

A Report on Ethnomedicinal Plants used by Gujjar-Bakarwal Tribes of Some Parts of Pir Panjal Himalayas of District Rajouri (J & K), India

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Abstract The present communication is based on some medicinal plants of Dist Rajouri of Jammu province. The study is based on the extensive and intensive field surveys made during different months on medicinal plants of Pir Panjal range of Himalayas. The present study led to documentation of 29 plants species belonging to 21 families reported by local (Tribal peoples) Gujjar-bakarwal practitioners for the treatment of different ailments. The information provided by the Gujjar and Bakarwal Tribes to the author includes local name (in Gojjri), habitat, parts use, used against and brief preparation of the reported plant. A comprehensive account is presented in the present work.

Keywords Medicinal plants, Tribal peoples, Local used, Dist Rajouri Pir Panjal range, Himalayas region (J & K).

Introduction

The past few decades have witnessed pioneer works in identification, documentation and recognition of traditional medicine, in India. Investigation of traditional medicine is very important for the welfare of rural and tribal communities for the treatment of several ailments. The medicinal plants documentation of tribal health system will be a great advantage to pharmacologists to develop economical and herbal medicines for the treatment of several diseases and ailments. Medicinal plants play a key role in the developed world and advancement of modern studies on them has contributed to the health care system. Information from ethnic groups or indigenous traditional medicines has played a vital role in the discovery of novel products from plants as chemotherapeutic agents. The vision of directorate of Indian system of medicine (Ayush) is Herbs for all health for all and their mission is to promote and propagate Ayurveda system of medicines in J & K to restore their pristine glory. All of the medicinal plants possess active chemical constituent in many parts like, roots, stems, leaves, barks and seeds. These produce a definite curing physiological response in the treatments of various ailments in human. The world health organization (WHO) estimates that 80% of the population living in rural areas in developing countries depend on traditional medicine for their health care needs (WHO, AFR/RC50/9, 2000). The traditional practitioners are playing an important role in providing health cover-

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age to 75% of the population residing in villages and rural areas. Maximum tribal peoples mainly depend on forest products for fulfilling their daily needs such as food, fodder, fuel, medicine. Ethno botany of district Rajouri with special reference to its medicinal use of plants species has been previously published by many researchers (Rashid and Anand 2008, Pant and Verma 2008, Rashid et al. 2007, 2013, Rashid 2012, 2013, Mahmood and Kadam 2012, Mahmood and Shah 2012, Shah et al. 2012, Azad and Bhat 2013, Shah et al. 2015). In the the Himalaya which is recognized as a global, biodiversity hotspot crucial taxonomic information about many of its regions is still not available. The state Jammu and Kashmir (J & K) in the western Himalaya in on such region which has been recognized as floristically under explored by the Botanical survey of India (Dar et al. 2014). The state is very rich in floristic diversity. Its flora has attracted the attention of many foreign and local botanist since the last about two centuries. Many of its plants are cited in the illustrious work of Hooker (1872-97) and Stewail (1972). The Rajouri and Poonch, however, are floristically the least surveyed Dist in the Jammu Province with scanty and scattered information available on their floras (Malik et al. 2010). To bridge this knowledge gap, the result of the plants surveys and collection from the Dist Rajouri of Pir Panjal range of Himalayas region of Jammu and Kashmir are consolidated in the present paper.

Study area and Gujjar-Bakarwal of medicinal plants of Pir Panjal range

The Rajouri District is located on the Southern

Table 1. Common non-communicable diseases among tribes and their biomedical terms.

Sl. No.	Ailments in tribal terms	Biomedical term	Ailments in tribal terms	Biomedical terms
1	Nakseer	Nose bleeding	Gurdaan Ko Dard	Kidney Disease
2	Passo So Gayo	Paralysis	Hadi Ma Dard	Bone Pain
3	Daddar	Ringworm	Jlab	Dysentary
4	Badhazmi/ Hezo	Indigestion	Sah Charhe	Asthma
5	Aphro Char Gayo	Flatulence	Suj Gayo/ Sout	Swelling
6	Chain Go Roug	Diabetes	Tut Gayo	Fracture
7	Joura Go Dard	Rheumatism	Phat Lag Gayo	Cut, Wound
8	Kabzi	Constipation		
9	Kan Ma Dard	Stomachache		
10	Dil Go Doro	Heart Attack		

Foothills of Pir Panjal range of Himalaya region in the state of Jammu and Kashmir. rajouri district represents a transition zone between the Subtropical-Jammu and the temperature Kashmir province. The Rajouri District is located at 32°57' to 33°34' N latitudes and 74°48' E longitudes (Fig.1). The Rajouri district is 7 tehsils, and 389 villages. Which cover a total area of 2,630 km², out of which forest constitute 1, 267 km² 48.17% forest are spread over 951 km² (56.81% Rajouri Dist is the south and occupied Kashmir (pok) in the west. Rajouri Dist comprises hilly area, tough terrain and the topography varies from gentle to moderate, yet some steep slopes does also occur. It consist of numerous hill, and small valleys of meandering books, with most population



Adiantum Capillus Veneris .Fig 01



Allium Cepa L.Fig.2



Asparagus racemosus Willd.Fig.3

Fig. 1. *Adiantum capillus Veneris* L. **Fig. 2.** *Allium cepa* L. **Fig. 3.** *Asparagus racemosus* Willd.

(about 96%) living in isolated villages the area had greater biodiversity and rich in water, resources the climate of the area of temperature heaving 3 season, namely; winter-October, to mid March, Summer-from mid-March to June and rainy season from July to September lot of peoples depends on traditional practitioners for the treatment of various disease. Author contacted the tribal people and discussed with him in local languages (Gojjri) and collected the information of medicinal plants. The present paper is the result of detailed field studies made during the floristic surveys conduct the Rajouri Poonch from 1987-1988-1993 and from 2008-2010 and again from 2012.

Materials and Methods

In the present investigation, focused was deliberated on medicinal plants which are used to treat different disease. The study was carried out by interviewing respondents w.e. f. October 2017 and July 2018. The study was carried out in some parts of Pir Panchal Himalayas of district Rajouri J & K, India. In which the respondents were old age women, men above 18 years of age. A total no. of 23 informants included 12 female 22 male and 8 traditional healers were interviewed. The knowledge gathered from the respondent was summarized collected data were also cross checked in different areas from local informants either by showing the plants specimen or telling local name in (Gojjri) to the informants to verify the authenticity of claims. Plants were collected in flowering and fruiting conditions and confirmed by using different herbaria and literature specimen were, dierd,

pressed, poisoned and mounted on herbarium sheets. Correct identified herbarium data were deposited in (Center of biodiversity studies, BGSBU Rajouri for future reference).

Results and Discussion

On the basis of information gathered from the local Gujjar and Bakarwal, Information was summarized. The result is enumerated in alphabetical order. The botanical name of each plants is followed by family, local name, uses, in (Gojjri) habit, part (s) used, status, and medicinal importance by the local tribal inhabit some parts of Pir Panjal Himalayas, J & K (Table 1).

1 . *Adiantum capillus Veneris* L. *(Fig. 1) Voucher Number : CBS0001 Family-Adiantaceae : Common name, Local name-Gauthier, Habit-Herb, Locality-Budhal, Parts used whole plant. Altitude 1100-2000m. Coordinates 33°22'16.6368"N-74°18'55.8216"E.

Uses

The local people used its paste mixed with curd to cure herpes. The powdered plant is applied for bruises.

2 . *Allium cepa* L *(Fig. 2) Voucher Number : CBS0002

Family-Liliaceae : Common name, Onion name-



Bergenia ciliata Haw. Fig. 4



Berberis lyceum Royle. Fig. 5



Cannabis sativa L. Fig. 6

Fig. 4 *Bergenia ciliata* Haw. Fig. 5. *Berberis lyceum* Royle. Fig. 6 *Cannabis sativa* L.

Paeyaz, Habit-Herb, Locality, Darhal, Part (s) used Bulb. Altitude 32°58'N-33°35'E. Coordinates 33°22'16.6368'N-74°18'55.8216'E.

Uses

The local people boils the bark and paste on tumour. Crushed bulb applied externally for boils. Crushed bulb mixed with mint is eaten for increasing appetite.

3. *Asparagus racemosus* Willd *(Fig. 3) Voucher Number : CBS0003

Family-Liliaceae : Local name-Sanspai, Habit-Shrub, Locality-Sankari, Part (s) used roots. Altitude 1300—1400m. Coordinates 33°22'16.6368'N-74°18'55.8216'E.

Uses

The roots are bitter, sweet, emollient, cooling, nervine, tonic, treatment of constipation, stomachache, and tonic. Juice of chopped roots is given to relive liver problem and weakness.

4. *Bergenia ciliata* Haw. *Fig. 4 Voucher Number : CBS0004

Family-Saxifragaceae : Common name, Local name-Zakham-e aeyath, Habit-Herb, Locality-Budhal. Altitude 2000-2500m. Coordinates 33°15N,74°15'E-33°25'N,74.25'E.

Uses

The rhizome of the plant is dried and powdered which is used for quick wound healing. The juice of leaves is used as drops to relive earches. The root of the plants has a high reputation in indigenous system of medicines.

5. *Berberis lyceum* Royle. Fig. 5 Voucher Number : CBS0005

Family-Berberidaceae : Common name, Local name-Simloo, Habit-Shrub, Locality-Koteranka, Part (s) used—Roots , Stem, Bark. Altitude 600-2500m. Coordinates 33°22'16.6368'N-74°18'55.8216'E.

Uses

Stitching crampy, pains in urinadion with thick mucus and red sediments. The roots bark can used for wounds. The root possesses antibacterial properties and are useful for treating diarrhea.

6. *Cannabis sativa* L. *Fig. 6 Voucher Number : CBS0006

Family-Cannabaceae : Common name, Local name-Bhang, Habit-Herb, Locality-Darhal, Part (s) used, Fruits leaves. Altitude 2300m. Coordinates 33°22'16.6368'N-74°18'55.8216'E.

Uses

The poultice is applied over the anus for one month to treat piles. The young inflorescence and leaves are the source of resinous material. The chars which contain cannabinioid alkaloids and is used smoke for hallucination purpose.

7. *Cinnamomum tamala* (Buch Ham.) Fig. 7 Voucher Number : CBS0007

Family- Lauraceae : Common name, Local name-Dalchini, Habit-Tree, Locality-Kurhad, Parts used, whole plants. Altitude 450-2100m. Coordinates 33°22'16.6368'N-74°18'55.8216'E.

Uses

Almost every part of the plant tree use for medicine. Dalchini benefits to reduce and maintain constant weight. Regularly smelling of Cinnamomum help to boost the cognitive ability and memory of brain.

8. *Cucumis sativus* L. *Fig. 8 Voucher Number : CBS0008

Family-Curcubitaceae : Common name, Local name-Kakri-kheera, Habit-Herb, Locality-Kurhad. Part used. Altitude 1000-2000m. Coordinates 33°22'16.6368'N-74°18'55.8216'E.

Uses



Cinnamomum tamala Fig.7



Cucumis sativus L.Fig.8



Carica Papaya L.Fig.9

Fig. 7. *Cinnamomum tamala* Fig. 8. *Cucumis sativus* L. Fig. 9. *Carica papaya* L.

The fruits are sweet, refrigerant, hemostatic, diuretic and tonic, and are useful in vitiated conditions of pitta, burning, sensation.

9. *Carica papaya* L. *Fig. 9 Voucher Number : CBS0009

Family-Caricaceae : Common name—Papaya tree, Local name-Pappetaa, Habit-Tree, Locality-Mehra, Parts used– Fruit. Altitude-coordinates.

Uses

It is useful in round worm infestation stomachalgia, dyspepsia; the juice of this fruit is used for constipation. The latex is used for skin disease.

10. *Equisetum debile* Roxb. *Fig. 10. Voucher Number : CBS0010

Family-Equisetaceae : Common name, Local name-Tarutkaah, Habit-Herb, Locality–Darhal, Parts used–Whole plants. Altitude 2000-4500m. Coordinates 33°22'16.6368'N–74°18'55.8216'E.

Uses

The local people prepare juice by whole plants and use it as diuretic. The Juice of the plant act as diuretic. The Juice extracted from the plant is given to the person who is suffering from hand burning.

11. *Litsea glutinosa* Lour *Fig. 11 Voucher Number

: CBS0012

Family-Lauraceae : Common name, Local name -Meda Sak, Habit Tree, Locality-Kurhad, Parts used-Stem, Bark. Altitude 500-1900m. Coordinates 33°22'16.6368'N-74°18'55.8216'E.

Uses

(1) The bark powder is aphrodisiac is recommended of after 50 year ages peoples, (2) Crushed stem bark is used as external application in case of sprains, (3) Bark is used for the fracture.

12. *Momordica charanita* L. Fig. 12 . Voucher Number : CBS0012

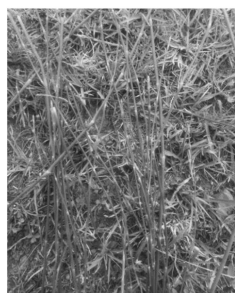
Family-Cucurbitaceae : Common name, Bitter gourd, Local Name-Kerala, Habit-Herbs, Locality-Ujhan, Parts used-Fruits. Altitude 1700-1615m. Coordinates 33°22'16.6368'N-74°18'55.8216'E.

Uses

Fruit used to treat leprosy and malignant ulcers to treat stomach worms, fever and phlegm, hypertension, dysentery and diabetes.

13. *Nerium indicum* Mill. *Fig. 13 Voucher Number : CBS0013

Family-Apocynaceae : Common name, Local name-Gandilo, Habit-Shrub, Locality-BGSBU, Part used– Flowers roots, Bark-leaves. Altitude, Coordinates.



Equisetum debile Roxb. Fig. 10



Litsea glutinosa Lour. Fig. 11



Momordica charantia L. Fig. 12



Nerium indicum Mill. Fig. 13



Punica granatum L. Fig. 14



Persicaria amplexicaulis (D. Don) Fig. 15

Fig. 10. *Equisetum debile* Roxb. Fig. 11. *Litsea glutinosa* Lou. Fig. 12. *Momordica charantia* L. Fig. 13. *Nerium indicum* Mill. Fig. 14. *Punica granatum* L. Fig. 15. *Persicaria amplexicaulis* (D. Don).

Uses

The leaves are power full repellent and are used for scabies. The root bark is very specific for ringworm. The roots are bitter, acrid, astringent febrifuge and diuretic.

14. *Punica granatum* L. *Fig. 14. Voucher Number : CBS0014

Family-Puniaceae : Common name Pomegranate. Local name Daruna, Habit-Tree, Locality-Kurhad, Parts used- Fruit, Leaves. Altitude 470-4750. Coordinates 33°22'16.6368''N-74°18'55.8216''E.

Uses

The locals peoples use the juice of the fruit to treat jaundice. The rind of the fruit is ground in water and drunk every morning by diabetic. The local peoples

prepare juice by seeds and used its syphilis.

15. *Persicaria amplexicaulis* (D. Don) Fig. 15 Voucher Number : CBS0015

Family-Polygonaceae : Common name, Local name-Masloon, Habit-Herb, Locality-Nangathoob, Parts used-Roots. Altitude 3000m. Coordinates 33°22'16.6368'' N -74°18'55.8216'' E.

Uses

The local peoples use it for treatment to cure fever. Dried Rhizomes is used for making tea. The local peoples used as a tea and tonic.

16. *Phyllanthus emblica* L. *Fig. 16 Voucher Number : CBS0016

Family-Phyllanthaceae : Common name, Local



Phyllanthus emblica L.fig.16



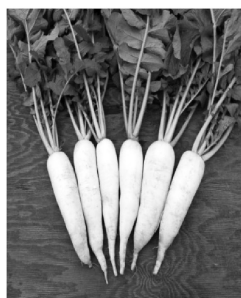
Rumex patertia Fig.17



Rumex hastatus D.Don*Fig18



Ricinus communis L.Fig.19



Raphanus Sativus L.Fig.20



Solanum melongena L.Fig. 21



Solanum surattense Dunal.Fig.22



Skimmia laureola Franch Fig.23



Solanum-Nigrum L. Fig.24

Fig. 16. *Phyllanthus emblica* L. **Fig. 17.** *Rumex patertia* L. **Fig. 18** *Rumex hastatus* D. Don. **Fig. 19.** *Ricinus communis* L. **Fig.20** *Raphanus sativus* L. **Fig. 21.** *Solanum melongena* L. **Fig. 22.** *Solanum surattense* Dunal **Fig. 23.** *Skimmia laureola* Franch. **Fig. 24.** *Solanum nigrum* L.

name Amla, Habit-Tree, Locality-Kotedhara, Parts used Fruits. Altitude 1000-1800m. Coordinates 33°22'16.6368"N-74°18'55.8216"E.

Uses

Crushed leaves is applied on minor cut to stop bleeding. Tribal people of Dist Rajouri used amla (karee with launch and dinner. Peoples used the fruit powdered to control the cough.

17. *Rumex patertia* L. *Fig. 17. Voucher Number : CBS0017

Family-Polygonaceae : Common name, Local name-Hulla, Habit-Herb, Locality-Marghan, Parts used-Roots, Leaves. Altitude 1100-2000m. Coordinates 33°22'16.6368"N-74°18'55.8216"E.

Uses

The local peoples use the leaves in vegetable. An

infusion of the root and leaves used in the treatment of constipation. The local peoples boil the bark, leaves & paste on the tumors.

18. *Rumex hastatus* D. Don *Fig. 18 Voucher Number : CBS 0018

Family-Polygonaceae : Common name, Local name, Khatti Buti, Khatimal, Habit Herb, Locality Marghan Part used Roots, Leaves. Altitude 1100-2000m. Coordinates 33°22'16.6368"N-74°18'55.8216"E.

Uses

The leaf extract of plants are applied on wounds and cut to check bleeding. The leaves of *Rumex hastatus* used the local people on the constipation. Plant is also believed to reduce from suffering of nettle sting.

19. *Ricinus communis* L. *Fig. 19 Voucher Number: CBS0019

Family-Euphorbiaceae : Common name, Castrol oil plants. Local name, Habit-Shrub, Locality Kotedhara, Parts used-Seeds. Altitude 500-800m. Coordinates 33°22'16.6368"N-74°18'55.8216"E.

Uses

Seeds oil is used as a Purgative an infusion of bark is used to treat skin inflammations and rashes. A drink of the juice in water is taken to treat breast tumours and boils.

20. *Raphanus sativus* L. *Fig. 20 Voucher Number : 0020

Family-Brassicaceae : Common name, Local name, Mulli, Habit Herb, Locality Palma. Altitude 915 m. Coordinates 33°22'16.6368"N-74°18'55.8216"E.

Uses

The peoples used as Slaadh the local peoples used the sap for skin infection in ayurveda. It is used as diuretic, carminative and a digestive. The flowers are cholagogue.

21. *Solanum melongena* L. *Fig. 21 Voucher Number : 0021

Family-Solanaceae : Common name, Local name Pathaa, Habit Herb, Locality, Palma, Part used Fruits. Altitude 915m to, 3000ft. Coordinates 33°22'16.6368"N-74°18'55.8216"E.

Uses

The root are laxative, analgesic and cardiotoxic, and are useful inflammations, cardiac debility and ulcer in the nose. The leaves are Sialagogue, narcotic and antiherpetic, and are useful in cholera, odontalgia and fever. The unripe fruits are bitter, acrid, sweet, cardiotoxic and hematinic.

22. *Solanum surattense* Dunal. *Fig. 22 Voucher Number : CBS0022

Family-Solanaceae : Common name, Local name Mookri, Habit Herb, Locality Darhal, Parts used-Whole plants, Leaves Fruit seeds. Altitude 2, 300m. Coordinates 33°22'16.6368"N-74°18'55.8216"E.

Uses

The tribal peoples used the sap of mookri leaves and applied on head prevents hair fall and removes dandruff. *Solanum surattense* kill the worms in the intestine. It reduce the pain from the body and joints while taken with black pepper.

23. *Skimmia laureola* Franch *Fig. 23 Voucher Number : CBS0023

Family-Rutaceae : Common name, Local name Patlo, Habit-Herb, Locality-Nangathob, Parts used-Leaves, Bark. Altitude 3000m-4500m. Coordinates 33.55N74.38E.

Uses

The leaf are used in the treatment of small box. The smoke produce by running them is said to purify the air. Three the leaves are Aromatic.

24. *Solanum nigrum* L. *Fig. 24 Voucher Number :

CBS0025

Family-Solanaceae : Common name, Local name, kaach maach, Habit-Herb, Locality-BGSBU, Parts used-Leaves Fruit Seeds. Altitude 3500m. Coordinates 33°22'16.6368"N-74°18'55.8216"E.

Uses

Leaves are boiled and given internally for throat pain. For postnatal care, fruit decoction is given to check bleeding after delivery. Powdered seed is kept in dental cavity to treat toothache.

25. *Vitex negundo* L. *Fig. 25 Voucher Number : CBS00025

Family-Verbenaceae : Common name, Local name-Baana, Habit-Shrub, Locality, Dodaj, Parts used-Leafs, Bark. Altitude 1500m. Coordinates 33°22'16.6368"N-74°18'55.8126"E.

Uses

Crushed leaves are applied on cuts. Tender leaves are chewed to treat tongue sores. Tribal peoples maximum handful of leaves. Lukewarm leaf juice is use are ear drops to treat earache.

26. *Vitis Jacquemontii* L. *Fig. 26 Voucher Number : CBS0026

Family-Vitaceae : Common name, Local name-Daakh, Habit-Shrub, Locality-Kurhad, Parts used-Fruit, Sap. Altitude 2400-4400m. Coordinates 33°22'16.6368''N-74°18'55.8216''E.

Uses

The tribal peoples used the sap of young branches as remedy for skin disease. Sap of the plant is given against foot and hand burning. Sap is used for chest pan.



Vitex Negundo L.Fig.25



Vitis Jacquemontii Fig.26



Sapindus mukorossi L.Fig 27



Zanthoxylem armatum Dc.Fig.28



Ziziphus mauritiana Lam.Fig 29

Fig. 25. *Vitex negundo* L. Fig. 26. *Vitis jacquemontii* L. Fig. 27. *Sapindus mukorossi* L.
Fig. 28. *Zanthoxylem armatum* Dc. Fig. 29. *Ziziphus mauritiana* Lam.

27. *Sapindus mukorossi* L. *Fig. 27 Voucher Number : CBS0027

Family -Sapindaceae : name, Local name-Raetha, Habit-Tree, Locality BGSBU, Parts used-Fruit, Leaves. Altitude 4000-4800m. Coordinates 33°22'16.6368'N-74°18'55.8216'E.

Uses

The local peoples used the fruit as, detergent-substitute for Soap and Shampoo. They are good for asthma, diarrhea, Cholera. The root and bark are expectorant and demulcent.

28. *Zanthoxylem armatum* Dc. *Fig. 28 Voucher Number : CBS 0028

Family-Rutaceae : Common name, Local name-Timber, Habit-Shrub, Locality-Dodaj, Parts used-Stem, Bark, Fruit, Seeds. Altitude 1000-1800m. Coordinates 33°22'16.6368'N-74°18'55.8216'E.

Uses

The local peoples used the fruit for chutney. Stem bark is used for tooth paste. It is also used for low blood pressure. Externally it may be used as stimulation.

29. *Ziziphus mauritiana* Lam. *Fig. 29 Voucher Number : CBS0029

Family-Rhamnaceae : Common name, Local name-Beri, Habit-Tree, Locality-Sankari, Parts used-Leaves, Fruits Seeds> Altitude 3000m. Coordinates 33°22'16.6368'N-74°18'55.8216'E.

Uses

The roots are bitter, Cooling anodyne and tonic and are useful in vitiated conditions of Pitta, fever, wounds and ulcers and Cephalalgia. The seeds are acrid, sweet, astringent, Soporific, and tonic. Photographs of some medicinal shrub of Rajouri District some parts of Pir Panchal range of Himalayas (J & K) India are given above (Figs. 25—29).

Conclusion

In the present investigation 29 medicinal plants species use to treat different disease were reported. The use of these plants to treat various illness is still needed by the communities, because of the poor tribal and rural peoples condition the cost and a difficult access to allopathic medicines, the majority of the reported species are wild and rare. These demand urgent attention to conserve, such vital resources so as to optimize their use in primary health care system. Now a day, conservation of traditional knowledge is greatly menaced by a lot of factor related to modernization of the region and lack of interest in traditional healers, in transferring it to next generation. It is therefore urgent to save the cultural heritage of the natives, by confirming the therapeutically used plants local name with scientific criteria. In this context screening for active substance and testing their activities against of different disease causing organism from an interesting subject for the future studies.

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