**ORIGINAL ARTICLE** 

Int. J. Fund. Appl. Sci. Vol. 12, No. 1 (2023) 1-

**Open Access** 

ISSN 2278-1404

# International Journal of Fundamental & Applied Sciences

### ENVIRONMENTAL SUSTAINIBILITY: NEW PERSPECTIVES AND PARADIGMS

Nisarga G Krishna \* Bangalore University, Bangalore, Karnataka - 560056

#### Abstract

Medicinal values of Pteridophytes are known to man from more than 2000 years. They have healing and curing power and are used in Homeopathic, Ayurveda and Unani medicines. The medicinal applications of some Pteridophytes of those that grow in Western Ghats, West Bengal, Himachal Pradesh, Uttarakhand and Rajasthan are presented in this paper. Out of 70 families from different parts of the present Indian political boundary, selected species are considered under 12 families for the analysis. There are 219 species of Pteridophytes measured as "At risk" in India. Of these, 160 are featured to designate that they fall into IUCN category of "Critically endangered". Henceforth, for immediate and strict conservation of all these species, there is a need of an urgent and special study including locality-mapping by State Governments and creating public awareness. Pteridophytes are forest-dwelling species; they can be taken as good indicators of deforestation and habitat-destruction. Pteridophytes have substantial importance in traditional pharmacopoeias, scientific studies on pharmacology of this group are scanty.

Keywords: Critically endangered, IUCN, Medicinal values, Species and families.

@2023 BioMedAsia All right reserved

#### 1. Introduction

Pteridophytes are second largest group of plants in India and represented by 33 families 130 genera and 1267 species. Pteridophytes with medicinal properties, have healing and curing power. They are used in homeopathic, ayurvedic and Unani medicines. Charaka, Sushruta, Theophratus and Pedanius Dioscorides''s discoveries have referred to medicinal attributes of certain ferns.

There are 219 species of pteridophytes to be considered as "At risk" in India. of these, 160 are starred to indicate that they come into IUCN category of "Critically endangered". Presently, several conservation measures have been adopted for the angiosperms, however, Pteridophytes have not or only been partially given importance in this context [1-10]. Economic and medicinal values of higher plants have been investigated thoroughly and unfortunately Pteridophytes have been ignored, hence there is urgent need for documentation and conservation of pteridophytes.

The medicinal applications of some Pteridophytes of those that grow in Western Ghats, West Bengal, Himachal Pradesh, Uttarakhand, and Rajasthan are presented in this paper. In this paper, out of 70 families in India, 12 families are chosen.

\*Corresponding author Full Address:

Nisarga G Krishna

\*Student, Integrated Biological Sciences, Department of Life Sciences, Bangalore University, Bangalore- 560056, Karnataka. E-mail: <u>nisargamodini@gmail.com</u>

#### 2. Medicinal applications of pteridophytes

The following tables shows the medicinal application of some Pteridophytes of those that grow in Western Ghats, West Bengal, Himachal Pradesh, Uttarakhand, and Rajasthan.

Table 1: Medicinal Applications of Equisetaceae Family	
[2, 6, 7, 8, 9]	

Name of	Common	Part	Medicinal Application
			Meulcinal Application
The	Name/	Used	
Species	Local		
	Name		
Equisetum		Stem,	Powdered stem
Ramosissi		Rhizome,	dissolved in water is
тит		Branches,	used forenema during
		Leaves,	stomach disorders in
		Plant	children.
		1 14111	cinitaten.
			Barren women in South
			Africa, drink rhizome
			decoction to facilitate
			fertilization.
			Paste of branches with
			leaves is used as local
			application for
			treatment of fracture
			and bone dislocation.
			Plant has haemostatic,
			anti-fungal, anti-
			rheumatic, anti-viral
			properties.

Table 2: Medicinal Applications of Marsileaceae Family. [2, 6, 7, 8, 9]

minutawater clover, small water clover, diarrhoea, clover, Water clover.Plantcough, condition diarrhoea, skin haemorrhoids, dyspepsiaItisalsoused	Name of	Common	Part	Medicinal
NameMarsilea minutaDwarf water clover, small waterWhole PlantPlant is used to tree cough, spast condition of le muscle, insomni diarrhoea, lepros skin disease haemorrhoids, dyspepsiaValue Lover, Water clover, Water clover, Water clover,It is also used a sedative drug.	The	Name/	Used	Application
Marsilea minutaDwarf water clover, small water clover, diarrhoea, lepros clover, clover, water clover, water clover, Water clover.Whole PlantPlant is used to tre cough, spast condition of le muscle, insomni diarrhoea, lepros skin disease haemorrhoids, dyspepsiaIt is also used a sedative drug.	Species	Local		
minutawater clover, small water clover, diarrhoea, clover, clover, Water clover.Plant cough, muscle, diarrhoea, skin haemorrhoids, dyspepsiaIt is also used sedative drug.	_	Name		
astringent, diuretic, anodyne emollient, ophthalmic, expectorant, depurative,		Dwarf water clover, small water clover, Water		condition of leg, muscle, insomnia, diarrhoea, leprosy, skin diseases haemorrhoids, dyspepsia It is also used as sedative drug. Plant is sweet, astringent, diuretic, anodyne emollient, ophthalmic, expectorant, depurative, aphrodisiac and

Table 3: Medicinal Applications of Psilotaceae Family [2, 6, 7, 8, 9]

Name of The Species	Common Name/ Local Name	Part Used	Medicinal Application
Psilotum nudum		Spores	Oily spores are given to infants to arrest diarrhoea.

Table 4: Medicinal Applications of Salviniacea Family [2, 6, 7, 8, 9]

Name of The Species	Common Name/ Local Name	Part Used	Medicinal Application
Salvinia molesta		Plant	Plant is used as antifungal

Table 5: Medicinal Applications of Isoetaceae Family [2, 6, 7, 8, 9]

[2, 6, 7, 8, 9]	a	<b>D</b> (	
Name of	Common	Part	Medicinal
The	Name/	Used	Application
Species	Local		
	Name		
Isoetes		Whole	Plant is used as
coromandelia		Plant,	antiseptic, styptic,
		Leaves,	anthelmintic and
		Rhizome	also used to treat
			bronchitis.
			bronemus.
			Dry leaves are
			used in
			tuberculosis.
			tuberculosis.
			Rhizome is used
			to treat eye stroke
			of children below
			five years.

Isotes rajasthanensis	Wh Pla		le plant extract is for treatment of
		splee	n and liver diseases.

Table 6: Medicinal Applications of Ophioglossaceae	
Family [2 6 7 8 9]	

Family [2, 6, 7, 8, 9	]		
Name of	Common	Part	Medicinal
The	Name/	Used	Application
Species	Local		
	Name		
Ophiglossum	Adder's	Leaves	Paste made of
reticulatum		and	fresh leaf act as
renculatum	tongue		
	fern,	fronds	coolant on burns
	snake		and it cures
	tongue		wounds and
	fern/Ban		inflammation.
	palak		
			Fronds are also
			found useful as
			tonic and styptic.
Ophioglossum	Stalked	Rhizome	Hair fall control
petiolatum	adder's		can be done
<i>I</i> · · · · · · · · · · · · · · · · · · ·	tongue		through
	tongue		fresh rhizome
			Tuber paste
Helminthostastachys		Fronds,	Fronds are
-		Rhizome	
zeylanica		KIIIZOIIIe	reported to
			anodyne,
			antiviral,
			antipyretic anti
			inflammatory
			intoxicant.
			Rhizome powder
			can increase
			memory
			Rhizome is
			used to treat
			sciatica,
			dysentery,catarrh,
			malaria and is
			used as tonic
Botrychium		Plant	Plant is
lanuginosum		1 min	known to be
unugnosun			antibacterial.
Ophioglossum		Plant	It is used as a
nudicaule		r lain	
пиансише			cooling agent
			and in
			inflammations
			and wounds.

Table 7: Medicinal Applications of Selaginellacea
Family [2, 6, 7, 8, 9]

Name of The Species	Common Name/ Local Name	Part Used	Medicinal Application
Selaginella bryopteris	Sanjeevini booti or Sanjeevni	Whole plant and leaves	It reduces toxicity. It is used to cure heat shock and jaundice.

			Fresh paste of young leaves along with sugar or honey is used to treat stomach ache and urinary tract inflammation for children.
			Women tribes of Chhattisgarh used dry powder of herb to treat gynaecological problems menstrual irregularities, leucorrhoea and to minimize
			It can prevent neuro- degeneration.
Selaginella radiata		Frond	Fronds are used as antibacterial agent.
Selaginella involvens		Spore and Plant	Ladies(in Western Ghats)use spore powder as substitute to vermillion powder. Plant helps to prevent cough, bleeding piles, amenorrhoea and acts as antibacterial
Seliginella delicatula		Plant	agent. As plan juice is antibacterial,it is used for healing wounds by the tribals at Nilambur.
Selaginella chrysocaulos	Kungoo	Spores and Plant	Powder of dried spores used as vermillion (kungu) powder. Plant is used in treating fever.

 Table 8: Medicinal Applications of Adiantaceae Family

 [2, 6, 7, 8, 9]

[2, 6, 7, 8, 9]				
Name of The	Common Name/	Part Used	Medicinal Application	
		Useu		
Species	Local			
	Name			
Adiantum	Walking black	Frond	Fronds are used in treating	
edgeworthii	maiden hair		mouth blister.	
	fern/Hansraj			
Adiantum	Evergreen	Whole	It is used to heal wounds,	
venustum	maiden	Plant	cough,tumours,fever,asthm	
	hair/Hansraj		a and inflammatory	
	Ū		disease of chest and shows	
			anti-microbial activity	
Adiantum	Maiden hair	Whole	It is used as remedy to	
incisum	fern/Mayrshika	Plant	cure cough,	
	and Hansraj		diabetes, jaundice, fever,	
	5		diarrhoea, skin wounds.	
Adiantum	Southern	Plant	It is used as stimulant,	
capillus-	maiden hair		febrifuge, purgative,	
veneris	fern		demulcent, emollient tonic	
			and hair tonic.	
			It has hypoglycaemic, and	
			antiviral properties.	
			It is also used to treat	
			menstrual irregularities.	
Adiantum	Tailed	Fronds	Frond extract is effective	
caudatum	maidenhair		in wound healing.	
Adiantum		Leaf	Leaf and root decoction is	
lunulatum		and	used for treatment	
		Root	complaints in Malaya.	
Adiantum		Leaf	Leaves are used to cure	
poiretii			coughs, fever, diabetes and	
			skin disease in Philippines.	

## Table 9: Medicinal Applications of Osmundaceae Family [2, 6, 7, 8, 9]

Name of The Species	Common Name/ Local Name	Part Used	Medicinal Application	
Osmunda hugeliana		Fronds	Fronds are used as tonic, styptic and also for the treatment of rickets, rheumatism and for intestinal gripping.	

Table 10: Medicinal	Applications of	Dryopteridaceae
Family [2, 6, 7, 8, 9]		

I dimiy [2, 0, 7, 0, 7]						
Name of The Species	Common Name/ Local Name	Part Used	Medicinal Application			
Dryopteris		Rhizome	Rhizome is used as			
cardi hopei			anthelminthic.			

			_
Dryopteris	Cliff	Rhizome	Extract of
chrysocoma	fern	and	Rhizome can be
		Lamina	applied to cuts
			and wounds.
			Crushed lamina
			works as
			anthelminthic.
Dryontaris	Wood	Rhizome	Rhizome is
Dryopteris cochleata		and whole	found useful for
cocnieata	fern, Buckler		
		plant	diarrhoea and
	fern		vomiting and
			also acts as
			anthelminthic.
Dryopteris		Fronds	Digestion is
juxtoposita			enhanced by
5 1			fronds.
Polystichum	Basket	Sporophyll	The extract of
squarrosum	fern	and	sporophyll is
squariosum	icili	Rhizome	found to be
		KIIZOIIIC	antibacterial
			agent.
			Pyloric disease
			can be cured by
			rhizome
			decoction.
Tectaria		Whole	It is anti-
coadunata		Plant	bacterial and
			used to treat
			asthma,
			ronchitis, stings
			of honeybee.
			-
			Cooked tender
			portion is used
			for curing
			stomach
			problems.
Hypodematium		Rhizome	Rhizome is used
crematum		and	as an
		Leaves	Antibacterial
			agent.
			Leaves are used
			to facilitate
			conception in
			-
		0 1 1	women.
Polystichum		Sporophyll	Sporophyll
moluscens			extract is used as
			an antibacterial
			agent.
Tectaria		Rhizome	Rhizome is used
wightii			as anthelmintic.
0		1	

Table 11: Medicinal Applications of Polypodiaceae	
Family [2, 6, 7, 8, 9]	

Name of The Species	Common Name/ Local Name	Part Used	Medicinal Application
Drynaria mollis		Rhizome	Rhizome is used to treat tuberculosis and is also effective against cuts and burns.

Polypodium		Rhizome	Rhizome is found
lachnopus			laxative in nature.
Microsorum		Rhizome	Rhizome is
membranaceum			useful to treat
			ulcer, swelling, sore boil,
			dysentery etc.
Microsdorum		Leaf	Leaf is ground
punctatum			into juice and
			applied over the affected area of
			wound, twice a
			day with hot
Drynaria	Oakleaf fern/	Rhizome	water to heal it. Skin removed
quercifolia	Kankothari	KIIIZOIIIE	rhizome is made
1 5			into a paste and
			boiled with
			pepper, cumin seeds, onion and
			water.
			This mixture is
			taken orally to
			get relief from body pain and
			join pain.
Pyrrosia	Lanceleaf	Leaf	Leaf is made into
lanceolata	Tongue		paste with pepper
	Fern/Loti		and taken orally to treat sore
			throat and
			itching.
Vittaria	Tape fern	Leaf	Leaf is ground
elongate			into paste and applied over
			affected area to
			get relief from
			knee pain and therapeutic pain.
Pyrrosia		Plant	It is used as
heterophylla			cooling agent for
			treatment of swellings, sprains
			etc and also used
			For relieving
		D1 .	pain.
Phlebodium aureum		Rhizome	Rhizome is used for cough, fever
uureum			and reported to
			be sudorific in
Pleopeltis		Frond	Mexico. Decoction of
macrocarpa		and	frond is used
		Rhizome	for cold, sore
			throat, and itches in South Africa.
			Rhizome is used as a febrifuge and
			for treatment of
			coughs in Mexico and Guatemala.

Table 12: Medicinal Applications of Pteridaceae Family [2, 6, 7, 8, 9]

The SpeciesName/ Local NameUsed Hocal AmmeApplicationPteris aspercularisRibbon ferm Ford and RhizomeFrond and Rhizome applied on cuts and Bruises.Extract of Frond is applied on cuts and Bruises.Pteris creticaRibbon ferm, Table fern etcWhole PlantsPaste of fronds helps in healing of wounds and properties.Pteris vittata creticaLadder Brake fern etcPlantIt is used to treat sores on tongue, in burns etc.Pteris vittata quadiauritaLadder Brake fernPlant Fit is used to treat sores on tongue, in burns etc.It also serves as tonicPteris quadiauritaCarrot fern japonicumRhizome AmiaRhizome paste is applied to take out The pus and hasten the healing of Boils.Onychium contiguumCarrot fern sankaPlantsIt is used to treat urinary ract diseases, fever, and headache.Onychium fondrameCarrot fern sankaPlantsIt is used to treat usinary tract diseases, fever, and headache.Adiantum philippensWalking maiden hair fam, black maiden hair fam, black maiden hair fam, black maiden hair fam, black maiden hair famsapadi, Hamsapadi, Hamsapadi, Hanswati, Kante GharWhole maiden hair fall.Adiantum philippensWalking maiden hair fan.Whole maiden hair fall.Whole maiden hair fall.	[2, 0, 7, 8, 9] Name of	Common	Part	Medicinal
NameImagePteris aspercularisRibbon fem and Brond is givenFrond 	The	Name/		
Pteris aspercularisRibbon fern and and RhizomeFrond and RhizomeExtract of Frond is applied on cuts and Bruises.Pteris creticaRibbon fern Table fern etcWhole PlantsPaste of fronds helps in healing of wounds and properties.Pteris vittata tecLadder Brake fernPlant Brake fernIt is used to treat sores on tongue, in burns etc.Pteris quadiauritaLadder Brake fernPlant Brake fernIt is used to treat sores on tongue, in burns etc.Pteris quadiauritaCarrot fern japonicumRhizomeRhizome and bicolorOnychium japonicumCarrot fern sankaPlantsIt is used to treat sores treat sores take out The pus and hasten the healang of Boils.Onychium japonicumCarrot fern sankaPlantsIt is used to treat sin diseases, fever, and headache.Cheilanthes bicolorSilver fern/ Kali sankaRhizome Rhizome sankaFronds ti t is used to treat skin diseases, cuts and maiden hair/ fern, black maiden hair/ Hamsapadi, H	Species			
aspercularisand RhizomeFrond is applied on cuts and Bruises.Pteris creticaRibbon fern, Table fern etcWhole PlantsPrase of fronds helps in healing of wounds and properties.Pteris vittataLadder Brake fernPlantIt is also found useful in treating leprosu.Pteris vittataLadder Brake fernPlantIt also serves as tonic.Pteris vittataLadder Brake fernPlantIt has antiviral and and properties.Pteris quadiauritaLadder Brake fernPlantIt has antiviral and and burns etc.Pteris quadiauritaCarrot fern japonicumRhizome Kali sankaFronds Rizome paste is applied to take out The pus and hasses, fever, and headache.Onychium japonicumCarrot fern kali sankaPlantsIt is used to treat skin diseases, fever, and headache.Cheilanthes biolorSilver fern/ Kali sankaRhizome kali sankaRhizome is used in treat skin disorders, diseases, cuts and heading of biolorAdiantum philippensMalking Malking Malking Malking hamsapadi, Hamsapadi, <b< td=""><td>Pteris</td><td></td><td>Frond</td><td>Extract of</td></b<>	Pteris		Frond	Extract of
Preris creticaRibbon fern, Table fern etcWhole PlantsBrew of Rhizome and frond is given to treat chronic disorder.Pteris vittataLadder Brake fernPlantIt is also found useful in treating leprosy.Pteris vittataLadder Brake fernPlantIt is used to treat sores on tongue, in burns etc.Pteris vittataLadder Brake fernPlantIt is used to treat sores on tongue, in burns etc.Pteris vittataLadder Brake fernPlantIt also serves as tonic.Pteris quadiauritaIt also is applied to take out The pus and healing of Boils.Rhizome Brizome paste diseases.Onychium japonicumCarrot fern sankaPlantsFronds are used to treat skind diseases.Onychium japonicumSilver fern/ kali sankaRhizome serves, and heading to treat skind diseases, cuts and and sankaRhizome serves, and heading to treat skind diseases, cuts and heading to treat skind disorders, diseases, cuts and heading to in the disorders, disorder		Rubbon Term		
Pteris creticaRibbon fern, Table fern etcWhole PlantsBrew of Rhizome and frond is given to treat chronic disorder.Pteris creticaRibbon fern, Table fern etcWhole PlantsPaste of fronds helps in healing of wounds and properties.Pteris vittataLadder Brake fernPlantIt is used to treat sores on tongue, in burns etc.Pteris vittataLadder Brake fernPlantIt is used to treat sores on tongue, in burns etc.PterisLadder Brake fernPlantIt is used to treat sores on tongue, in burns etc.PterisCarcot fern JaponicumRhizome and hastenRhizome paste is applied to take out take out take out take out properties.Onychium contiguumCarrot fern Silver fern/ Kali anakaPlantsIt is used to treat skin diseases, fever, and headache.Cheilanthes bicolorSilver fern/ Kali anakaRhizome PlantsRhizome used to treat urinary tract diseases, cuts and heading hair/ Hamsspadi, Hanswai,Whole PlantIt is used and heading-tice	-		Rhizome	
Pteris creticaRibbon fern, Table fern etcWhole PlantsRhizome and frond is given to treat chronic disorder.Pteris vetcRibbon fern, Table fern etcWhole PlantsPaste of fronds helps in healing of wounds and properties.Pteris vittataLadder Brake fernPlantIt is used to treat sores on tongue, in burns etc.Pteris quadiauritaLadder Brake fernPlantIt also serves as tonic.Pteris quadiauritaIt also serves as tonic.It also serves as tonic.Onychium contiguumIt also Carrot fern japonicumFrondsFronds are used to treat sores.Onychium contiguumCarrot fern sankaPlantsIt is used to treat sores.Cheilanthes albomargina taLip fern Kali sankaRhizome PlantsRhizome used to treat urinary tract diseases.Cheilanthes albomargina taLip fern Kali sankaRhizome PlantsRhizome used to treat urinary tract diseases, cuts and hasmapadi, Hansspadi, Hanspadi, Hansspadi				and Bruises.
Pteris creticaRibbon fern, Table fern etcWhole PlantsRhizome and frond is given to treat chronic disorder.Pteris vetcRibbon fern, Table fern etcWhole PlantsPaste of fronds helps in healing of wounds and properties.Pteris vittataLadder Brake fernPlantIt is used to treat sores on tongue, in burns etc.Pteris quadiauritaLadder Brake fernPlantIt also serves as tonic.Pteris quadiauritaIt also serves as tonic.It also serves as tonic.Onychium contiguumIt also Carrot fern japonicumFrondsFronds are used to treat sores.Onychium contiguumCarrot fern sankaPlantsIt is used to treat sores.Cheilanthes albomargina taLip fern Kali sankaRhizome PlantsRhizome used to treat urinary tract diseases.Cheilanthes albomargina taLip fern Kali sankaRhizome PlantsRhizome used to treat urinary tract diseases, cuts and hasmapadi, Hansspadi, Hanspadi, Hansspadi				Brew of
Pteris creticaRibbon fem, Table fern etcWhole PlantsPaste of fronds helps in healing of wounds and properties.Pteris vittataLadder Brake fernPlantIt is used to treat sores on torngue, in burns etc.Pteris vittataLadder Brake fernPlantIt is used to treat sores on torngue, in burns etc.PterisLadder Brake fernPlantIt is used to treat sores on torngue, in burns etc.PterisLadder Brake fernPlantIt also serves as tornic.Pteris quadiauritaFrondsRhizome pasteRhizome paste is applied to take out The pus and hasten the healing of Boils.Onychium contiguumCarrot fern kali sankaPlantsFronds are used to treat urinary tract diseases.Onychium contiguumCarrot fern kali sankaPlantsIt is used to treat skin diseases, fever, and headache.Cheilanthes bicolorSilver fern/ Kali sankaRhizome PlantsRhizome is diseases, cuts and mainden hair fern, black maiden hair/ fern, black maiden hair/ fern, black maiden hair/ fern, black Hanswati,Whole HantIt is used ad huintjee and audiaurite, it is used to treat skind diseases, cuts and mainden hair/ fern, black maiden hair/ fern, black maiden hair fern, black maiden hair/ fern, black maiden hair/ fern, black maiden hairWhole Hanswati,It is used ad huintjee and huintjeestion, diarrhoea and				
Pteris creticaRibbon fern, Table fern etcWhole PlantsPaste of fronds helps in healing of wounds and properties.Pteris vittataLadder Brake fernPlantIt is also found useful in treating leprosy.Pteris vittataLadder Brake fernPlantIt is used to treat sores on tongue, in burns etc.PterisLadder Brake fernPlantIt as antiviral and antibacterial properties.PterisLadder Brake fernPlantIt as antiviral and antibacterial properties.PterisCarrot fern sankaRhizome and boils.Fronds are used to treat urinary tractOnychium japonicumCarrot fern kali sankaFronds RhizomeFronds are used to treat urinary tract diseases.Cheilanthes bicolorSilver fern/ Kali sankaRhizome PlantsRhizome is to treat urinary tract diseases.Adiantum philippensWalking maiden hair/ fern, black maiden hair/ fern, black maiden hair/ fern, black maiden hair/ fern, black maiden hair/ Hamswati,Whole Ti s used as diserter, ti s used to treat treat as toric.				
Pteris creticaRibbon fern, Table fern etcWhole PlantsPaste of fronds helps in healing of wounds and properties.PterisLadder Brake fernPlantIt is also found useful in treating leprosy.Pteris vittataLadder Brake fernPlantIt is used to treat sores on tongue, in burns etc.PterisLadder Brake fernPlantIt is used to treat sores on tongue, in burns etc.PterisLadder Brake fernPlantIt is sores on tongue, in burns etc.Pteris quadiauritaRhizomeRhizome paste is applied to take out The pus and hasten text or treat uninary tract diseases.Onychium japonicumCarrot fern Kali sankaPlantsFrondsCheilanthes bicolorSilver fern/ Kali sankaRhizome RhizomeRhizome used in fever and as tonic.Adiantum philippensWalking maiden hair/ fern, black maiden hair/ Hamswati,Whole HantIt is used as diseases, nuts and hasten the healing of Boist.				
etcof wounds and properties.Pteris vittataLadder Brake fernPlantIt is also found useful in treating leprosy.Pteris vittataLadder Brake fernPlantIt is used to treat sores on tongue, in burns etc.Pteris quadiauritaIt is used to treat sores on tongue, in burns etc.It has antiviral and antibacterial properties.Pteris quadiauritaRhizomeRhizome paste to treat urinary tract diseases.Onychium contiguumFrondsFronds are used to treat urinary tract diseases.Onychium japonicumCarrot fernPlantsIt is used to treat skin diseases.Cheilanthes bicolorSilver fern/ Kali sankaRhizomeRhizome used in fever and as to make to treat urinary tract diseases.Cheilanthes albomargina taWalking maiden hair fern, black maiden hair/ Hamsspadi, Hanswati,Whole It is used and to treat used in sused to treat to sustance to treat make to treat is application, tiseases, cuts and maiden hair/ fern, black maiden hair/ fern, black maiden hair/ fern, black maiden hair/ fern, black maiden hair fern, black maiden hair f	Pteris	Ribbon fern,	Whole	
Image: Normal set of the set	cretica		Plants	
Pteris vittataLadder Brake fernPlantIt is used to treat sores on tongue, in burns etc.Pteris vittataLadder Brake fernPlantIt is used to treat sores on iburns etc.PterisIt also serves as tonic.It also serves as tonic.PterisIt also serves as tonic.It also serves as tonic.PterisIt also serves as tonic.It is used to take out The pus and hasten the healing of Boils.Onychium contiguumIt also serves as tonic.FrondsFronds are used to treat urinary tract diseases.Onychium contiguumIt also serves as to treat urinary tract diseases.FrondsFronds are used to treat urinary tract diseases.Onychium contiguumIt is used to treat skin diseases, fever, and headache.FrondsFronds are used to treat urinary tract diseases, fever, and headache.Cheilanthes bicolorSilver fern/ Kali sankaRhizomeRhizome used in fever and as tonic.Cheilanthes bicolorLip fern Hamsapadi, Hanswati,RhizomeRhizome is used in sused in suse		etc		
Pteris vittataLadder Brake fernPlantIt is used to treat sores on tongue, in burns etc.Pteris vittataLadder Brake fernPlantIt is used to treat sores on tongue, in burns etc.Pteris quadiauritaIt also serves as tonic.It also serves as tonic.Pteris quadiauritaFrondsRhizomeOnychium contiguumFrondsFronds are used to treat urinary tract diseases.Onychium contiguumCarrot fernPlantsIt is used to treat skin diseases, fever, and headache.Cheilanthes bicolorSilver fern/ Kali sankaRhizomeRhizome used to treat urinary tract diseases, cuts and stomach disorders, diseases, cuts and harsenAdiantum philippensWalking maiden hair fern, black maiden hair fern, black maiden hair Hamswati,Whole PlantIt is used as disert, it is used to treat used to treat and treat skin diseases, cuts and harsendi, Hanswati,Whole Plant				
Pteris vittataLadder Brake fernPlantfound useful in treating leprosy.Pteris vittataLadder Brake fernPlantIt is used to treat sores on tongue, in burns etc.It has antiviral and antibacterial properties.It has antiviral and antibacterial properties.Pteris quadiauritaIt also serves as tonic.Onychium contiguumFrondsRhizome bicolorOnychium japonicumCarrot fern kali sankaPlantsCheilanthes albomargina taSilver fern/ Kali sankaPlantsCheilanthes albomargina taLip fernRhizome storic.Adiantum philippensWalking maiden hair/ Hamswati,Whole PlantIt is used as diseases, cuts and hasten treat storach disorders, diseases, cuts and hassen, treat storach disorders, diseases, cuts and hanswati,				F F
Pteris vittataLadder Brake fernPlantIt is used to treat sores on tongue, in burns etc.Pteris vittataLadder Brake fernPlantIt is used to treat sores on tongue, in burns etc.It has antiviral and burns etc.Pteris quadiauritaRhizomeRhizome paste is applied to take out The pus and hasten the healing of Boils.Onychium contiguumFrondsFronds are used to treat urinary tract diseases.Onychium japonicumCarrot fern Kali sankaPlantsFronds are used to treat urinary tract diseases, fever, and headache.Cheilanthes albomargina taSilver fern/ Kali sankaRhizomeRhizome used in fever and as tonic.Adiantum philippensWalking maiden hair/ Hamswati,Whole PlantIt is used as diverer, at disorders, diseases, clus and used in stomach ulcer, stomach disorders, diseases, clus and terest wounds.				
Pteris vittataLadder Brake fernPlantIt is used to treat sores on tongue, in burns etc.Pteris quadiauritaIn the section of the				
Pteris vittataLadder Brake fernPlantIt is used to treat sores on tongue, in burns etc.Pteris quadiauritaIt has antiviral and antibacterial properties.It has antiviral and antibacterial properties.Pteris quadiauritaRhizomeRhizome paste is applied to take out The pus and hasten the healing of Boils.Onychium contiguumFrondsFronds are used to treat urinary tract diseases.Onychium contiguumCarrot fernPlantsIt is used to treat skin diseases, fever, and headache.Cheilanthes albomargina taSilver fern/ Kali sankaRhizomeRhizome used in fever and as tonic.Adiantum philippensWalking maiden hair/ Hamsapadi, Hanswati,Whole PlantIt is used as diuretic, it is used to treat diseases, cuts and diarrhoea and				-
Image InternationImage Internation	Pteris vittata	Ladder	Plant	1 2
Image: Addition of the section of t		Brake fern		
Pteris quadiauritaIt has antiviral and antibacterial properties.Pteris quadiauritaRhizomeRhizome paste is applied to take out The pus and hasten the healing of Boils.Onychium contiguumFrondsFronds are used to treat urinary tract diseases.Onychium contiguumCarrot fernPlantsIt is used to treat skin diseases, fever, and headache.Cheilanthes albomargina taSilver fern/ Kali sankaRhizomeRhizome used in fever and as toric.Cheilanthes albomargina taLip fernRhizomeRhizome is used in stomach disorders, diseases, cuts and wounds.Adiantum philippensWalking maiden hair fern, black maiden hair Hamsapadi, Hamsapadi, Hanswati,Whole PlantIt is used as diuretic, it is used and wounds.				
Adiantum philippensSilver fern/ Kali sankaRhizome kali sankaand antibacterial properties.Adiantum philippensKalis sankaRhizome kalis sapplied to take out take out take out The pus and hasten take out The pus and hasten bealing tract diseases.Onychium contiguumCarrot fern kali sankaFronds take out tract diseases.Onychium contiguumCarrot fern kali sankaPlantsIt is used to treat skin diseases, fever, and headache.Cheilanthes albomargina taLip fernRhizome kali sankaRhizome take tract diseases, cuts and kali sankaAdiantum philippensWalking maiden hair fern, black maiden hair/ Hamsapadi, Hanswati,Whole plantIt is used as diuretic, it is used to treat dysentery, asth ma, indigestion, diarrhoea and				buills etc.
Adiantum philippensSilver fern/ fern, black maiden hair fern, black maiden hair fern, black maiden hair hanswati,Rhizome cantibacterial properties.antibacterial properties.Atiantum philippensWalking maiden hair fern, black maiden hair fern, black maiden hair fern, black maiden hair hanswati,Rhizome cantibacterial properties.It is used as properties.Antibacterial properties.Carrot fern plantsPlantsIt is used to treat skin diseases.Cheilanthes albomargina taSilver fern/ sankaRhizome sused to treat sankaRhizome sused to treat sused to treat to treat sused to treat sused to treat sused to treat sused to treat to treat sused to treat sused to treat sused to treat sused to treat to treatAdiantum philippensWalking maiden hair fern, black maiden hair fern, black maiden hair fern, black maiden hairWhole maiden the is used to treat dysentery, asth ma, indigestion, diarrhoea and				
Preris quadiauritaRhizomeproperties.Pteris quadiauritaRhizomeRhizome paste is applied to take out The pus and hasten the healing of Boils.Onychium contiguumFrondsFrondsFronds are used to treat urinary tract diseases.Onychium contiguumCarrot fernPlantsIt is used to treat skin diseases, fever, and headache.Cheilanthes bicolorSilver fern/ Kali sankaRhizomeRhizome used to treat used to treat used to treat skin diseases, fever, and headache.Cheilanthes albomargina taLip fernRhizomeRhizome used in fever and as used in stomach ulcer, Stomach disorders, diseases, cuts and Hanswati,Rhizomeis used as diverter, it is used to treat used to treat diseases, cuts and maiden hair fern, black maiden hair/ Hamsapadi, Hanswati,WholeIt is used as diseaset, cuts and wounds.				
Pteris quadiauritaRhizomeIt also serves as tonic.Pteris quadiauritaRhizomeRhizomeRhizome paste is applied to take out The pus and hasten the healing of Boils.Onychium contiguumFrondsFrondsFronds are used to treat urinary tract diseases.Onychium japonicumCarrot fernPlantsIt is used to treat skin diseases, fever, and headache.Cheilanthes bicolorSilver fern/ Kali sankaRhizomeRhizome used in fever and as tonic.Cheilanthes albomargina taLip fernRhizomeRhizome is used in stomach ulcer, Stomach diseases, cuts and wounds.Adiantum philippensWalking maiden hair/ fern, black maiden hair/ Hamspadi, Hanswati,WholeIt is used as divertic, it is used to treat disentic, it is used to treat disentic, it is used to treat disentic, it is used to treat disentic, it is used to treat				
Pteris quadiauritaRhizomeRhizome paste is applied to take outquadiauritaRhizomeRhizomeRhizomequadiauritaFrondsThe pus and hasten the healing of Boils.Onychium contiguumFrondsFronds are used to treat urinary tract diseases.Onychium japonicumCarrot fernPlantsIt is used to treat skin diseases, fever, and headache.Cheilanthes bicolorSilver fern/ Kali sankaRhizomeRhizome used in fever and as tonic.Cheilanthes albomargina taLip fernRhizomeRhizome is used in stomach ulcer, Stomach diseases, cuts and Hamspadi, Hamspadi, Hanswati,WholeIt is used as divertion, it is used to treat treat is used to treat diseases, cuts and diarrhoea and				properties.
Pteris quadiauritaRhizomeRhizome paste is applied to take out The pus and hasten the healing of Boils.Onychium contiguumFrondsFronds are used to treat urinary tract diseases.Onychium japonicumCarrot fernPlantsIt is used to treat skin diseases, fever, and headache.Cheilanthes bicolorSilver fern/ Kali sankaRhizomeRhizome used in fever and as tonic.Cheilanthes albomargina taLip fernRhizomeRhizome used in stomach ulcer, Stomach diseases, cuts and used to treat used to treat skin diseases, cuts and diseases, cuts and haswati,WoleAdiantum philippensWalking maiden hair fern, black maiden hair/ Hamsapadi, Hanswati,WholeIt is used as diserter, and diserter, stim diserter, stim diserter, and diserter, stim diserter, and diserter, and </td <td></td> <td></td> <td></td> <td></td>				
quadiauritais applied to take outquadiauritais applied to take outhastenthe pass and hastenOnychium contiguumFrondsFrondsOnychium contiguumFrondsFronds are used to treat urinary tract diseases.Onychium japonicumCarrot fernPlantsIt is used to treat skin diseases, fever, and headache.Cheilanthes bicolorSilver fern/ Kali sankaRhizomeRhizome used in fever and as tonic.Cheilanthes albomargina taLip fernRhizomeRhizome is used in stomach ulcer, Stomach disorders, diseases, cuts and wounds.Adiantum philippensWalking maiden hair fern, black maiden hair/ Hamsapadi, Hanswati,Whole PlantIt is used as diverter, ath diserders, athAdiantum philippensWalking maiden hair fern, black maiden hair/ Hamsapadi, Hanswati,Whole Hamsapadi Hamsapadi Hamsapadi Hamsapadi Hamsapadi Hamsapadi	Dtonic		Dhizoma	
Adiantum philippensWalking maiden hair fern, black maiden hair Hamsapadi, Hanswati,Walking maiden hair fern Hanswati,Walking hasten the hasten tract diseases.Onychium japonicumCarrot fern Carrot fernPlantsIt is used to treat skin diseases, fever, and headache.Cheilanthes bicolorSilver fern/ Kali sankaRhizome to nic.Rhizome used in fever and as tonic.Cheilanthes albomargina taLip fernRhizome to nic.Rhizome is used in stomach ulcer, Stomach disorders, diseases, cuts and wounds.			KIIIZOIIIE	
Adiantum philippensWalking maiden hair fern, black maiden hair/ Hamsapadi, Hanswati,Walking maiden hair/ Hanswati,Revent hasten healing biols.hasten healing of Boils.Onychium contiguumCarrot fern (arrot fern)PlantsFronds are used to treat urinary tract diseases.Onychium japonicumCarrot fern (arrot fern)PlantsIt is used to treat skin diseases, fever, and headache.Cheilanthes bicolorSilver fern/ (Kali sankaRhizome (Kali somach disorders, diseases, cuts and tiseases, cuts and divertion, it is usedAdiantum philippensWalking maiden hair fern, black maiden hair/ Hamsapadi, Hanswati,Whole (Hanswati,	1			take out
Onychium contiguumFrondsFronds are used to treat urinary tract diseases.Onychium japonicumCarrot fernPlantsIt is used to treat skin diseases, fever, and headache.Cheilanthes bicolorSilver fern/ Kali sankaRhizomeRhizome used in fever and as tonic.Cheilanthes albomargina taLip fernRhizomeRhizome used in fever and as tonic.Adiantum philippensWalking maiden hair fern, black maiden hair/ Hamspadi, Hanswati,WholeIt is used as divertion, diarrhoea and				
Onychium contiguumFrondsBoils.Onychium contiguumFrondsFronds are used to treat urinary tract diseases.Onychium japonicumCarrot fernPlantsIt is used to treat skin diseases, fever, and headache.Cheilanthes bicolorSilver fern/ Kali sankaRhizomeRhizome used in fever and as tonic.Cheilanthes albomargina taLip fernRhizomeRhizome is used in stomach ulcer, Stomach diseases, cuts and wounds.Adiantum philippensWalking maiden hair fern, black maiden hair/ Hamsapadi, Hanswati,WholeIt is used as diverter, and bicelor				
contiguumto treat urinary tract diseases.Onychium japonicumCarrot fernPlantsIt is used to treat skin diseases, fever, and headache.Cheilanthes bicolorSilver fern/ Kali sankaRhizome to in fever and as tonic.Rhizome used in fever and as tonic.Cheilanthes albomargina taLip fernRhizome tonic.Rhizome used in fever and as tonic.Adiantum philippensWalking maiden hair fern, black maiden hair/ Hamspadi, Hanswati,Whole PlantIt is used as divertion, and disorders, and and disorders, and disorders, and disorders, and and and disorders, and disorders, and disorders, and and disorders, and disorders, and disorders, and and disorders, and and disorders, and disorders, and and disorders, and disorders, and disorders, and and disorders, and and disorders, and and disorders, and and and disorders, and and				
contiguumto treat urinary tract diseases.Onychium japonicumCarrot fernPlantsIt is used to treat skin diseases, fever, and headache.Cheilanthes bicolorSilver fern/ Kali sankaRhizome to in fever and as tonic.Rhizome used in fever and as tonic.Cheilanthes albomargina taLip fernRhizome tonic.Rhizome used in fever and as tonic.Adiantum philippensWalking maiden hair fern, black maiden hair/ Hamspadi, Hanswati,Whole PlantIt is used as divertion, and disorders, and and disorders, and disorders, and disorders, and and and disorders, and disorders, and disorders, and and disorders, and disorders, and disorders, and and disorders, and and disorders, and disorders, and and disorders, and disorders, and disorders, and and disorders, and and disorders, and and disorders, and and and disorders, and and	0 1:		<b>F</b> 1	<b>F</b> 1 1
Onychium japonicumCarrot fernPlantsIt is used to treat skin diseases, fever, and headache.Cheilanthes bicolorSilver fern/ Kali sankaRhizome treat sankaRhizome tonic.Cheilanthes bicolorLip fernRhizome tonic.Rhizome is used in fever and as tonic.Cheilanthes albomargina taLip fernRhizome tonic.Rhizome is used in stomach ulcer, Stomach disorders, diseases, cuts and wounds.Adiantum philippensWalking maiden hair fern, black maiden hair/ Hamsapadi, Hanswati,Whole to treat dysentery,asth ma, indigestion, diarrhoea and	-		Fronds	
Onychium japonicumCarrot fernPlantsIt is used to treat skin diseases, fever, and headache.Cheilanthes bicolorSilver fern/ Kali sankaRhizomeRhizome used in fever and as tonic.Cheilanthes albomargina taLip fernRhizomeRhizome is used in stomach ulcer, Stomach disorders, diseases, cuts and wounds.Adiantum philippensWalking maiden hair fern, black maiden hair/ Hamsapadi, Hanswati,WholeIt is used as used in stomach disorders, diseases, cuts and maiden hair/ disorhoe and	contiguant			•
japonicumInternationInternationjaponicumInternationtreat skin diseases, fever, and headache.Cheilanthes bicolorSilver fern/ Kali sankaRhizomeRhizome used in fever and as tonic.Cheilanthes albomargina taLip fernRhizomeRhizome is used in stomach ulcer, Stomach disorders, diseases, cuts and wounds.Adiantum philippensWalking maiden hair fern, black maiden hair/ Hamsapadi, Hanswati,WholeIt is used as divertion, diarrhoea and				
Cheilanthes bicolorSilver fern/ Kali sankaRhizome RhizomeRhizome used in fever and as tonic.Cheilanthes albomargina taLip fernRhizomeRhizome is used in stomach ulcer, Stomach disorders, diseases, cuts and kandAdiantum philippensWalking fern, black maiden hair/ Hamsapadi, Hanswati,Whole PlantIt is used as divertion, it is used to treat dysentery, asth ma, indigestion, diarrhoea and		Carrot fern	Plants	
Cheilanthes bicolorSilver fern/ Kali sankaRhizome RhizomeRhizome used in fever and as tonic.Cheilanthes albomargina taLip fernRhizomeRhizome is used in stomach ulcer, Stomach disorders, diseases, cuts and wounds.Adiantum philippensWalking fern, black maiden hair/ Hamsapadi, Hanswati,WholeIt is used as divertion, and used in stomach ulcer, Stomach disorders, diseases, cuts and wounds.	заропісит			
bicolorKali sankain fever and as tonic.Cheilanthes albomargina taLip fernRhizomeRhizomeis usedin stomach ulcer, Stomach ulcer, disorders, diseases, cuts andAdiantum philippensWalking fern, black maiden hair/ Hamsapadi, Hanswati,WholeIt is used as used to treat dysentery,asth ma, indigestion, diarrhoea and				and headache.
sankatonic.Cheilanthes albomarginaLip fernRhizomeis usedtaLip fernRhizomeis usedtaStomach ulcer, StomachLip fernStomach ulcer, disorders, diseases, cuts andAdiantumWalkingWholeIt is used as maiden hair fern, blackPhilippensmaiden hair/ Hamsapadi, Hanswati,Plantdiuretic, it is used to treat dysentery,asth ma, indigestion, diarrhoea and			Rhizome	
Cheilanthes albomargina taLip fernRhizomeRhizomeis usedtaLip fernRhizomeis usedin stomach ulcer, Stomach disorders, diseases, cuts and wounds.Adiantum philippensWalking maiden hair fern, black maiden hair/ Hamsapadi, Hanswati,WholeIt is used as used to treat dysentery,asth ma, indigestion, diarrhoea	bicolor			
albomargina tausedin stomach ulcer, Stomach disorders, diseases, cuts and wounds.Adiantum philippensWalking maiden hair fern, black maiden hair/ Hamsapadi, Hanswati,Whole PlantIt is used as diuretic, it is used to treat dysentery,asth ma, indigestion, diarrhoea and	Cheilanthes		Rhizome	
Adiantum philippensWalking maiden hair fern, black Maisenden hair/ Hamsapadi, Hanswati,Whole PlantIt is used as diuretic, it is used to treat dysentery,asth ma, indigestion, diarrhoea and		*		used in
Adiantum philippensWalking maiden hair fern, black maiden hair/ Hamsapadi, Hanswati,Whole PlantIt is used as diuretic, it is used to treat dysentery,asth ma, indigestion, diarrhoea and	ta			,
Adiantum philippensWalking maiden hair fern, black maiden hair/ Hamsapadi, Hanswati,Whole PlantIt is used as diuretic, it is used to treat dysentery,asth ma, indigestion, diarrhoea and				
Adiantum     Walking     Whole     It is used as       philippens     maiden hair     Plant     diuretic, it is       fern, black     used to treat       maiden hair/     dysentery,asth       Hamsapadi,     ma, indigestion,       Hanswati,     diarrhoea and				· · · · · · · · · · · · · · · · · · ·
Adiantum philippensWalking maiden hair fern, black Hamsapadi, Hanswati,Whole PlantIt is used as diuretic, it is used to treat dysentery,asth ma, indigestion, diarrhoea and				and
philippensmaiden hair fern, blackPlantdiuretic, it is used to treat dysentery,asth ma, indigestion, diarrhoea and	Adiantum	Walking	Whole	
fern, black used to treat maiden hair/ dysentery,asth Hamsapadi, ma, indigestion, Hanswati, diarrhoea and				
Hamsapadi, Hanswati, diarrhoea and				
Hanswati, diarrhoea and				

	1		
Adiantum		Whole	It is used to treat,
lunulatum		plant	cough,
			indigestion,
			dysentery, ulcers,
			leprosy, asthma,
			fever, hair fall,
			urinary tract
			problems and
			nose bleeding.
Acrostichum	Leather fern,	Rhizome	Rhizome paste
aureum	Paku	and	is applied to
	fern,	Fronds	heal wounds and
	Mangrove		boils. It is also
	fern, etc		used as
			anthelmintic,
			vulnerary and
			bladder
			complaints.
			Fertile Frond
			is used for
			syphilitic ulcers
			in Borneo.
			They are also
			used as
			Antifungal agents
			0 0
Pteridium	Eagle fern	Rhizome	The Rhizome
aquilinum			of this plant
			is astringent,
			anthelmintic and
			it is useful to
			treat diarrhoea.
			It is also useful
			in treating
			gastric and
			intestinal mucus
			problems.

Medicinal value of pteridophytes is known to man from more than 2000 years. Theophrastus and Pedanius Dioscorides have referred to medicinal attributes of certain pteridophytes long back. Although North American studies of Pteridophytes are still quite limited, much research is being done in Asia to understand their medicinal uses to humans. For example, a study from China identified the Pteridophytes families of Pteridaceae, Polipodiaceae and Adiantaceae as having significant medicinal activity. In addition, an ethnobotanical paper from Bangladesh describes 16 Pteridophyte species linked to human consumption as food, medicine or both.

Pteridophytes are also used by physicians in Unani system of medicine. In the traditional Chinese system of medicine, several medicinal Pteridophytes are recommended by native doctors. They are used to heal wounds, cuts, burns, blisters, ulcers, dermal problems, boils, headaches, sores, bruise, body pain, knee pain, joint pain, therapeutic pain, etc.

In [11] it is revealed that out of 414 species of Pteridophytes, 219 at risk, of which 160 critically endangered, 82 near-threatened and 113 rare species. Pteridophytes of political India, are threatened or rare there. According to [12] between one third and a half of

Indian Pteridophyte-species appear to be under threat or rare. It therefore appears that a considerable decline has occurred since that time, the main cause of which is undoubtedly the ever-increasing level of deforestation throughout the region. Approximately 15% (16-17%) or one sixth of Indian Pteridophyte species are critically endangered and thus very rare species which are very seldom seen.

Recent efforts to improve the representation of plant species included on the IUCN Red List of Threatened Species through the IUCN Sampled Red List Index (SRLI) for Plants have led to the assessment of almost 1000 additional species of Pteridophytes under IUCN Red List criteria [12].

#### 3. Current context of pteridophytes in India

Threat Analysis: Numbers and percentages of species of Pteridophytes assessed as threatened for the IUCN Sampled Red List Index (SRLI) for Plants.

Threat	Number of species threatened	% of species threatened
Agriculture	97	62
Logging	30	19
Livestock	26	17
Development	17	11
Plantations	9	6
Mining	8	5
Disturbance	7	4
Invasive species	6	4
Natural disasters	6	4
Species dynamics	6	4
Intrinsic biology	3	2
Harvesting	1	1
Pollution	1	1

The following tables gives an overview of Current status of the different species of Pteridophytes in India.

		Current
Species	Location	Status
Arthromeris	Andrapradesh	At Risk
notholaenoides		
Asplenium		
exiguum	Tamilnadu :Nilgiri	At Risk
Asplenium	EastAP;,Meghalaya:Khasi	
khasianum	hills	At Risk
Asplenium		
rivulare	DeccanPeninsula	Very Rare
Athyrium	Uttarakhand:Nainital,Pith	
kumaonicum	oragarh	Very Rare
	Rajasthan:Aravali Ranges;	
Athyrium	Deccan Peninsula:	
parasnathense	Central Highlands	
	Kerala:Malabar; Goa:	
	Dudhsagar;Karnataka:	
Bolbitis	CastleRock,Shimoga,Coo	
presliana	rg	Very Rare
	Kerala:Malabar;	
Bolbitis	TN:Anamalais; Kerala:	
semicordata	Munnar	Very Rare

Bolbitis		
subcrenatoides	Kerala:Malabar:	
	Karnataka:Chikmagalur	
Cyathea	Nicobar Islands: Camorta,	
albosetacea	Kotchall	Vulnerable
Cyathea		
gamblei	Sikkim;Assam	
Cyathea		
nicobarica	NicobarIslands	
	Karnataka:Coorg,Hassan,	
	Kodagu; TN:Nilgiri,	
	Anamalais, Palni, Shevroy	
	hills;	
Cyathea	Kerala:Munnar,Travancor	
nilgirensis	ehills; MP	Endangered
Dryopsis	TN:Anamalais,Palnihills,	
scabrosa	Nilgiri	
	TN:Shevaroyhills(probabl	
Dryopteris	yextinct), Nilgiri	Very Rare
austroindica		
Dryopteris		
khullarii	Uttarakhand:	
Dryopteris		
odontoloma	Anamalais, Nilgiri	Very Rare

#### 4. Conclusions

Based on field-observations of different authors, data from herbarium-collections, and published literature an appraisal of rare and threatened pteridophytes of political India, classifying species into different categories, has been made. Observations from literature survey reveal that populations of 13 species have been decreased to a critical level and they are at a very high risk. Slight disturbance in their habitat can lead to their total extinction. Eight species are thought to be "very rare" and are liable to be in peril if contiguous steps are not taken to stop the devastation of their habitats. In India more than 1000 species of pteridophytes have been reported, which comprise 67 families and 191 genera. Out of those 414 species are listed as threatened plants. So it is suggested that a comprehensive analysis is still required to be undertaken to re-evaluate the taxonomy and status of endemic pteridophytes.

#### 5. References

[1] Basu A K, Mandal S, "Plant Morphology", First edition, ISBN, Morphology of Pteridophytes, Pp 175-176.

[2] Benjamin A, Manickan V S, "Medicinal pteridophytes from Western Ghats", Indian Journal

[3] Chadha J, Chander, Kumar B "Endemic Pteridophytes of India: Distribution and Threat Status".January 2008, https://www.researchgate.net/publication/316684783.

[4] Fraser-Jenkins S C C R, Kumari A, Srivastava A, "A Summary of the Status of Threatened Pteridophytes of India", Taiwania, 53(2): 170-209, 2008.

[5] Ghosh A K, Hait G,Bhattacharya K, "A Textbook of Botany", Vol 1, ISBN, Pteridophytes.

[6] Ghosh M, Chunari S S, "An ecological survey and ethnobotanical study of four epiphytic pteridophytes of Hooghly district in West Bengal", International Journal of Applied and Pure Science and Agriculture (IJAPSA), Volume 01, Issue 12, December 2015. [7] Kanwar S, Verma S K, "Medicinal Pteridophytes Used in Treatment of Various Diseases by the Inhabilitants of Sarkaghat Tehsil, Mandi district, Himachal Pradesh", Journal of Pharmaceutical Sciences and Research, Vol12(3), 2020.

[8] Parihar L, Parihar P, "Some Pteridophytes of medicinal importance from Rajasthan", Vol 5(4), July-August 2006.

[9] Rani A, Singh C,Kishore K, Chauhan N, Singh R, "Ethnobotanical and pharmacological studies of pteridophytes (ferns) from Mussoorie region, Dehradun district, Uttarakhand", International Journal of Botany studies, Vol 6, Issue 6, 2021.

[10] Singh B S, Singh M P, Dey S, "Plant Biodiversity and Taxonomy", ISBN, Pteridophytes, Pp 207.

[11] Singh M P, Mohanka R, "Textbook of Botany", ISBN, Vol 3, Pteridophytea, Pp683.

[12] Sureshkumar J, Silambarasan R, Bharati K A, Krupa J, Amalraj S, Ayyanar M, "A review on ethnomedicinally important pteridophytes of India", Elsevier Journal of Ethnopharmacology, Volume 219, 12 June 2018, Pages 269-287.

[13] Vigila A V G, Feng S, Zhang S Z, Liao W, Baskaran X R "A review of the use of pteridophytes for treating human ailments", Journal of Zhejiang University- SCIENCE B (Biomedicine & Biotechnology) 2018-19 (2).