OEDOGONIACEAE)

This species of algae earlier known from China is reported from India for the first time based on the collection made from a water body from Sagar Island, West Bengal. The specimens are deposited in the Department of Botany, University of Burdwan, Burdman, West Bengal (BURD). It has been published by Salil K. Sahoo, B.K. Dutta & Pranjit Sharma in Algological Studies 144.5.2014.
ओडोगोनियम किटाफोरम होफ़. (ओडोगोनियमऐसी)
पूर्वां: लक्षमनगौर से जाते इस शैवल जाति का पता भारत में प्रथम बार परिचित बंगाल राज्य के सागर द्रीम में जलीय घाट से प्राप्त किये गये संग्रहों के आधार पर लगाया गया है। जाति के प्रतिरूप को वनस्पति विज्ञान विभाग, बर्दिमन विश्वविद्यालय, बर्दिमन परिचित बंगाल (ब्रिग्डुरार्थी) में संग्रहित किया गया है। इसे सलिल के, साहू, बी. के, दरा एवं प्रांजीत रामा के द्वारा एल्गोलोजिकल स्टडीज 144.7.2014 में प्रकाशित किया गया है।

Oedogonium chaetophorum Hoff. (OEDOGONIACEAE)
This species of algae earlier known from Luxembourg is reported from India for the first time based on the collection made from a water body from Sagar Island, West Bengal. The specimens are deposited in Deptt. of Botany, University of Burdwan, Burdman, West Bengal (BURD). It has been published by Salil K. Sahoo, B.K. Dutta & Pranjit Sharma in Algological Studies 144.7.2014.

ओडोगोनियम गुन्नाई प्रमेय ब्रेवियारेटिकुलेटम जातो (ओडोगोनियमऐसी)
पूर्वां: बंगालदेश एवं चीन से जाते इस शैवल जाति का पता भारत में प्रथम बार परिचित बंगाल राज्य के सागर द्रीम में जलीय घाट से प्राप्त किये गये संग्रहों के आधार पर लगाया गया है। जाति के प्रतिरूप को वनस्पति विज्ञान विभाग, बर्दिमन विश्वविद्यालय, बर्दिमन परिचित बंगाल (ब्रिग्डुरार्थी) में संग्रहित किया गया है। इसे सलिल के, साहू, बी. के, दरा एवं प्रांजीत रामा के द्वारा एल्गोलोजिकल स्टडीज 144.7.2014 में प्रकाशित किया गया है।

Oedogonium gunnii var. breviarticulatum Jao (OEDOGONIACEAE)
This species of algae earlier known from China & Bangladesh is reported from India for the first time based on the collection made from a water body from Sagar Island, West Bengal. The specimens are deposited in Deptt. of Botany, University of Burdwan, Burdman, West Bengal (BURD). It has been published by Salil K. Sahoo, B.K. Dutta & Pranjit Sharma in Algological Studies 144.7.2014.

ओडोगोनियम कोज्मीनकुई प्रमेय ताराङ्कुण्डला इल्ल. एवं शर्मा (ओडोगोनियमऐसी)
पूर्वां: बंगालदेश से जाते इस शैवल जाति का पता भारत में प्रथम बार परिचित बंगाल राज्य के सागर द्रीम में जलीय घाट से प्राप्त किये गये संग्रहों के आधार पर लगाया गया है। जाति के प्रतिरूप को वनस्पति विज्ञान विभाग, बर्दिमन विश्वविद्यालय, बर्दिमन परिचित बंगाल (ब्रिग्डुरार्थी) में संग्रहित किया गया है। इसे सलिल के, साहू, बी. के, दरा एवं प्रांजीत रामा के द्वारा एल्गोलोजिकल स्टडीज 144.7.2014 में प्रकाशित किया गया है।

Oedogonium kozminskii var. targaonense Isl. & Sarma (OEDOGONIACEAE)
This species of algae earlier known from Bangladesh is reported from India for the first time based on the collection made from a water body from Sagar Island, West Bengal. The specimens are deposited in Deptt. of Botany, University of Burdwan, Burdman, West Bengal (BURD). It has been published by Salil K. Sahoo, B.K. Dutta & Pranjit Sharma in Algological Studies 144.7.2014.

ओडोगोनियम लॉन्टेम बुद्ध. एक्स हिंस (ओडोगोनियमऐसी)
पूर्वां: यूरोप एवं यू.ए.से जाते इस शैवल जाति का पता भारत में प्रथम बार परिचित बंगाल राज्य के सागर द्रीम में जलीय घाट से प्राप्त किये गये संग्रहों के आधार पर लगाया गया है। जाति के प्रतिरूप को वनस्पति विज्ञान विभाग, बर्दिमन विश्वविद्यालय, बर्दिमन परिचित बंगाल (ब्रिग्डुरार्थी) में संग्रहित किया गया है। इसे सलिल के, साहू, बी. के, दरा एवं प्रांजीत रामा के द्वारा एल्गोलोजिकल स्टडीज 144.8.2014 में प्रकाशित किया गया है।

Oedogonium longatum Kutzes Hirn (OEDOGONIACEAE)
This species of algae earlier known from Europe & USA is reported from India for the first time based on the collection made from a water body from Sagar Island, West Bengal. The specimens are deposited in Deptt. of Botany, University of Burdwan, Burdman, West Bengal (BURD). It has been published by Salil K. Sahoo, B.K. Dutta & Pranjit Sharma in Algological Studies 144.8.2014.
Oedogonium oblongellum var. minus (Taft) Mrozinska (OEDOGONIACEAE)

This species of algae earlier known from USA is reported from India for the first time based on the collection made from a water body from Sagar Island, West Bengal. The specimens are deposited in Deptt. of Botany, University of Burdwan, Burdman, West Bengal (BURD). It has been published by Salil K. Sahoo, B.K. Dutta & Pranjit Sharma in Algological Studies 144.8, 2014.

Oedogonium ochitanum Taft (OEDOGONIACEAE)

This species of algae earlier known from USA is reported from India for the first time based on the collection made from a water body from Sagar Island, West Bengal. The specimens are deposited in Deptt. of Botany, University of Burdwan, Burdman, West Bengal (BURD). It has been published by Salil K. Sahoo, B.K. Dutta & Pranjit Sharma in Algological Studies 144.8, 2014.

Oedogonium polstansdrium jao (OEDOGONIACEAE)

This species of algae earlier known from China is reported from India for the first time based on the collection made from a water body from Sagar Island, West Bengal. The specimens are deposited in Deptt. of Botany, University of Burdwan, Burdman, West Bengal (BURD). It has been published by Salil K. Sahoo, B.K. Dutta & Pranjit Sharma in Algological Studies 144.11, 2014.

Oedogonium regidum f. africam Gauth. -Lev. (OEDOGONIACEAE)

This species of algae earlier known from Africa is reported from India for the first time based on the collection made from a water body from Sagar Island, West Bengal. The specimens are deposited in Deptt. of Botany, University of Burdwan, Burdman, West Bengal (BURD). It has been published by Salil K. Sahoo, B.K. Dutta & Pranjit Sharma in Algological Studies 144.11, 2014.
Oedogonium spinipennatum Jao (OEDOGONIACEAE)

This species of algae earlier known from New Zealand is reported from India for the first time based on the collection made from a water body from Sagar Island, West Bengal. The specimens are deposited in Deptt. of Botany, University of Burdwan, Burdman, West Bengal (BURD). It has been published by Salik K. Sahoo, B.K. Dutta & Pranjit Sharma in Algological Studies 144.1.3.2014.

Oedogonium spurium Hirm (OEDOGONIACEAE)

This species of algae earlier known from USA is reported from India for the first time based on the collection made from a water body from Sagar Island, West Bengal. The specimens are deposited in Deptt. of Botany, University of Burdwan, Burdman, West Bengal (BURD). It has been published by Salik K. Sahoo, B.K. Dutta & Pranjit Sharma in Algological Studies 144.1.5.2014.

Oedogonium suborbiculare var. kamalapurense Isl. (OEDOGONIACEAE)

This species of algae earlier known from Bangladesh is reported from India for the first time based on the collection made from a water body from Sagar Island, West Bengal. The specimens are deposited in Deptt. of Botany, University of Burdwan, Burdman, West Bengal (BURD). It has been published by Salik K. Sahoo, B.K. Dutta & Pranjit Sharma in Algological Studies 144.1.5.2014.
जीवाणु/MICROBES

जीवाणु तथा आर्कीया की विशेषता में अनुसारित 50,000-3,000,000 जातियों में लगभग 8050 जातियों के वर्णन किये जा चुके हैं।
भारत से लगभग 1071 जातियों का पृथक प्रकाशन हो गया है।
भारतीय पर्यावरण में जीवाणुओं तथा आर्कीया विविधता एवं उनकी भूमिका का समझना बहुत आवश्यक है।
हमारी अब तक की जानकारी के अनुसार भारतीय वनस्पतिज्ञ जीवाणु तथा आर्कीया की 2.25 प्रतिशत हिस्सा भारतीय जीवाणुओं का है।

इस क्रमवार सूचना में भारत का 2 प्रतिशत वंश 33 नयी जातियों, जिनमें (आंध्र प्रदेश से 10, तमिलनाडु से 06, महाराष्ट्र एवं पंजाब में प्रकाशक से 03, आंध्र प्रदेश एवं निकोबार द्वीप समूह में प्रकाशक से 02, झारखण्ड, लखीसराय, मणिपुर, बिहार, ओडिशा एवं उत्तर प्रदेश में प्रकाशक से 01 जातियों) अन्वेषित की गई है।

Out of the estimated 50,000-3,000,000 species of bacteria and archaea, only about 8050 species have been described globally. About 1071 species have been isolated from India. It is necessary to understand the diversity of bacteria and archaea present in a great variety of Indian environments, and understand their role in nature.

In the present state of our knowledge, Indian microbes represent about 2.24 per cent of the total plant species of India.

The collected information presented here includes 02 new genera

33 new species of microbes from India (10 from Andhra Pradesh, 06 species from Tamil Nadu, 03 each from Goa, Maharashtra and Punjab, 02 each from Andaman & Nicobar Islands and Rajasthan, 01 each from Jharkhand, Lakshadweep, Manipur, Delhi, Odisha and Uttar Pradesh)

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विभिन्न राज्यों से अन्वेषित जीवाणु

MICROBES DISCOVERED FROM DIFFERENT STATES
हंगाटेल्ला सुख्रीत कौर, मीर यावर, ठी. अनिल कुमार एवं के. सुरेश, इंटरन. ज. सिस्ट. इयाल. माइक्रोबायोल., 64(3):710.2014. (CLOSTRIDIACEAE)

यू. वी.-वी. 28 नामक इस ग्राम रंजक ग्राही, रंगतंत्र, बीजायुक्रक एवं पूर्व: अवयुक्त बैक्टीरिया को कारखानों से निष्कृति के नमूने से संरक्षित किया गया है। इस नवीन वंश का प्रथम अभिवृद्धि यू. वी.-वी. 28 (=एमटीसी 11101'=डीजी एम 24995') रखा गया है।


This gram-stain-positive, rod-shaped, spore-forming and strictly anaerobic bacterium of the new genus, designated as UB-B.28, was isolated from an industrial effluent anaerobic digester sample. The type strain of this novel genus is UB-B.28 (=MTCC 11101 = DSM 24995).

पैराग्लायीकोला सिस्थी शिवजी एवं गुरुपाल लता सत्यानारायण रेड्डी, इंटरन. ज. सिस्ट. इयाल. माइक्रोबायोल., 64(9):3264.2014. (ALTEROMONADACEAE)

16 एस आर. आर. एन. ए. जी. बाई आर वी प्रोटोन क्रमों के आचार पर मिले निष्कृति के अनुसार पैराग्लायीकोला वंश की 7 जातियों को अभिवृद्धि करने हेतु नवीन वंश पैराग्लायीकोला को प्राप्त प्राप्त किया गया है। पैराग्लायीकोला जाति अपनी अन्य जातियों से अलग है। वंश पैराग्लायीकोला के लिये प्रथम अभिवृद्धि 162 जेड.-12टी (=के सी टी सी 32337टी=एल एम जी 24813टी) दिया गया है।


Based on results obtained from 16S rRNA gene and GyrB protein sequences, this new genus Paraglaciecola is proposed to accommodate the seven species of genus Giaciecola which are considerable differs from all its other known species. The type strain of Paraglaciecola is 16S-12' (=KCTC 32337'=LMG 27453').

नवीन जाति \New Species

एलक्रीनिकोरैक्स जीनोग्लूटेन्स के. राहुल, च. सासिकाला, एल. तुषा, आर. देवकुमार एवं च. वी. रमन, इंटरन. जे. सिस्ट. इयाल. नाइटरियालोवोल., 64(10):3553 2014 (एलक्रीनिकोरैक्स)

जेसी109 नामक इस नवीन ग्राम अभिवृद्धि चलति, दंडकार जीवाणु अभिरंजक को तमिलनाडु राज्य के कृषिगत तालाब के निष्कृति से प्राप्त किये गये नमूनों से संरक्षित किया गया है। इस नवीन जाति का प्रथम अभिवृद्धि जेसी109 (=के सी टी सी 23751' एनबीआरसी 108843') दिया गया है। जेसी109/ इयाल./डीजी क्रम अभिरंजक के 16 एस आर. एन. ए. का क्रम बियास एवंि 601937 है।


This gram-stain-negative, motile rods shaped bacterial stains JC109 was isolated from a sediment sample collected from a shrimp cultivation pond in Tamil Nadu (India). The type strain of the new species is JC109 (=KCTC 23751' =NBRC 108843'). The GenBank/EMBL/DDJB accession numbers for the 16S rRNA gene sequences of stains JC109 is HE601937.

A Gram-negative, rod shaped, motile, aerobic bacterium, designated as stain AK49\(^{1}\) was isolated from a water sample from a mangrove forest in Coringa village, Andhra Pradesh, India. The type strain of this new species is AK49\(^{2}\) (=MTCC 12003\(^{1} =\) JCM 9197\(^{2}\)).


This new gram-stain-positive, oval shaped bacterial strains designated as JCI 67\(^{1}\) was isolated from a soil sample collected from Mandapam, Tamil Nadu, the type strain of this new species is JCI 67\(^{2}\) (=KCTC 33100\(^{1} =\)LMG 27297\(^{2}\)) proposed.


This novel gram-positive, strictly aerobic, motile red-pigmented bacterial strain was isolated from a sediment sample from Chorao Island, Goa, India. The designated type strain of this new species is NIO-1016\(^{1}\) (=DSM 25445\(^{2} =\)NCIM 5462\(^{2} =\)CCTCC AB 2011121\(^{2}\)).

**Domicalbicillus indicus** Avinash Sharma, Sunil Kumar Dhar, Om Prakash, Venkata Ramana, Vemuluri Vishal Thite and Yogesh S. Shouche, Int. J. Syst. Evol. Microbiol., 64(9):3010.2014. (BACILLACEAE)

This novel gram-positive, spore-forming, aerobic, non-motile, rod-shaped bacterium that forms red-pigmented colonies was isolated from a marine sediment sample from Lakshadweep, India. The type strain of this novel species is SD1111\(^{1}\) (=MCC 2255\(^{2} =\)DSM 28032\(^{2}\)).
H. fungiaffinis, H. fujisawae, and H. gongylosa are described as new species of Clostridium. The description of each species includes its distinguishing characteristics and habitat preferences. The genus Clostridium is known for its role in the production of botulinum toxins, which are neurotoxins that cause botulism. The description of each species is based on morphological, biochemical, and molecular characteristics. The phylogenetic relationships of these species are discussed and compared to other Clostridium species. The description also includes the type strains of each species, which are used to identify future isolates of these species. The genus Clostridium is known for its diversity, and these three species add to the growing list of known species within the genus.
मैरिनोमोनास फ़ैक्टा इतिहास कुल्लाटी, आभिजीत पोद्दार एवं सुबरता के, दास, इंटरने. ज. सिस्ट. इवोल. माइक्रोबायोलॉजी. 64(2):487. 2014. (ओयसेव)\\n\\nएनएन44० नामक इस नवीन वायुव्रजी, ग्राम–अग्रही, गतिशील, एवं दंडकार सुन्दरी जीवाणु अभिनंदन को भारत के अंधकार सुमुद्र से कोचल रोकक फिजिया इक्सेनटो से प्राप्त नूतनों से संस्थापित किया गया है। इस नवीन जाति का प्रारूप अभिनंदन एनएन44० (जेसीएन: 18476० एनएसज़ी: 27065०) दिया गया है। एनएन44० के जीनबैक्ष / इमफ्लोर / डीजीजोली अभिनंदन के 16एस आरएनए. का क्रम विवास जेसीएन: 409370० है।

This novel aerobic gram-negative, motile and rod-shaped marine bacterium, strain AN44, was isolated from the coral Fungia echinata sampled from the Andaman Sea, India. The type strain of this novel species is AN44 (=JCM 18476 =LMG 27065). The GenBank/EMBL/DDJB accession number for the 16S rRNA gene sequence of strain AN44 is JQ409370.

मेगास्फेरा इंडिका यी. हेड, लाजेकर, एन. पी. नालादे, मी. बैंकट रमान, वाई. एस. साजेव एवं दी. आर. रानाडे. ज. सिस्ट. इवोल. माइक्रोबायोलॉजी. 64(2):2250-2014. (वेल्लोनेल्लाइसी)

एनजीबीएच–1० नामक इस नवीन तोकैयोटिक, अग्रशील, आयु पायुजी, ग्राम–अग्रही, गतिवाणु अभिनंदन को भारत के दो स्वयं स्वयंरूपों में जिनकी आयु 2 एवं 56 वर्ष की थी के मॉल से प्राप्त नूतनों से संस्थापित किया गया है। इस नवीन जाति का प्रारूप अभिनंदन एनजीबीएच–1० (–जीजीएसजी: 25563 =जीजीजुसाइटी: 2481) दिया गया है। एनजीबीएच–1० के जीनबैक्ष / इमफ्लोर / डीजीजोली अभिनंदन के 16एस आरएनए. का क्रम विवास एचएम: 9990965 है।


This coccoid, non-motile, obligate anaerobic, Gram-stain-negative bacterium, designated NMBHI–10 was isolated from the faces of two healthy human volunteers, aged 26 and 56 years from Pune, India. The type strain is NMBHI–10 (=DSM 25563 =MCC 2481). The GenBank/EMBL/DDJB accession numbers for the 16S rRNA gene sequences of strains NMBHI-10 is HM9990965.

मिथिलोबैक्टेरिया फैलोटोस्टाइकोस गुणसमी गा.वी.रानग एवं सेलवारज पूंगिवाळी. ज. सिस्ट. इवोल. माइक्रोबायोलॉजी. 64(7):2377. 2014. (मिथिलोबैक्टेरियाइसी)

बीएल4७ नामक इस नवीन ग्राम–अग्रही, बिहिलोबाइटिक, वायुजी, गतिशील, गुलबी रंजक युक्त, अग्रशील अभिनंदन को भारत के लाललालु मृदु प्रविष्टियों (सोयब) में बांस की पत्तियों की सहायता से प्राप्त नूतनों से संस्थापित किया गया है। इस नवीन जाति का प्रारूप अभिनंदन बीएल4७ =आईआईएस: 10520६ =आईसीएम: 1761९ दिया गया है।


This Gram-negative, methylotrophic bacteria, aerobic, motile, pink-pigmented, non-spore-forming rod shaped stain designated as BL47 isolated from bamboo leaf surfaces in Tamil Nadu Agricultural University, Coimbatore. The type strain of this novel species isBL47 =NRBC 10520६ =ICMP 1761९.

This Gram-negative, methylotrophic bacteria, aerobic, motile, pink-pigmented, non-sporo-forming rod shaped stain designated as BL36^T isolated from bamboo leaf surfaces in Tamil Nadu Agricultural University, Coimbatore. The type strain of this novel species is BL36^T=NBRC 105203^T=ICMP 1762^T. The Gen Bank accession numbers for the 16S rRNA and mxa F gene sequences of strains are BL36^T is EU912439 and EU912444.


This yellow colored Gram-stain-positive, non-motile, non-endo spore forming, spherical endophytic actinobacterium, designated strain AE-6^T, was isolated from the inner fleshy leaf tissues of Aloe barbadensis (Aloe vera) collected from Pune, Maharashtra, India. The type strain of this novel species is AE-6^T (=MCC 2184^T=DSM 27472)^T as the type stain of the species. The Gen Bank accession number for the 16S rRNA gene sequence of AE-6^T is KF524364.


This novel actinomycete strain, designated VRC07^T, was isolated from a Callistemon citrinus rhizosphere sample collected from Hyderabad, India. The type strain is stain VRC07^T (=KCTC 29209^T=MTCC 11725^T=ATCC BAA-2548^T). The Gen Bank accession number for the 16S rRNA gene sequence of VRC07^T is JX076851.

This Gram-negative, aerobic, motile, ovoid to short rod-shaped designated stain 162Z-12' was isolated from seawater collected as part of an iron fertilization experiment in the Southern Ocean. The type strain of this new species is 162Z-12' (=KCTC 32337' =LMG 27453').


This gram-stain-negative, motile, non-spore-forming, coccolid bacterium designated strain HM-7' was isolated from a stool sample of a healthy human subject. The type strain of this new species is HM-7' (=MCC 2185' =DSM 27484') as the type strain of the species. The Gen Bank/EMBL/DDBJ accession number for the 16S rRNA gene sequence of strain HM-7' is KF692037.


This gram-stain-negative bacterium with red to pink colored colonies designated as strain JC2.15' was isolated from desert soil. The type strain of this new species is JC2.15' (=KCTC 32443' =LMG 27670'). The Gen Bank/EMBL/DDBJ accession numbers for the 16S rRNA gene sequences of strains JC2.15' is HG008901.

This orange-pigmented bacterial strain, designated LP100’, was isolated from hexachlorocyclohexane-contaminated soil (Lucknow, India). The type strain is LP100’ (=CCMB4355 =MCC2077). The Gen Bank/EMBL/DDBJ accession number for the 16S rRNA gene sequence of strain LP100’ is KC469980.


This Gram-stain-negative bacterium with red to pink colored colonies designated as strain JC213’ was isolated from desert soil. The type strain of this new species is JC213’ (=KCTC 32442 =LMG 27669). The Gen Bank/EMBL/DDBJ accession numbers for the 16S rRNA gene sequences of strains JC213’ is HG008900.


This novel, yellow-pigmented bacterium, designated strain MO64’, was isolated from the rhizoplane of field-grown soybean, in an experimental plot at Coimbatore, India. The type strain of this new species is MO64’ (=ICMP 17626’ =NBRRC 105007). The Gen Bank/EMBL/DDBJ accession number for the 16S rRNA gene sequence of strain MO64’ is EU912469.
**Rhodococcus encelis**

This novel actinomycete strain, designated NIO-1009<sup>TM</sup>, was isolated from a marine sediment sample collected from the Chorao Island, Goa, India. The type strain of this new species is NIO-1009<sup>TM</sup> (=NCIM 5452<sup>TM</sup> = DSM 45688<sup>TM</sup>). The GenBank/EMBL/DDJB accession number for the 16S rRNA gene sequence of strain NIO-1009<sup>TM</sup> is HQ585009.

**Rhodopseudomonas capsulata**

This gram-stain-negative, rod-shaped, phototrophic bacterium, strain J793<sup>TM</sup>, was isolated from the rhizosphere soil of paddy. The type strain of this new species is J793<sup>TM</sup> (=NBRC 109406<sup>TM</sup> = KCTC 15260<sup>TM</sup>). The GenBank/EMBL/DDJB accession number for the 16S rRNA gene sequence of strain J793<sup>TM</sup> is HG531388.

**Rhodovulum capsulatum**

This novel Gram-stain-negative, purple non-sulfur bacterium, strain AK1<sup>TM</sup>, was isolated from a sediment sample collected from Coringa mangrove forest, Andhra Pradesh, India. The type strain of this new species AK1<sup>TM</sup> (=MTCC 11825<sup>TM</sup> = CM 19220<sup>TM</sup>). The GenBank/EMBL/DDJB accession number for the 16S rRNA gene sequence of strain AK1<sup>TM</sup> is HG529993.

**Rhodovulum capsulatum**

This non-motile novel strain designated as JA746<sup>TM</sup> having yellowish brown-to-green pigment were isolated from a solar slurry. The type strain of this new species is JA746<sup>TM</sup> (=NBRC 108898<sup>TM</sup> = KCTC 15180<sup>TM</sup>). The GenBank/EMBL/DDJB accession numbers for the 16S rRNA gene sequences of strains JA746<sup>TM</sup> is HE680093.

This non-motile novel stain designated as JA756, having yellowish brown-to-green pigment were isolated from a pink pond at Hyderabad. The type strain of this new species is JA756 (=NBRC 109122 = KCTC 15223). The GenBank/EMBL/DBJ accession numbers for the 16S rRNA gene sequences of strains JA756 is HE983843.


This novel Gram-stain-positive, aerobic, non-motile, actinomycete stain, designated VRC122, was isolated from a Calistemon citrinus rhizosphere sample collected from New Delhi, India. The type strain of this new species is VRC122 (=KCTC 29208 =MTCC 11564 =MCC 2206 =ATCC BAA-255-1). The GenBank/EMBL/DBJ accession number for the 16S rRNA gene sequence of strain VRC122 is X411621.


This novel gram-stain-negative dark colonies of designated strain JC207 was isolated from a deep (265 m) sea sediment. The type strain of the new species is JC207 (=KCTC 32444 =CGMCC 112641). The GenBank/EMBL/DBJ accession number for the 16S rRNA gene sequence of strain JC207 is HG008996.


This novel gram-stain-negative pale yellow colour stain designated as JC216 was isolated from a contaminated Petri dish. The type strain of the new species is JC216 (=KCTC 32445 =MG1 27671). The GenBank/EMBL/DBJ accession number for the 16S rRNA gene sequence of strain JC216 is HG008904.
**Streptomyces amrissetensis** Deepika Sharma, Shannugam Mayilraj, Rajesh Kumar Manhas, Antonie van Leeuwenhoek 105(5): 943.2014. (STREPTOMYCETACEAE)

This new actinobacterium strain, designated 2A⁸, was isolated from a soil sample collected from Guru Nanak Dev University, Punjab (India). The type stain of the new species is 2A⁸ (=MTCC 11845⁸=KCTC 19660⁸).


This new strain, designated MBRL 172, was isolated from an unexplored site of Hindung Limestone habitat, Manipur, India. The type strain of the new species is MBRL 172 (=CM 17575 = KCTC 29105).


This novel, aerobic, Gram-stain-negative and motile and a single polar flagellum bacterium strain designated as JH-K30⁷, was isolated from a terrestrial hot spring located at Jharkhand, India. The type strain is JH-K30⁷ (=CM 19170⁷=LMG 27587⁷ =DSM 27220⁷). The GenBank/EMBL/DDJB accession number for the 16S rRNA gene sequence of strain JH-K30⁷ is HM543264.


This gram-stain-negative, strictly aerobic, slightly halophilic, non-motile and rod-shaped bacterial strain, designated P2E16⁷, was isolated from mangrove (Avicennia marina) rhizosphere, collected at Devipatinam mangroves, Tamil Nadu, India. The type strain of the new species is P2E16⁷ (=DSM 24499⁷=LMG 26237⁷=KCTC 23496⁷). The GenBank/EMBL/DDJB accession number for the 16S rRNA gene sequence of strain P2E16⁷ is K9297713.
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<td>Panarea glauca Berth. subsp. tenuiflora (Watt ex C.B. Clarke)</td>
<td>A. Schmitz, var. gandhiana, Gogo &amp; Bandop</td>
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<td>Panarea glauca subsp. tenuiflora var. murilenensis Ram.Kumar,</td>
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<td>Panarea jampulensis Darong &amp; D. Bhattach</td>
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<td>Phragmospathula brachyspathula Mercado</td>
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<td>Physcolepidioza indica Gradst., &amp; al.</td>
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<td>Pontibacter ruber Y. Subhash &amp; al.</td>
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<td>Pternotetum arunachalense M. Bhaunik &amp; P. Sahyanar</td>
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<td>Pternotetum gracillimum (H. Wolff) Hand-Mazz.</td>
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<td>Pterygiella bartshloides Hard-Mazzial</td>
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<td>Rhodobacter glycínis Murusarry Madhayaian &amp; al.</td>
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<td>Rhodococcus enclosus Syed G. Dastger &amp; al.</td>
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<td>Rhodovulum viride A. Srinivas &amp; al.</td>
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<td>Rotala dhaneshiana Sunil &amp; al.</td>
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<td>Rotala sahyadrica S. P. Gaikwad &amp; al.</td>
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<td>Salinicmicrobium sediminis Y. Subhash &amp; al.</td>
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<td>Sacrinella ligustri Bhir &amp; Patil</td>
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<td>Sauromatum meghalayanse D.K. Roy &amp; al.</td>
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<td>Schisandra incarnata Stapf.</td>
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<td>Sheathnema Dubey and Moornambeth</td>
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<td>Sheathnema indicum Dubey and Moornambeth</td>
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<td>Sigirda chloroleuca (Mull. Arg.) Tehter</td>
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<td>Solidago dahuica (Kitag.) Kitag, Ex Juz.</td>
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<td>Sonneratia lanceolata Blume.</td>
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<td>Sphingopyxis contaminans Y. Subbath &amp; al.</td>
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<td>Staurogyne andamanica M. V. Ramana &amp; al.</td>
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<td>Streptomyces amritsarensis Deepika Sharma &amp; al.</td>
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<td>Streptomyces canchipurenensis Wen-Jun Li &amp; al.</td>
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<td>Sullivus triactularis B. Verma &amp; M.S. Reddy</td>
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<td>Svertia handeliana Harry Sm.</td>
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<td>Syzygium hookeri M. V. Ramana &amp; al.</td>
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<td>Syzygium munnerensis Shareef, Roy &amp; Krishnaraj</td>
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<td>Syzygium sahyadricum Sujarapol, Robi &amp; Sashidharan</td>
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<td>Syzygium sanjappalai M.V. Ramana</td>
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<td>Tepidiphilus thermophiles Abhijit Poddar &amp; al.</td>
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<td>Tetraselmis indica Anora &amp; Anil</td>
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<td>Thelypteris (Stegnogramma) mollissima var. truncata Khola</td>
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<td>Thottea sasidharaniana Robi</td>
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<td>Tinospora macquoidiana Mugal &amp; al.</td>
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<td>Ulva pachima Bast</td>
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<td>Verticillium tenulissimum Corda.</td>
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<td>Vigna konkanensis Nath &amp; al.</td>
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<td>Vigna yadavii S.P. Gauriwal &amp; al.</td>
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<td>Xanthopanax parkei (Cook) Aduel</td>
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<td>Xenasma tulasnelioideum (Höhn. &amp; Litsch.) Donk</td>
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<td>Zasmidium dioscorum Anshu &amp; al.</td>
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<td>Zasmidium robustum Arundhat &amp; al.</td>
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<td>Zingiber pheripampaense Blighewi &amp; Bilpin</td>
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<td>Zunongwangia mangrovi N. Ramesh Kumar &amp; al.</td>
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<td>Zygosporium cocos Dubey &amp; Moonrombeth</td>
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<td>72</td>
<td>Zygosporium dilleniae Dubey &amp; Moonrombeth</td>
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ORDER

Subject: Designation of repositories under the Biological Diversity Act, 2002

In exercise of the powers conferred by sub-section(1) of Section 39 of the Biological Diversity Act, 2002, read with sections 6 and 12 of Notification S.O. 1911(E), dated 8th November, 2008, and in continuation of this Ministry's Order dated 28th August, 2008, the Ministry of Environment & Forests, Government of India, hereby designates the National Bureau of Agriculturally Important Insects as the repository under the Act for agriculturally important insects, mites and spiders.

2. In accordance with sub-section (2) of Section 39 of the Act, the designated repository shall also keep in safe custody the representative samples, as voucher specimens of the biological material accessed in accordance with the provisions of Section 19 of the Act, along with relevant information related to the material, such as DNA fingerprints, if so required by the National Biodiversity Authority (NBA).

3. The designated repository shall also keep in safe custody the type specimen deposited by any person who discovers a new taxon, in accordance with sub-section (3) of Section 39 of the Act.

4. This order issues with the approval of the competent authority.

(Hem Pande)
Joint Secretary to the Government of India

To:

1. The Director, National Bureau of Agriculturally Important Insects (NBAII), P.O. No. 2491, H.A. Farm Post, Bellary Road, Bangalore-560 024.
2. Directors of institutions designated as repositories vide order dated 28.8.12:
   i. The Director, Botanical Survey of India, CGO Complex, 3rd MSO Building, Block F, DL Block, Sector 1, Salt Lake City, Kolkata - 700 064.
   ii. The Director, Zoological Survey of India (ZSI), Prani Vigyan Bhawan, M- Block, New Alipore, Kolkata - 700 053.
   iii. The Director, National Bureau of Plant Genetic Resources, Pusa Campus, New Delhi-110 012.
   iv. The Director, National Botanical Research Institute, Rana Pratap Marg, P. B. No. 436, Lucknow - 226 001, U.P.

vi. The Director, National Bureau of Animal Genetic Resources, Makrampur Campus, G.T. Road Bye Pass, Near Basant Vihar, P.O. Box 129, Karnal (Haryana)-132001.

vii. The Director, National Bureau of Fish Genetic Resources, Canal Ring Road, P.O. Dilkusha, Telibagh, Lucknow- 226 002, Uttar Pradesh.

viii. The Director, National Institute of Oceanography, Dona Paula – 403 004, Goa.

ix. The Director, Wildlife Institute of India, P.B. No. 18, Chandrabani, Dehradun –248 001, Uttarakhand.

x. The Director, National Bureau of Agriculturally Important Micro-organisms, Kusmaur (Post Bag Kathauli), Post Box No. 6, Mau Nath Bhanjan, Uttar Pradesh- 275 101.

xi. The Director, Institute of Microbial Technology, Sector 39-A, Chandigarh – 160 036.

xii. The Director, National Institute of Virology, 20-A, Dr. Ambedkar Road, P.B.No.11, Pune- 411 001.

xiii. The Director, Indian Agricultural Research Institute, Pusa Road, New Delhi-110012.

Copy to:

i. The Chairman, National Biodiversity Authority, Chennai

ii. The Secretary, National Biodiversity Authority, Chennai
ORDER
Subject: Designation of repositories under the Biological Diversity Act, 2002

In exercise of the powers conferred by sub-section(1) of section 39 of the Biological Diversity Act, 2002, read with sections 6 and 12 of Notification S.O. 1911(E), dated 8th November, 2006. The Ministry of Environment and Forests, Govt. of India, hereby designates the following institutions to act as repositories under the Act for different categories of biological resources:

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of Institution</th>
<th>Category of Biological Resource</th>
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<tbody>
<tr>
<td>1.</td>
<td>Botanical Survey of India, Kolkata</td>
<td>Flora (Angiosperms, Gymnosperms, Pteridophytes, Bryophytes, Lichens, Macro fungi, Macroalgae)</td>
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<tr>
<td>2.</td>
<td>National Bureau of Plant Genetic Resources, New Delhi</td>
<td>Plant genetic resources</td>
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<tr>
<td>3.</td>
<td>National Botanical Research Institute, Lucknow</td>
<td>Flora (Angiosperms, Gymnosperms, Pteridophytes, Bryophytes, Lichens, Macrofungi, Macroalgae)</td>
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<tr>
<td>4.</td>
<td>Indian Council of Forestry Research and Education, Dehradun (Forest Research Institute, Dehradun; Institute of Forest Genetics and Tree Breeding, Coimbatore; and Tropical Forest Research Institute, Jhabulpur)</td>
<td>Flora (Angiosperms, Gymnosperms, Pteridophytes, Bryophytes, Lichens, Macrofungi, Macroalgae), For TFRI only Fauna (termite, butterflies, moths)</td>
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<tr>
<td>5.</td>
<td>Zoological Survey of India, Kolkata</td>
<td>Fauna</td>
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<td>6.</td>
<td>National Bureau of Animal Genetic Resources, Karnal, Haryana</td>
<td>Genetic resources of domestic animals</td>
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<td>7.</td>
<td>National Bureau of Fish Genetic Resources, Lucknow, U.P.</td>
<td>Fish genetic resources</td>
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<td>8.</td>
<td>National Institute of Oceanography, Goa</td>
<td>Marine flora and fauna</td>
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<td>9.</td>
<td>Wildlife Institute of India, Dehradun</td>
<td>Faunal resources in Protected Areas</td>
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<td>11.</td>
<td>Institute of Microbial Technology, Chandigarh</td>
<td>Microorganisms</td>
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<td>12.</td>
<td>National Institute of Virology, Pune</td>
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<td>13.</td>
<td>Indian Agricultural Research Institute, New Delhi</td>
<td>Microbes/Fungi</td>
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</tbody>
</table>
2. In accordance with sub-section (2) of Section 39 of the Act, the designated repositories shall also keep in safe custody the representative samples, as voucher specimens of the biological material accessed in accordance with the provisions of Section 19 of the Act, along with relevant information related to the material, such as DNA fingerprints, if so required by the National Biodiversity Authority (NBA).

3. The designated repositories at serial No. 1, 3, 4, 5, 10, 11, 12 and 13 shall also keep in safe custody the type specimen deposited by any person who discovers a new taxon, in accordance with sub-section (3) of Section 39 of the Act.

4. The order issues with the approval of this competent authority.

Sd/-

(A.K. Goyal)
Joint Secretary to the Government of India

To

1. Director, Botanical Survey of India, CGO Complex, 3rd MSO Building, Block F, DF Block, Sector 1, Salt Lake City, Kolkata-700 064.
2. Director, Zoological Survey of India (ZSI), Pranii Vigyan Bhawan, M-Block, New Alipore, Kolkata-700 053
3. Director, National Bureau of Plant Genetic Resources, Pusa Campus, New Delhi-110 012.
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9. Director, Wildlife Institute of India, P.B. No. 18, Chandrabani, Dehradun-248 001, Uttarakhand.
12. Director, National Institute of Virology, 20-A, Dr. Ambedkar Road, P.B. No. 11, Pune-41 1001.
13. Director, Indian Agricultural Research Institute, Pusa Road, New Delhi.

Copy to the Chairman, National Biodiversity Authority, 475, 9th South Cross Street, Kapaleeswarar Nagar, Nelankarai, Chennai-600 004.