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Preliminary Notes on the Field Survey of Medicinal Plants
in the Annapurna Conservation Area, Nepal

—Plant Survey ranging from Phedi to Dhampus and around Dhampus Village—

Motoyasu Minami¹⁾, Osamu Iida²⁾ Akihito Takano³⁾ Purusotam BASNET⁴⁾
and Kuber Jung MALLA⁵⁾

- 1) Department of Environmental Biology, College of Bioscience & Biotechnology, Chubu University, 1200 Matsumoto-cho, Kasugai, Aichi 487-8501, Japan
- 2) Tsukuba Medicinal Plant Research Station, National Institute of Hygienic Sciences, Ministry of Health and Welfare, 1 Hachimandai, Tsukuba, Ibaraki 305-0843, Japan
- 3) Medicinal Plant garden, Showa Pharmaceutical University, Machida, 194-8543. Tokyo, Japan
- 4) The School of Pharmaceutical and Biomedical Sciences, Pokhara University, P.O. Box. 427, Pokhara, Nepal
- 5) Department of Plant Resources, Thapathali, Kathmandu, Nepal

Key words : Medicinal Plant, Annapurna Conservation Area, Nepal**Introduction**

A Himalayan country, the Kingdom of Nepal, is situated on the southern slopes of central Himalayas and lies between China to the north and India to the east, south, and west. High mountains and wavy hills occupy about 83 percent of its land, and the remaining 17 percent is the flatlands of Terai. The altitude varies from some 60 m above the sea level in Terai to 8,848 m of Mt. Everest, which is the highest point of the world. Wide altitudinal variation makes the great diversity in the flora; dense tropical monsoon forests in Terai, deciduous and coniferous forests of subtropical and temperate regions, and subalpine and alpine pastures and snow covered Himalayan peaks. Regardless of its small country area, Nepal is composed of varied ecosystems and habitat types, which in turn indicate that various natural resources are found in Nepal. In particular, plant resources are in abundance and of remarkable varieties because vegetation varies according to the elevation. Moreover, the floral diversity shows unique characteristics. It is one of the richest floras in the world as far as the diversity of angiosperms and gymnosperms is concerned. Koba *et al.* (1994) enumerates angiosperms and gymnosperms of Nepal belonging to 213 families,

1,496 genera, 5,833 species, 174 subspecies, 486 varieties and 44 forma. It is noteworthy that, out of about 410 angiospermic families in the world, 230 families (about 50 percent) are found in Nepal. On a worldwide scale, Nepal is the 31st country of floral richness (WCMC, 1994). It is surprising that Nepal contains about 7,000 plant species, and among them almost 700 is assumed to be of medicinal values (Basnet, 2003). Medicinal plants growing in the hilly and Himalayan regions are endemic and of great importance from economical views. Herbal medicines and cosmetics have gained growing popularity both within the country and abroad.

Blessed with extraordinary Annapurna Himal beauty, the Pokhara valley is the second major tourist destination after Kathmandu. The city of Pokhara, known as a center of mountaineering, is situated at an altitude of 827m above sea level and 200 km west of the Kathmandu valley. The enchanting city with a population of around 95,000 has several beautiful lakes and offers stunning panoramic views of Himalayan mountains. North of Pokhara, Nepal's spectacular diversity appears at its finest. The deep valleys and high mountains encircling the giant Annapurna Himal embrace a wide range of peoples and terrain, from subtropical

jungle to a high, dry landscape resembling the Tibetan plateau. This is the most popular trekking region. Pokhara is part of a once vibrant trade route extending between India and Tibet. To this day, mule trains bring goods to trade from remote regions of the Annapurna Conservation Area (ACA). In ACA, more than 12,000 people of various ethnic groups (predominated by Gurung and Magars) inhabit 59 villages referred to as Development Communities. Most of the inhabitants are native farmers, dependent on the natural resources of the area, and maintain their lives under traditional management systems (Bajracharya, 1995). Medicinal plants growing in ACA are endemic and of great economical importance. However, many of such plants have never been academically investigated as medicinal resources; identification, chemical analysis, or biological activities.

The southern slope of Annapurna is one of the areas in Nepal that experiences a large amount of rainfall (approx. 5000 mm per year). The area is endowed with diverse climatic conditions that support rich flora (1226 spp). Dhampus village, located in the southern part of ACA, is an accessible village from Pokhara central. Bus or taxi services are available from Pokhara to Phedi, and a 2 to 3 hours' walk brings you to Dhampus via Phedi-Pokhari.

To gather information from local people about the worthiness of plants and how to use them, we conducted a field survey along the trekking route from Phedi to Dhampus and around Dhampus Village during August 21 to 23, 2003. The aims of this short trek survey were to focus on the distribution of some plants for medicine and cosmetic resources in the southern part of ACA, and to share the knowledge between Nepal and Japanese researchers.

Methods of Field Survey from Phedi to Dhampus

1. Date and Area of Field Survey from Phedi to Dhampus

1) Phedi to Dhampus (August 21, 2003)

1-1) Around bus stop on Phedi (1198 m, 28° 29' N; 83° 87' E)

1-2) Walking up the valley from Phedi (1198 m,

28° 29' N; 83° 87' E) to the first point of trekking route (1420 m, 28° 29' N; 83° 87'): moist areas in evergreen oak forests, moist crevices, and marshy areas at the margin of deciduous forests.

1-3) From the first point to the second point of the trekking route (1575 m, 28° 29' N; 83° 86' E): pine forests and the margin of deciduous forests.

1-4) From the second point of trekking route to Pokhari (1723 m, 28° 30' N; 83° 86' E): stony roads along terraced paddy fields, moist crevices, and marshy areas at the margin of deciduous forests.

1-5) From Pokhari to Dhaulagiri View Hotel, Dampus (1795 m, 28° 30' N; 83° 85' E): stony road in villages and marshy areas at the margin of deciduous forests.

2) Dhampus (August 22, 2003)

2-1) On the hill behind Dhaulagiri View Hotel (1873 m, 28° 30' N; 83° 84' E): exposed slopes, terraced field, and the margin of deciduous forests.

2-2) From Dhaulagiri View Hotel to Annapurna Development Co. Ltd. (1690 m, 28° 31' N; 83° 84' E): crevices of stonewalls and terraced fields.

2. Methods of Plant Survey

In the vicinity of main viewpoints or resting points along the trekking routes, we observed the morphology and took photographs of various flowering or seeding plants, and recorded the geographical data such as altitude, latitude, and longitude.

3. List of Vascular Plants

The scientific names of plant species were identified according to "Flower of the Himalaya" (Polunin, O. and Stainton, A., 1984) and "Flowers of the Himalaya, A Supplement" (Stainton, A., 1988), and were arranged alphabetically (Table 1). Their vernacular names in Nepali and Gurung, and the Japanese genus names (if any) are also given. Data obtained for medicinal plants are described in four informative categories; medical use, organs to be used, preparation methods, and ways of

administration (Manandhar, N. P., 2002). The voucher specimens are deposited in the Department of Environmental Biology, College of Bioscience & Biotechnology, Chubu University, Japan.

Results of Plant Survey

In our plant survey ranging from Phedi to Dhampus and around Dhampus village, we collected a total of 93 species (including 19 no-identified species), and among them, 49 species (ca. 66.2%) were known as medicinal. The medicinal plants with known way of use or with assumed pharmacological effects are listed in Table 1, though the list may not cover the entire medicinal species. Despite the short survey period, we obtained a wide variety of plant species. In particular, medicinal plants were in abundance and of remarkable varieties. The 49 species of medicinal plants were used as folk medicine through 112 preparation methods. Plants with medicinal effects for wound (or cut) were the most common (24.1%), followed by burn (12.0%), diarrhea (12.0%), dysentery (12.0%), gastric disorder (12.0%), headache (12.0%), fever (10.8%), and indigestion (9.6%). Some of the species were common with those reported in the surrounding countries; 22 with China, 9 with India, 2 with Kashmir & Ladakh area, and 6 with Japan. The organ of the plants that was used most often for medicinal purpose was the whole plant (32.4%), followed by root (28.8%), and leaf (18.0%).

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Table 1 List of Plants in the Annapurna Conservation Area, Nepal

Scientific Name	Vernacular Names	Medicine	Collecting locations	Other countries ¹⁾
<i>Pteridophyta</i>				
<i>Lycopodiaceae</i>				
<i>Lycopodium clavatum</i>	Ban mala, Lahare jhyu, Nagbeli (NPL) Khajuri, Maisindur (GRG) Club moss (ENG)	Spore: diuretic, antispasmodic, rheumatism. Spore paste: wound, crack and fissure	1-5	A, C, J
<i>Spermatophyta</i>				
<i>Gymnospermae</i>				
<i>Equisetaceae</i>				
<i>Equisetum diffusum</i>	Aankhle jhar, Harjor, Kurkure jhar, Simdhungri, Sime jhar, Talche jhar, Talgoji (NPL) Kurkure no, Miduchhi, Mithu (GRG) Horsetail (ENG)	Ash of plant: treat burn and scab Juice of plant: treat sprain and dislocation of bone Plant paste: remedy for whitlow Juice of root: fever, urinary trouble and indigestion	1-1	
<i>Pinaceae</i>				
<i>Pinus roxburghii</i>	Aule salla, Jumlo salla, Rani salla, Salla dhup (NPL) Siuri (GRG) Chir pine (ENG)	Resin: healing of cut and wound, gastric trouble	1-3	
<i>Angiospermae</i>				
<i>Dicotyledoneae</i>				
<i>Acanthaceae</i>				
<i>Thunbergia fragrans</i>			1-2	
<i>Balsaminaceae</i>				
<i>Impatiens stenantha</i>			2-1	
<i>Impatiens urticifolia</i>			1-2	
<i>Begoniaceae</i>				
<i>Begonia picta</i>	Magarkanche (NPL) Kyubro, kyumru, Namkimro (GRG)	Juice of plant: headache Crushed leaves: sore nipples Juice of root: treat conjunctivitis, peptic ulcer	1-2, 2-1	
<i>Boraginaceae</i>				
<i>Cynoglossum glochidiatum</i>	Bhende kuro, Kanike kuro, Masine kuro (NPL)	Juice of plant: applied to cut, wound, burn and stop vomiting in infant Water extraction of leaf: burning sensation of insect bite Paste of leaf: wounds between the toe caused by walking barefooted in muddy water	2-1	
<i>Campanulaceae</i>				
<i>Campanula pallida</i>	Ganobuti, Majari (NPL) Kati (Gurung)	Juice of root: diarrhea and dysentery	2-1	
<i>Codonopsis affinis</i>			2-1	
<i>Cannabaceae</i>				
<i>Cannabis sativa</i>	Bhang, Bhango, Charas, Ganja (NPL) Ganja (GRG) Hemp, Marijuana, Soft hemp (ENG)	Juice of leaf: diarrhea and dysentery Paste of leaf: cut and wound Seed: anthelmintic	1-1	A, C, J, K

1) A: Ayurveda (India), C: China, J: Japan, K: Kashmir & Ladakh

Scientific Name	Vernacular Names	Medicine	Collecting locations	Other countries ¹⁾
<i>Caprifoliaceae</i>				
<i>Viburnum erubescens</i>	Ban chulo, Bhamar, Chilam kath, Ganamane, narga, Nyage, Purkhe kath (NPL)	Juice of root: cough	2-1	
<i>Viburnum mullaha</i>	Chhyonde, Gneko, Mhenko, Narko (GRG) Kanda malau, Mahelo, Malagiri, Maler, Malewa, Malyo, Molo, Narko (NPL) Aasingra dhun, Aasinkra (GRG)	Fruit: stimulant Juice of fruit: indigestion	1-4, 2-1	
<i>Caryophyllaceae</i>				
<i>Stellaria media</i>	Armale jhar (NPL)	Paste of plant: plaster for broken bone and swelling	2-1	C, J
<i>Cesneriaceae</i>				
<i>Chirita pumila</i>	-	-	1-4, 2-1, 2-2	
<i>Chenopodiaceae</i>				
<i>Chenopodium sp.</i>	-	-	2-1	
<i>Compositae</i>				
<i>Ageratum houstonianum</i>	Gandhe jhar, Nilo gandhe (NPL)	Juice of plant: cut and wound	1-1	
<i>Anaphalis contorta</i>	Bhuko, Buki phul (NPL) Taptap, Napta (GRG)	Paste of plant: caught and cold Paste of root: wound and boil	1-4	
<i>Anaphalis sp.</i>	-	-	1-4	
<i>Artemisia dubia</i>	Titepati (NPL)	Decoct of plant juice: apply to forehead to treat headache Juice of leaf: fever and gastric trouble, cough and cold	2-1	C
<i>Bidens picta</i>	-	-	2-1	
<i>Cremanthodium sp.</i>	-	-	2-1	
<i>Eupatorium adenophorum</i>	Banmara, Banmasa (NPL) Crofton weed (ENG)	Juice of plant: minor cut and wound Juice of leaf: stanch bleeding wound, drop into eyes to treat insomnia Juice of root: fever Paste of young leaf: boil	1-1	
<i>Galinsoga parviflora</i>	Chitlange ghans, Gandhe jhar, Pire, Khara, Rato raunne, Taunne (NPL) Angale, Ankale, Tinno, Ririno (GRG)	Juice of plant: coagulate blood of fresh cut and wound	1-4	C
<i>noidentified</i>	-	-	2-1	
<i>Cucurbitaceae</i>				
<i>Mukia maderaspatana</i>	-	Decoction of root: flatulence and toothache	2-1	A
<i>noidentified</i>	-	-	2-1	
<i>Daphniphyllaceae</i>				
<i>Daphniphyllum himalense</i>	Chandan, Rachana, Rakta chandan (NPL) Jhaibal, Olachi (GRG)	Paste of wood: boil	2-1	
<i>Euphorbiaceae</i>				
<i>Euphorbia hirta</i>	Aankhle jhar, Chimphar jhar, Dudhe, Dudhe jhar, Jotane jhar, Ratango, Rhatulo, Kanguil (NPL) Chimphar jhar, Taleno (GRG) Asthma weed, Garden spurge, Pill-bearing spurge, Snake weed (ENG)	Paste of root: treat dislocated bone and snakebite Smoke of dried plant: inhale to treat asthma Plant: anthelmintic, laxative, and cooling properties and tonic Paste of plant: boil, deeply chapped skin and body pain Juice of plant: boil, cut, wound, skin disease, diarrhea, dysentery, asthma, bronchial infection, curb fever, relieve body pain and clear pus inside the infected ear Flower head: chewing fresh to relieve headache	2-1	A, C, J

1) A: Ayurveda (India), C: China, J: Japan, K: Kashmir & Ladakh

Scientific Name	Vernacular Names	Medicine	Collecting locations	Other countries ¹⁾
<i>Gentianaceae</i>				
<i>Swertia chirayita</i>	Chiraito, Tito (NPL)	Plant: tonic, stomachic, febrifuge and laxative	2-1	A
	Tento (GRG)	Decoction of plant: fever and headache		
	Chiretta (ENG)	Paste of plant: skin disease such eczema and pimple		
<i>Gesneriaceae</i>				
<i>Aeschynanthus parviflorus</i>	Thirjo (NPL)	Juice of plant: conceive for sterile women	1-2, 1-5	
		Powdered leaf: along with rice flour, relief from backache		
<i>Didymocarpus aromaticus</i>	Pakhanbhetta (NPL)		1-4, 2-1	
<i>Guttiferae</i>				
<i>Hypericum oblongifolium</i>		Juice of leaf: antidote against snakebite	1-4, 2-1	
<i>Labiatae</i>				
<i>Elsholtzia blanda</i>	Ban silam (NPL)	Juice of plant: headache, cut and wound	2-1	C
	Tana (GRG)	Aroma of squeezed leaf: congestion of nostrils because of cough and cold		
<i>Scutellaria discolor</i>	Dampate, Nil pate, Parbata phul, Ratapate (NPL)	Juice of plant: wound between the toe caused by prolonged walking barefooted in muddy water during the rainy season, and in case of fever	1-4	C
	Ratopate (GRG)	Decoction of root: fever (mixed with leaves of <i>Cynodon dactylon</i> and <i>Justicia adhatoda</i>)		
	Skull cup (ENG)	Juice of root: treat indigestion and gastric trouble		
<i>Leguminosae</i>				
<i>Apios carnea</i>			2-1	
<i>Cassia sp.</i>			2-1	
<i>Crotalaria cytosoides</i>	Bakhre ghans, Silsile (NPL)		2-1	
<i>Desmodium confertum</i>	Bhatamase ghans, Bhatako, Bhatt (NPL)	Juice of plant: amebic dysentery	1-1	
		Juice of root: menstrual disorder and gastric trouble, and diarrhea and dysentery		
<i>Rhynchosia himalensis</i>	Ban bhata (NPL)	Paste of root: apply to the forehead to treat headache	2-1	
<i>Lentibulariaceae</i>				
<i>Utricularia aurea</i>	Sim ghans (NPL)	Powdered dried plant: put on cut and wound. Stanch the bleeding blood and also aids the healing	1-2, 1-4	
<i>Utricularia striatula</i>			1-2, 1-4, 1-5	
<i>Malvaceae</i>				
<i>Hibiscus syriacus</i>			3-1	C
<i>Urena lobata</i>	Bhere jhar, Bishmaro, Chiple, Dalle kuro, Katahare kuro, Kuro, Lise kuro, Nalu kuro (NPL)	Decoction of root powder: diarrhea and dysentery (with <i>Achyranthes aspera</i> and bark of <i>Psidium guajava</i>)	1-4	C
	Goya, Fusre pamale (GRG)	Paste of plant: treat skin disease and rheumatism		
	Aramina, Cadiillo (ENG)	Root: diuretic and colic		
		Juice of root: tonsillitis and dysentery		
		Paste of leaf: sprain and bruise		
		Juice of leaf: snakebite		
	Boiled juice of leaf: inflammation of intestine and bladder			
	Fresh flower: expectorant			
	Decoction of seed: vermifuge			

1) A: Ayurveda (India), C: China, J: Japan, K: Kashmir & Ladakh

Scientific Name	Vernacular Names	Medicine	Collecting locations	Other countries ¹⁾
<i>Melastomataceae</i>				
<i>Osbeckia nepalensis</i>	Angeri, Arbale, Chulsi, Galphule, Kali angeri, Late angeri, Sano angeri, Seto chulsi, Thoro angeri (NPL) Anger (GRG)	Juice of plant: indigestion and typhoid Juice of leaf: cut and wound	2-1, 3-2	
<i>Osbeckia stellata</i>	Angeri, Asare phul, Leto, Pagalya jhar, Phul pati, Rato chulsi, Shanirwar, Thulo chulesi (NPL) Paglya jhar (GRG)	Juice of root: diarrhea and dysentery Juice of plant: scabies	1-5, 2-1	
<i>Myrsinaceae</i>				
<i>Maesa chisia</i>	Bilauni, Kanige, Thinke (NPL) Chhotne, Chhyonre, Tushi (GRG)	Decoction of bark: anthelmintic Juice of bark: ringworm Paste of ripe fruit: scabies	2-1	
<i>Oleaceae</i>				
<i>Jasminum humile</i>	Jai phul, Lahare jai, Masino jai (NPL) Nepal jasmine, Yellow jasmine (ENG)	Juice of root: ringworm Paste of flower: intestinal problem	2-1	
<i>Polygonaceae</i>				
<i>Persicaria capitata</i>	Pire jhar, Pide, Ratnaulo (NPL) Khurseno, Maisoti phul (GRG)	Paste of plant: boil and wound Juice of plant: stomach disorder	2-1	
<i>Polygonum sp.</i>	-	-	1-4	
<i>Polygonum sp.</i>	-	-	1-4	
<i>Polygonum sp.</i>	-	-	1-4	
<i>Rosaceae</i>				
<i>Potentilla fulgens</i>	Bagajari, Bajra danti, Dantaman, Kanthamun, Mulapate, Panpate, Phosre (NPL) Hosre (GRG) Himalayan cinquefoil (ENG)	Juice of plant: stomachache, cough and cold Fresh root: chewing fresh root in case of cough and cold (Villagers of the districts of Rasuwa and Nuwakot) Powdered root: toothache and stomach disorder Juice of root: anthelmintic and peptic ulcer Juice of root: dysuria (with root juice of <i>Valeriana jatamansii</i>) Leaf: pyorrhea	2-1	C
<i>Rubiaceae</i>				
<i>Galium elegans</i>	Lahare kuro, Tinoei (NPL)	Juice of plant: cut and wound	1-4	
<i>Hedyotis corymbosa</i>	Piringo (NPL)	Juice of root: indigestion and apply to the forehead to relieve headache	2-1	A, C
<i>Hymenopogon parasiticus</i>	-	-	2-1	
<i>Rubia manjith</i>	Majitho, Tiro lahara (NPL) Indian madder (ENG)	Root: alterative, astringent and tonic Paste of stem: scorpion bite	2-1	
<i>Rubia sp.</i>	-	-	1-2	
<i>Rubia sp.</i>	-	-	2-1	
<i>noidentified</i>	-	-	2-1	

1) A: Ayurveda (India), C: China, J: Japan, K: Kashmir & Ladakh

Scientific Name	Vernacular Names	Medicine	Collecting locations	Other countries ¹⁾
<i>Rutaceae</i>				
<i>Boenninghausenia albiflora</i>	Dampate, Gwame jhar, Jhinga jhar, Jumalo, Jumarijhar, Jwane jhar, Karna, Kire jhar, Mauro malo, Uruse jhar, Upiyan jhar (NPL) Kopyanchhi, Makhamar, Min (GRG) Flea plant, White rue (ENG)	Juice of plant: apply to fresh cut to stop bleeding and help healing and apply to treat scabies Plant: keeping under the pillow while sleeping, in the belief that it relieves headache Infusion of plant: fever (mixing with water for bathing) Juice of leaf: dropping into wound to kill germ and applying to treat headache Paste of plant: relief from fever (mixing water for face washing) Squeezed leaf: pressing against the teeth for toothache	1-4	C
<i>Saururaceae</i>				
<i>Houttuynia cordata</i>	Ganaune jhar, Gande, Gane, Ban Bhande, Kukurpaile (NPL) Fishwort (ENG)	Juice of root: indigestion, skin disease, eye trouble	1-4, 2-1	C
<i>Scrophulariaceae</i>				
<i>Scrophularia urticifolia</i>	Bandar puchhare, Mokhi ghan (NPL)	Juice of leaf: boil and wound	1-2, 1-4	
<i>Mimulus nepalensis</i>			2-1	
<i>Solanaceae</i>				
<i>Solanum aculeatissimum</i>	Bhalkanda, Bhel, Dhalde, Indreni, Kalchauda kanda, Kanthakari, Thulo lunden (NPL) Golbhera puju, Saplnme (GRG)	Powdered fruit and root: swelling of gum and toothache Squeezed fruit: headache Seed: toothach and dental caries Squeezed seed: headache Paste of fruit: boil and pimple	1-1	C
<i>Solanum erianthum</i>			1-5	
<i>Umbelliferae</i>				
<i>Bupleurum hamiltonii</i>	Ban sampu, Jembir, Mariche ghans (NPL)		2-1	
<i>Urticaceae</i>				
<i>Elatostema sessile</i>	Gagaletto (NPL) Til (GRG)	Juice of root: stomachache and indigestion Paste of root: wound Paste of plant: septic wound	1-1, 1-2	
<i>Valerianaceae</i>				
<i>Valeriana hardwickii</i>	Nakli jatamansi (NPL) Valerian (ENG)	Root: bitter, stimulant, expectorant, carminative, diuretic, nerve tonic, epilepsy, hysteria, rheumatism and low blood pressure Pounded root or leaf: boil	2-1	C
<i>Vitaceae</i>				
<i>Vitis repanda</i>	Jhuleti (NPL)		2-1	
<i>Monocotyledoneae</i>				
<i>Araceae</i>				
<i>Arisaema sp.</i>			2-1	
<i>Arisaema sp.</i>			2-1	
<i>Gonatanthus pumilus</i>			1-4	
<i>noidentified</i>			2-1	

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Scientific Name	Vernacular Names	Medicine	Collecting locations	Other countries ¹⁾
<i>Commelinaceae</i>				
<i>Cyanotis tuberosa</i>	-	-	2-1	
<i>Cyanotis vaga</i>	-	-	2-1	C
<i>Cyperaceae</i>				
<i>Carex filicina</i>	-	-	2-1	
<i>Dioscoreaceae</i>				
<i>Dioscorea pentaphylla</i>	Chuinyan, Jagate Bhyakur, Tyaguno (NPL) Temen, Timi (GRG) Wild yam (ENG)	Juice of plant: boil	1-4	A
<i>Hypoxidaceae</i>				
<i>Curculigo orchioides</i>	Musali (NPL) Black musli (ENG)	Juice of root: diarrhea, dysentery, peptic ulcer, hemorrhoids, asthma, jaundice and gonorrhoea	2-1	A, C, J
<i>Hypoxis aurea</i>	-	-	2-1	C
<i>Liliaceae</i>				
<i>Asparagus racemosus</i>	Kuril, Satawari (NPL) Lahaitu, Pajothor, Pujutoro, Pustu (GRG) Wild asparagus (ENG)	Root: diuretic, demulcent, aphrodisiac, laxative, refrigerant, tonic, expectorant, galactagogue, astringent, antiseptic, alterative, appetite inducing, antidyenteric, antispasmodic, stomachic, and as a demulcent in veterinary medicine. Efficacious in preventing flatulence and to be good for bile. Roasted root: burning sensation during urination Powdered root: tonic Tuber: amenorrhea, diarrhea, dysentery, biliousness, kidney, liver trouble, throat complaint, epilepsy, rheumatism, dyspepsia, gonorrhoea, impotency Leaf: relieve night blindness Fruit: pimple	2-1	A, K
<i>Chlorophytum nepalense</i>	Ban pyaj (NPL) Kyaurino (GRG)	Paste of root: gout (mixed with mustard oil)	2-1	
<i>Polygonatum sp.</i>	-	-	2-1	
<i>Smilax ovalifolia</i>	Kukurdaino, Nadar (NPL)	-	1-4	
<i>Orchidaceae</i>				
<i>Anthogonium gracile</i>	-	-	2-1	
<i>Coelogyne sp.</i>	-	-	1-4	
<i>Herminum sp.</i>	-	-	2-1	
<i>Spiranthes sinensis</i>	-	-	2-1	C
<i>Thunia alba</i>	Chhade phul, Golaino (NPL)	Paste of plant: set dislocated bone	2-1	C
<i>Poaceae</i>				
<i>Oplismenus burmannii</i>	Ote ghans (NPL)	-	1-4	
<i>Zingiberaceae</i>				
<i>Alpina sp.</i>	-	-	1-4	
<i>Hedychium spicatum</i>	Pankha phul, Seto saro (NPL)	Juice of rhizome: fever	2-1	C, J
<i>Roscoea purpurea</i>	Bhordaya, Bhuin saro, Kokoli, Rasgari, Themni (NPL)	-	2-1	

1) A: Ayurveda (India), C: China, J: Japan, K: Kashmir & Ladakh

和 文 摘 要

ネパール王国・アンナプルナ自然保護地域(フェディからダンパス間)の 薬用植物調査(予稿)

南 基泰¹⁾・飯田 修²⁾・高野昭人³⁾・
プルソタム・バスネット⁴⁾・クベール・マラ⁵⁾

¹⁾ 中部大学応用生物学部・²⁾ 厚生労働省国立医薬品食品衛生研究所筑波薬用植物栽培試験場・
³⁾ 昭和薬科大学薬用植物園・⁴⁾ ネパール王国・ポカラ大学薬学部・⁵⁾ ネパール王国・植物資源局

ネパール王国・アンナプルナ自然保護地域は、薬用植物資源が豊富であるにも関わらず、これまで薬用植物の調査は行われてこなかった。そこで、日本側及びネパール側スタッフが合同で、2003年8月21日から23日の3日間をかけて、フェディからダンパスまでのトレッキングルート沿い、更にダンパス 村内(北緯28° 29' ; 東経83° 87', 標高1198—1873m)に生育する薬用植物の調査を行った。調査方法は、植物を採集し、押葉標本を作製後、種の同定を行った。採集された植物の内、薬用に用いられているものについては、薬効、薬用部位をあわせて文献調査を行った。今回は、非常に短期間で、狭い範囲の調査であったにも関わらず、93種類(内19種が種不明)が確認できた。種が特定できた74種の内、48種が薬用植物であることが確認でき、合計111種の処方用いられていることが明らかとなった。特に、傷(切り傷)(24.1%)、火傷(12.0%)、下痢(12.0%)、赤痢(12.0%)、胃の障害(12.0%)、頭痛(12.0%)、熱(10.8%) and 消化不良(9.6%)などの処方が多く用いられるものが多かった。

薬用部位は、全草(32.4%)、根(28.8%)、葉(18.0%)の順となった。アンナプルナ自然保護区内の薬用植物資源の持続可能な利用及び新規薬用植物資源の探索のために、より詳細な植物リストの作製が必須である。

キーワード：薬用植物、アンナプルナ自然保護地域、ネパール王国

Appendix 1



Photo 1 *Aeschynanthus parviflorus*



Photo 4 *Anthogonium gracile*



Photo 2 *Artemisia dubia*



Photo 5 *Begonia picta*

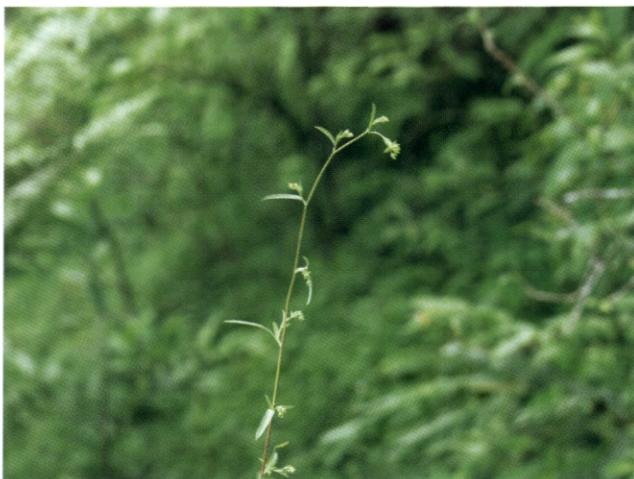


Photo 3 *Bupleurum hamiltonii*



Photo 6 *Cannabis sativa*

Appendix 2

Photo 7 *Chirita pumila*Photo 10 *Codonopsis affinis*Photo 8 *Didymocarpus aromaticus*Photo 11 *Hypericum choisianum*Photo 9 *Impatiens stenantha*Photo 12 *Impatiens urticifolia*

Appendix 3



Photo 13 *Lycopodium clavatum*



Photo 16 *Osbeckia nepalensis*



Photo 14 *Osbeckia stellata*



Photo 17 *Swertia chirayita*



Photo 15 *Thunia alba*



Photo 18 *Urticularia striatula*