

1.3.2 Percentage of students undertaking project work/field work/internship (Data for the latest completed academic year)

Programme Name : M.Sc. Botany

Sl. No.	Programme Code	Name of students undertaking project work/field work/internship	Project title page & Report /photograph of Field work	Completion Certificate
1	PWMSBO	AISHWARYA ROSE ANTONY	CLICK HERE	CLICK HERE
2	PWMSBO	AMITHA SAJEEV	CLICK HERE	
3	PWMSBO	ANARGHA S L	CLICK HERE	
4	PWMSBO	ANJANA A K	CLICK HERE	
5	PWMSBO	ATHULYA K C	CLICK HERE	
6	PWMSBO	DEEPIKA DEEPAK	CLICK HERE	
7	PWMSBO	FATHIMA FEBIN C P	CLICK HERE	
8	PWMSBO	FIDHA FATHIMA K P	CLICK HERE	
9	PWMSBO	GOPIKA V M	CLICK HERE	
10	PWMSBO	KEERTHANA M S	CLICK HERE	
11	PWMSBO	LAYANA O B	CLICK HERE	
12	PWMSBO	SALVA C	CLICK HERE	
13	PWMSBO	SARIGA K P	CLICK HERE	
14	PWMSBO	SRUTHI RAJ M J	CLICK HERE	
15	PWMSBO	THEERTHA M D	CLICK HERE	
16	PWMSBO	AKHILA V P		
17	PWMSBO	AMITHA P		
18	PWMSBO	AMITHA P P		

19	PWMSBO	ANAGHA P S		
20	PWMSBO	ANUSHA K S		
21	PWMSBO	APARNA SUDARSAN		
22	PWMSBO	ASHLIN ROSE WILSON		
23	PWMSBO	ASWANA C		
24	PWMSBO	MIDHUNA A		
25	PWMSBO	MUFEEEDATH K		
26	PWMSBO	NANDA S K		
27	PWMSBO	NASHVA SHIRIN M	CLICK HERE	
28	PWMSBO	RASHMA R K		CLICK HERE
29	PWMSBO	SANDRA K G		
30	PWMSBO	SANDRA K K		
31	PWMSBO	SNEHA K		

INTERNSHIPS/FIELD
WORK/PROJECT

Department of Botany 2021-22

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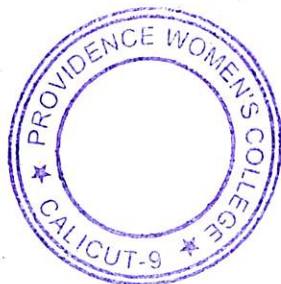
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CERTIFICATE

This is to certify that the following students of I year M.Sc. Botany completed their project/ fieldwork as a part of their curriculum during the academic year 2021-22

AKHILA V P
AMITHA P
AMITHA P P
ANAGHA P S
ANUSHA K S
APARNA SUDARSAN
ASHLIN ROSE WILSON
ASWANA C

MIDHUNA A
MUFEEEDATH K
NANDA S K
NASHVA SHIRIN M
RASHMA R K
SANDRA K G
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STUDY TOUR REPORT

I, III & V semester BSc Botany
I & III Semester MSc Botany
2021-22



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DEPARTMENT OF BOTANY
PROVIDENCE WOMEN'S COLLEGE, KOZHIKODE-9,
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CERTIFICATE

Certified that this is an authentic report of the field trips / study tours conducted by students of I & III Semester M.Sc. Botany and I, III & V Semester B.Sc. Botany, Providence Women's College, during the academic year 2021-22, as part of the curriculum of BSc and M.Sc. Botany Programmes of the University of Calicut.




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REPORT OF FIELD VISITS TO STUDY THE ANGIOSPERM FLORA OF ECOLOGICALLY DIFFERENT LOCALITIES

INTRODUCTION

Study tour aims at providing travel experience with specific learning goals. The learning goals of each study tour varies, but are always spelled out in the course syllabus that is distributed to each learner. Study tour emphasizes experimental learning and offers both groups and self-directed activities, that enable learners to explore new territories, cultures, people while providing opportunities that lead to the development of a different and deeper level of understanding. Field study is a necessity as it gives us a firsthand knowledge of the highly variant vegetation as well as their natural habit and habitats. The distribution of diverse varieties of plants in different regions and a study based on their distribution is always quite interesting.

OBJECTIVES OF THE FIELD TRIP

1. To broaden student's horizons and knowledge through field observations
2. To impart training for direct observation of specimens in their habitat
3. To study different ecological habitats and the associated flora.
5. To explore the possibility of getting motivated to pursue research
6. To strengthen the healthy relationship among students, and between students and teachers.

Plant communities in different geographical areas of the world differ widely from each other. On the basis of climatic and geographical conditions the earth is generally divided in to four vegetation belts, as the climate and vegetation are inseparably interrelated. Due to temperature extremes and marked seasonal fluctuations throughout the year, climatic conditions of India become of much ecological interest. These make the vegetation of the country worthy of investigations and explorative studies.

VISITS TO ECOLOGICALLY DIFFERENT LOCALITIES

West coast tropical evergreen forests

- Wayanad
- Kakkayam

Wayanad

We were a group of 15 students guided by our teachers, Dr Archana ER, Dr veena and Sr Pilty Peter. Tour started on morning 7 am February 15th, 2022 from providence college campus. Wayanad stands

on the southern top part of the Deccan Plateau and its major attraction is the grand Western Ghats with the lofty ridges interspersed with dense forests and green valleys. The evergreen forests in Wayanad mark the transition zone between the northern and southern ecologic regions of the Western Ghats. The moist forests transition to the drier South Deccan Plateau dry deciduous forests, which lie in its rain shadow to the east. The Western Ghats being the separating barrier of the two geographical regions of Peninsular India namely, the Malabar Coast and the Deccan, has both the Deccan flora along the leeward side and Malabar Coast flora along the windward side. The most outstanding feature of the Western Ghats is the formation of tropical rainforests along the windward sides. Wayanad district is with a hilly terrain on the southern Western Ghats and located in the northeast part of Kerala.

We visited the border regions forest areas associated with Meppady, Kalpetta Periya and Manathavady forest ranges of Wayanad district on 15th February 2022. West-coast tropical evergreen forest type was the major vegetation in the Meppady, Kalpetta, Periya and Manathavady forest ranges at an altitude ranging from 600m to 1300m. These forests exhibit luxuriant growth, particularly of trees and woody climbers, and the canopy is closed. High humidity, shade and sheltered condition provide ideal habitat for epiphytic as well as terrestrial orchids, ferns, mosses and herbaceous flowering plants. Epiphytes and mosses tend to increase with altitude while woody climbers decrease. It has been observed that there is difference in the composition of species with altitude and latitude. The 'evergreen families' of Western Ghats namely, Clusiaceae, Dipterocarpaceae and Myristicaceae are well represented in this forest.

The major associations of trees in these areas are *Mesua-Palaquium-Cullenia*, *Hopea-Dipterocarpus-Vateria* and *Polyalthia-Myristica-Calophyllum* associations. The top canopy species are *Hopea parviflora*, *Dipterocarpus indicus*, *Polyalthia coffeoides*, *Palaquium ellipticum*, *Pterygota alata*, *Vateria indica*, *Calophyllum astroindicum*, *Antiaris toxicaria*, *Artocarpus hirsutus*, *Mesua thwaitesii*, *Holigarna grahamii*, *Lophopetalum wightianum*, *Mangifera indica*, *Myristica beddomei*, *Cynometra travancorica*, *Canarium strictum*, *Terminalia travancorensis*, *Kingiodendron pinnatum*, *Knema attenuata*, *Dysoxylum malabaricum*, *Elaeocarpus tuberculatus*, *Bischofia javanica*, *Cullenia exarillata*, etc. *Poeciloneuron indicum*, *Prunus zeylanica*, *Toona ciliata* and *Mesua ferrea* are also were seen in the upper stratum at an altitude above 800 m.

The trees of the middle canopy comprises medium sized trees which are adapted themselves to the more shady conditions and are dominated by *Aglaia malabarica*, *Cinnamomum malabatum*, *Dimocarpus longan*, *Drypetes oblongifolia*, *Diospyros paniculata*, *Epiprunus mallotiformis*, *Garcinia morella*, *Gordonia obtusa*, *Syzygium laetum*, *Hydnocarpus pentandra*, *Baccaurea courtallensis*, *Otonephalium stipulaceum*, *Meliosma simplicifolia*, *Humboldtia brunonis*,

Syzygium cumini, *Vepris bilocularis*, *Syzygium munronii*, *Symplocos macrophylla* ssp. *rosea*, *Turpinia malabarica* etc.

The lower story trees are *Antidesma montanum*, *Antidesma menasu*, *Olea dioica*, *Memyecylon heyneanum*, *Casearia ovata*, *Meiogyne ramarowii*, *Turraea villosa*, *Ixora elongata*, *Orophea erythrocarpa*, *Phaeanthus malabarica*, etc. The shrubby plants are mainly *Psychotria* spp., *Aporusa acuminata*, *Gomphandra coriacea*, *Ligustrum robustum*, *Glycosmis macrocarpa*, *Strobilanthes* spp., etc. and the important herbs are *Begonia malabarica*, *Elatostema lineolatum*, *Girardinia diversifolia*, *Ophiorrhiza* spp., etc. Of the rhizomatous monocotyledons *Curcuma* spp., *Costus speciosus*, *Globba ophioglossa*, *Schumannianthus virgatus* and *Zingiber* spp. are important. Some of the lianas intertwining the trees are *Carissa inermis*, *Adenia hondala*, *Artabotrys zeylanica*, *Cissus* spp., *Derris brevipes*, *Entada rheedeii*, *Erythralum populifolium*, *Caesalpinia spicata*, *Desmos lawii*, *Bauhinia phoenicea*, *Spatholobus purpureus*, *Ventilago bombaiensis*, *Salacia beddomei*, *Sarcostigma kleinii*, *Caesalpinia cucullata*, *Toddalia asiatica* and *Thunbergia mysorensis*. We collected many flowering plants such as *Melastoma malabathricum* (Menispermaceae), *Chasalia curviflora* (Rubiaceae), *Clerodendrum infortunatum* (Verbanaceae), *Pilea melastomoides* (Urticaceae) etc. Our teachers described detailed information of plant species like their taxonomic relevance, ecological significance, economic importance etc. There has an abundance of *Canscora diffusa* belongs to the family Gentianaceae is a much-branched annual herb erect to about 60cm height. We collected it in wet papers and plastic covers in order to avoid drying. We took photographs of each plant specimens.

We collected many flowering plants such as *Melastoma malabathricum* (Menispermaceae), *Chasalia curviflora* (Rubiaceae), *Clerodendrum infortunatum* (Verbanaceae), *Pilea melastomoides* (Urticaceae) etc. on the way rto the Botanical sanctuary. We could see an abundance of *Canscora diffusa* belonging to the family Gentianaceae. We packed the collected specimens in wet papers and plastic covers in order to avoid drying. Photographs of each plant specimens were taken. While returning back we could collect a few more specimens like *Cyclea peltate*. We got back to college at 8:00 pm. It was a great experience for all of us and it gave us a lot of knowledge and memories. This tour was really helpful to study more about the habitat ecology of different angiosperm species. It helped us improve plant identification skills and taxonomical knowledge.



Peruvannamuzhi - Janakikad, Kuttyady, Kozhikode

Janakikadu is an ecologically diverse and rich landscape located in the Maruthongara Panchayat of Kozhikode. It comes under the Kuttiyadi range of Kozhikode Forest division. It contains a strikingly diverse range of flora and fauna. It is an ecological hotspot in the Western Ghats, the eco-tourism destination of Peruvannamoozhy is home to over 680 species of rare plants.

We were a group of 15 students guided by our teachers, Dr Archana ER, Dr Veena and Sr. Pilty Peter. We started at 7 am February 12th, 2022 from Providence College campus. We reached by 10 am and obtained permission from the forest guards. We were guided by Mr Rajan (Guide) and Mr. T. Suresh (Section Forest officer). They gave us short description of the main characteristics and the medicinal or economical value of each plant. We could closely observe the different medicinal plants of Janakikadu like *Xylia xylocarpa* (Irool), *Holigarnaarnottiana* (Cheru), *Gmelina arborea* (Kumbil), *Strobilanthus pazhaniensis* (Kurinji) etc. Our guides helped us to identify many species and gave us valuable information about different aspects of them.

The flora of Janakikadu was predominated by many Angiosperms as well as a lot of Medicinal plants which are both economically and medicinally important. We collected many flowering plants such as *Bridella retusa* (Euphorbiaceae), *Cipadessa baccifera* (Meliaceae) as well as *Cardiospermum helicacabum* (Sapindaceae), *Melastoma malabathricum* (Menispermaceae), *Chasalia curviflora* (Rubiaceae), *Clerodendrum infortunatum* (Verbanaceae), *Premna glaberrima* (Rhizophoraceae), *Pilea melastomoides* (Urticaceae) etc. Our teachers described detailed information of plant species like their taxonomic relevance, ecological significance, economic importance etc. The twining herbs of Convolvulaceae members like *Merremia umbellate*, *Ipomoea purpurea*, *Merremia hederacea* were abundant there. Those are the main attraction of this area.

We also visited Kuttyadi forest area. We could see a good diversity of flora over these regions. Some of the plants available in this area were *Garcinia morella*, *Xanthophyllum arnottianum*, *Torenia hirsute*, *Canscora diffusa*, *Sonerila rheedei*, *Naravelia zeylanica*, *Elatostema lineolatum*, *Pouzolzia wightii*, *Murdannia semiteres* etc. We collected *Echinostephia aculeata* belongs to the family Menispermaceae on the way to Janakikkadu. We carried equipment required for taxonomic collections such as knife, preservatives, papers, blades, blotting paper, press etc. along with us. This forest has a huge diversity of flowering species, those bloomed flora gave as a good visual experience, we enjoyed that a lot.

This vegetation is besides the Kuttiady river, so we could see many mangrove habitats. We collected *Kandelia candel* species from Rhizophoracea family. It grows as a shrub having height approximately 11 cm. It has white-coloured flowers and elongated ovoid fruits. That was a new experience to us. That area was very attractive for tourists.


There has an abundance of Poacea species like *Pennisetum polystacyion* and *Poacea barnhart*. That was a beautiful view. Along with it we found a few *Oldenlandia corymbosa* and *Canscora diffusa* species belonging to Rubiaceae and Gentianaceae family respectively.

There was an abundance of *Melastoma malabathricum* and *Chasalia curvifolia* species. We also found *Memicyclon malabaricum* (Kayampoo) of Melastomaceae, which we haven't seen anywhere before. It is large shrub, flowers are in peduncled cyme, bright blue in colour. While returning from Janakikkadu, we collected Verbanaceae member *Stachytarpheta jamaicensis* and Boraginaceae member *Heliotropium indicum* from roadsides. We collected it in wet papers and plastic covers in order to avoid drying. We also took photographs of each plant specimens.



31/03/2022




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ANJANA A K
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DEEPIKA DEEPAK
FATHIMA FEBIN C P
FIDHA FATHIMA K P

GOPIKA V M
KEERTHANA M S
LAYANA O B
SALVA C
SARIGA K P
SRUTHI RAJ M J
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Date: 15/06/2022

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This is to certify that the project entitled “**Evaluation of total phenol and flavonoid content in some medicinal plants of Acanthaceae**” submitted to the university of Calicut in partial fulfillment of the requirements for the award of degree of Master in Science in Botany, is an authentic record of work done by **Ms. Aiswarya Rose Antony Reg. No PWAUMBT001** during the period of her study in the Department of Botany, Providence Women’s College, Kozhikode during 2020-2022. No part of this dissertation has formed the basis for the award of any Degree/Diploma/Association/Fellowship or similar title to any candidate of any other college and university.




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Date: 15/06/2022

CERTIFICATE

This is to certify that the project entitled “**Sulphur level of Coffee soils in Wayanad region and the effect of different organic sources on available Sulphur status**” submitted to the university of Calicut in partial fulfillment of the requirements for the award of degree of Master in Science in Botany, is an authentic record of work done by **Ms. Amitha Sajeev**. Reg. No **PWAUMBT002** during the period of her study in the Department of Botany, Providence Women's College, Kozhikode during 2020-2022. No part of this dissertation has formed the basis for the award of any Degree/Diploma/Association/Fellowship or similar title to any candidate of any other college and university.




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This is to certify that the project entitled “**Study on *in vitro* clonal propagation of economically important Ayurvedic medicinal plant *Indigofera tinctoria* L.**” submitted to the university of Calicut in partial fulfillment of the requirements for the award of degree of Master in Science in Botany, is an authentic record of work done by **Ms. Anargha S.L.**, Reg. No **PWAUMBT003** during the period of her study in the Department of Botany, Providence Women’s College, Kozhikode during 2020-2022. No part of this dissertation has formed the basis for the award of any Degree/Diploma/Association/Fellowship or similar title to any candidate of any other college and university.



A handwritten signature in black ink.

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This is to certify that the project entitled “**In vitro anti-inflammatory activity of aqueous leaf extract of Annona squamosa in HRBC membrane**” submitted to the university of Calicut in partial fulfillment of the requirements for the award of degree of Master in Science in Botany, is an authentic record of work done by **Ms. Athulya K.C.** Reg. No **PWAUMBT005** during the period of her study in the Department of Botany, Providence Women's College, Kozhikode during 2020-2022. No part of this dissertation has formed the basis for the award of any Degree/Diploma/Association/Fellowship or similar title to any candidate of any other college and university.



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Date: 15/06/2022

CERTIFICATE

This is to certify that the project entitled “**Synthesis of silver nanoparticles and phytochemical analysis of folkloric medicinal plant *Pisonia grandis* R.Br**” submitted to the university of Calicut in partial fulfillment of the requirements for the award of degree of Master in Science in Botany, is an authentic record of work done by **Ms. Deepika Deepak** Reg. No **PWAUMBT006** during the period of her study in the Department of Botany, Providence Women’s College, Kozhikode during 2020-2022. No part of this dissertation has formed the basis for the award of any Degree/Diploma/Association/Fellowship or similar title to any candidate of any other college and university.



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Date: 23/07/2022

CERTIFICATE

Certified that this dissertation entitled **Biogenic synthesis of Silver Nanoparticles using *Cardamine hirsuta* L. and its Characterization** was the original research work carried out by **Ms. Theertha M. D.**, Reg. No. **PWAUMBT015** under my supervision and guidance during the year 2021-22.

Supervising teacher

Head of the Department



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Examiners

1.
26/8/2022

2.
26/8/22



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Date: 23/07/2022

CERTIFICATE

Certified that this dissertation entitled '**COMPARATIVE PHYTOCHEMICAL ANALYSIS OF CAULERPA RACEMOSA(Forsskal)J. Agardh AND CAULERPA TAXIFOLIA (M. Vahl) C. Agardh**' was carried out by **Ms. Fidha Fathima K P**, Reg. No PWAUMBT007 under my supervision and guidance during the year 2021-22.

Supervising teacher:

HoD:



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Examiners

1
28/8/22

2
28/8/22



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Date: 15/06/2022

CERTIFICATE

This is to certify that the project entitled “**Phytoremediation potential of *Acanthus ilicifolius* L. with a note on morphological and biochemical changes towards heavy metal stress**” submitted to the university of Calicut in partial fulfillment of the requirements for the award of degree of Master in Science in Botany, is an authentic record of work done by **Ms. Gopika V.M.** Reg. No **PWAUMBT008** during the period of her study in the Department of Botany, Providence Women’s College, Kozhikode during 2020-2022. No part of this dissertation has formed the basis for the award of any Degree/Diploma/Association/Fellowship or similar title to any candidate of any other college and university.



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CERTIFICATE

This is to certify that the project entitled “**Ethnomedicinal properties of plants used by Paniya tribe from Wayanad, Kerala.**” submitted to the university of Calicut in partial fulfillment of the requirements for the award of degree of Master in Science in Botany, is an authentic record of work done by **Ms. Layana O.B.** Reg. No **PWAUMBT011** during the period of her study in the Department of Botany, Providence Women’s College, Kozhikode during 2020-2022. No part of this dissertation has formed the basis for the award of any Degree/Diploma/Association/Fellowship or similar title to any candidate of any other college and university.




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Date:15/06/2022

CERTIFICATE

This is to certify that the project entitled “**Biogenic synthesis of silver nanoparticles using *Clerodendrum infortunatum* extract and its characterization**” submitted to the university of Calicut in partial fulfillment of the requirements for the award of degree of Master in Science in Botany, is an authentic record of work done by **Ms. Salva C. Reg.** No **PWAUMBT012** during the period of her study in the Department of Botany, Providence Women's College, Kozhikode during 2020-2022. No part of this dissertation has formed the basis for the award of any Degree/Diploma/Association/Fellowship or similar title to any candidate of any other college and university.



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CERTIFICATE

This is to certify that the project entitled “**Biogenic synthesis of silver nanoparticles using *Pennisetum polystachion* extract and its characterization.**” submitted to the university of Calicut in partial fulfillment of the requirements for the award of degree of Master in Science in Botany, is an authentic record of work done by **Ms. Sariga K.P.**, Reg. No **PWAUMBT013** during the period of her study in the Department of Botany, Providence Women's College, Kozhikode during 2020-2022. No part of this dissertation has formed the basis for the award of any Degree/Diploma/Association/Fellowship or similar title to any candidate of any other college and university.



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This is to certify that the project entitled “**Phytochemical characterization and extraction of starch in *Curcuma aeruginosa* Roxb and *Maranta arundinacea* L**” submitted to the university of Calicut in partial fulfillment of the requirements for the award of degree of Master in Science in Botany, is an authentic record of work done by **Ms. Sruthi Raj M.J.**, Reg. No **PWAUMBT014** during the period of her study in the Department of Botany, Providence Women’s College, Kozhikode during 2020-2022. No part of this dissertation has formed the basis for the award of any Degree/Diploma/Association/Fellowship or similar title to any candidate of any other college and university.



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Date:15/06/2022

CERTIFICATE

This is to certify that the project entitled “**Floral biology, floral phenology and pollination aspects in *Chassalia curviflora* (wall.) Thwaites**” submitted to the university of Calicut in partial fulfillment of the requirements for the award of degree of Master in Science in Botany, is an authentic record of work done by **Ms. Fathima Febin C.P.** Reg. No **PWAUMBT016** during the period of her study in the Department of Botany, Providence Women's College, Kozhikode during 2020-2022. No part of this dissertation has formed the basis for the award of any Degree/Diploma/Association/Fellowship or similar title to any candidate of any other college and university.



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