

USEFUL PLANTS OF MANANG DISTRICT



A Contribution to the Ethnobotany
of the Nepal – Himalaya

Perdita Pohle

NEPAL RESEARCH CENTRE PUBLICATIONS

**EDITED BY
ALBRECHT WEZLER**

NO. 16



**FRANZ STEINER VERLAG WIESBADEN GMBH
STUTT GART**

1990

USEFUL PLANTS OF MANANG DISTRICT

A Contribution to the Ethnobotany of the Nepal – Himalaya

Perdita Pohle

Department of Geography
University of Giessen



FRANZ STEINER VERLAG WIESBADEN GMBH

STUTTGART

1990

CIP - Titelaufnahme der Deutschen Bibliothek

Pohle, Perdita :

Useful plants of Manang District : a contribution to the
ethnobotany of the Nepal - Himalaya / Perdita Pohle. - Stuttgart
: Steiner, 1990

(Nepal Research Centre publications ; No. 16)

ISBN 3-515-05743-9

NE: Nepal Research Centre<Kāthmāṇḍu>: Nepal Research Centre ...

ISBN 3-515-05743-9

All rights reserved.

No part of this publication may be reproduced, stored in a retrieval
system or transmitted in any form or by any means, electronic,
mechanical, photocopying, recording or otherwise, without the
permission of the publisher.

© 1990 by Franz Steiner Verlag Wiesbaden GmbH, Stuttgart

Printed by R. Stolper
Department of Geography
University of Giessen
Senckenbergstrasse 1

FOREWORD

The studies on useful plants of Manang District are based on field work carried out during a stay of several months in Manang District in 1984 and later sojourns in 1985. The material collected and presented here is intended to enrich the ethnobotanical knowledge of the Nepal Himalayas, especially that of the high-altitude and remote areas. Since the subject is an interdisciplinary one (inviting input from both the sciences and the humanities), my gratitude goes to specialists of varying fields. First of all I would like to thank Prof. Dr. W. Haffner, who encouraged the research throughout and from whose comprehensive geographical knowledge I greatly profited. Furthermore, my gratitude goes to Dr. N.P. Manandhar, whose detailed botanical knowledge was called upon when the time came to scientifically identify the plant species. Concerning the local names of plants, I am very grateful to the linguist Prof. Dr. R. Bielmeier, who freely gave of his time to transliterate and transcribe them. Of course, the research could not have been realized without the personal engagement of Nepalese friends and counterparts. I wish to express my sincere thanks to Norgyal Lama and Phuntsok Naktsang for acting throughout the years as interpreters. I am also deeply grateful to the people of Manang District, especially Bhu Jung Ghale, Wangdu Lama, Purba Nepali and Latar from Nyeshang, Ram Prasad and Pasang Namgyal from Gyasumdo, Lama Karma Sonam, Karma Thündup und Tsering Lagpa from Nar, for tirelessly sharing their knowledge with me. Thanks are also due to Philip Pierce for his masterful translation of the German original into English. Finally, I would like gratefully to acknowledge my indebtedness to Prof. Dr. B. Kölver, who provided many valuable suggestions and gave the financial support, and Prof. Dr. A. Wezler, the editor of the 'Publications of the Nepal Research Centre', who accepted this manuscript for publication.

Giessen, May 1990

Perdita Pohle

CONTENTS

	Page
Foreword	I
Contents	III
List of Figures	V
List of Plates and Indices	V
List of Abbreviations Used for Vernacular Plant Names	VI
 1. INTRODUCTION, AIMS AND METHODS	 1
2. THE RESEARCH AREA	3
3. VERNACULAR PLANT NAMES, THEIR TRANSLITERATION AND TRANSCRIPTION	9
3.1 On the Orthography of Plant Names	9
3.2 On the Folk Etymology of Plant Names	10
4. THE USE OF WILD PLANTS IN GYASUMDO	14
4.1 Medicinal Plants	14
4.2 Nutritive Plants and Narcotic-Producing Plants	17
4.3 Ritual Plants	20
4.4 Other Useful Plants	21
5. THE USE OF WILD PLANTS IN NYESHANG	23
5.1 Medicinal Plants	23
5.2 Nutritive Plants and Narcotic-Producing Plants	26
5.3 Ritual Plants	31
5.4 Other Useful Plants	33
6. THE USE OF WILD PLANTS IN NAR	35
6.1 Medicinal Plants	35
6.2 Nutritive Plants and Narcotic-Producing Plants	38
6.3 Ritual Plants	40
6.4 Other Useful Plants	41
7. RESULTS AND CONCLUSIONS	43
8. BIBLIOGRAPHY	48
APPENDIX	51
Plates	51
Index	59

LIST OF FIGURES

Fig. 1:	The location and natural differentiation of the Manang District.	4
Fig. 2:	The vegetation map of Manang District according to DOBREMEZ & JEST (1971, modified).	6
Fig. 3:	The use of wild plants in Manang District according to region and category.	44

LIST OF PLATES

Plate 1:	Around the village of Bagarchhap (2100 m) in Gyasumdo a subtropical vegetation predominates with oak forests (<i>Quercus semicarpifolia</i>) in a lower belt and conifers (<i>Picea smithiana</i> , <i>Tsuga dumosa</i>) in an upper belt (September 1984).	51
Plate 2:	In Nyeshang, the pine and juniper forests of the valley bottom and the southern slopes of the Marsyandi valley are largely cleared for cultivation and settlements (Manang 3500 m, September 1983).	52
Plate 3:	In Nar, the village of Nar-tö (4100 m) is situated above the timberline, where the steppe vegetation of the Tibetan Himalaya predominates (September 1984).	53
Plate 4:	Along with corn, roots of medicinal herbs (<i>Dactylorhiza hatagirea</i>) are dried on the roof of a house in Taje (Gyasumdo) before they are sold to Kathmandu (September 1984).	54
Plate 5:	In Nar-tö the abbot of the monastery, Lama Karma Sonam, was the best informed person on medicinal plants and their effects upon the human organism (September 1984).	55
Plate 6:	A young woman from Nar-tö pounding dzimbu (<i>Allium sp.</i>), which is sold during winter in Lamjung District (September 1984).	56
Plate 7:	A Manangi trader in Narayanghat selling medicinal herbs from Manang and India along with other goods (September 1983).	57
Plate 8:	Tibetans on a high-mountain pasture in Nyeshang drying šamē , a meat spice (<i>Pleurospermum hookeri</i>), and salt in front of their shelter (August 1984).	58

LIST OF INDICES

Index 1:	Botanical names of wild plants used in Gyasundo	59
Index 2:	Botanical names of wild plants used in Nyeshang	61
Index 3:	Botanical names of wild plants used in Nar	64

LIST OF ABBREVIATIONS USED FOR VERNACULAR PLANT NAMES

(G.)	=	Gurung	(Ny.)	=	Nyeshang
(Gy.)	=	Gyasumdo	(Nm.)	=	Nar-mä
(Tib.)	=	Tibetan	(Nt.)	=	Nar-tö
(Nep.)	=	Nepalese	(Sansk.)	=	Sanskrit

1. INTRODUCTION, AIMS AND METHODS

Knowledge concerning wild plants and their uses was up until a few generations ago an essential part of life for the inhabitants of Manang District¹. On the one hand, numerous plants served to supplement the alpine region's very limited food resources while on the other hand they were indispensable in the treatment of various diseases. Moreover, wild plants, particularly medicinal herbs, have for generations been counted among the most important trading products and in addition have had throughout a decisive role to play within the material culture as well as in the religious-ritual context. At present the empirical knowledge accumulated by experience and handed down over generations is in the process of dying out. As a result of the introduction of new plants for cultivation (e.g. potatoes, winter wheat, vegetables), the increasing distribution of chemical-based medicines (by the local health posts), the opening of markets to the products of "Western civilization" (aluminium and plastic ware etc.) and the improvement of the general economic situation, traditional plant lore is losing ever more of its significance (not only in Manang District). Running counter to this development, however, is the increased interest taken by various sciences (e.g. botany, pharmacology, ethnology, geography) in traditional folk wisdom, so that for a number of years now the attempt has been made to return to the sources of traditional plant lore in order to record and document the treasure of knowledge that still exists.

In recent years numerous lists of plants used for consumption, medication and narcotic stimulation, as fodder, timber and fuel, in rituals and for other purposes have been compiled in Nepal (cf. Bibliography). The intention, on one side, is to preserve traditional plant lore as a part of the cultural heritage while on the other side there is the expectation of deriving some commercial use from it. Thus there is little doubt that the discovery of a particularly valuable forage plant or the discovery and development of new plant-based raw materials for drugs which are able to enrich present-day therapeutic options are of great economic significance. The increasing interest in plant-based medicines, for example, is one of the reasons why folk medicine has drawn greater attention to itself in recent years. Up to now, however, chemical-pharmacological research into medicinal herbs has remained in Nepal - though not only here - in its infancy.

The two interests just mentioned, a) the cultural one, focussing on the incorporation of plants into the cultural context of an ethnic group, and b) the economic one, focussing on the commercial exploitation of the plants, are both anchored in the field of ethnobotany from the outset. Ethnobotanical investigations, for their part, have an old tradition, going

¹ The geographical names found in the text are spelled according to the 'SURVEY OF INDIA' (one inch to one mile); other names are spelled according to published conventions.

back to the discoverers of unknown continents, the first travelling researchers and missionaries. In those times the economic interest was clearly central with various plant species (e.g. maize, potatoes, tobacco) being exploited for agricultural farming. The investigations themselves were generally carried out by botanists, it being a botanist in fact, JOHN W. HARSHBERGER, who, at the end of the last century, introduced the term 'ethnobotany' (FORD, 1978:33 f.). For him and most of the botanists the questions and focus of ethnobotany were of a utilitarian nature, and the organization of the data followed scientific classifications. However, with the adoption of the term by anthropologists, also at the end of the last century, the focus changed to the native's point of view, and his rules and categories for ordering the universe (FORD, 1978:39). Within that context HOUGH in 1898 defined ethnobotany as "the study of plants in their relation to human culture" (cited in FORD, 1978:43). Attaching importance to mythological references and psychological motivations, he tried to go beyond the economic importance of plants and to investigate their religious significance and place in folklore. Although today the two perspectives are objects of two complementary disciplines, economic botany on the one hand and anthropology on the other, they traditionally belong to the field of ethnobotany, and according to JONES (1941), they should be combined under it. JONES stressed that ethnobotanical investigations should touch not only on the economic values of plants but also the entire range of relations that exist between human and plant populations (MESSER, 1978:137).

The tradition of ethnobotany will not be broken in the present investigation: both economically important as well as culturally significant plants of the Manang District are introduced with their local names and their respective uses. The aim of the survey was first and foremost to document the range of the local population's knowledge of native wild plants and the possibility of their exploitation. The intention was to draw up an inventory of generally uncultivated plants used in the Manang District; in it were to be contained their local names, the corresponding botanical names, a description of their habitats as well as the possibilities to process and use them. Of main interest were plants employable as medicines, foodstuffs and stimulants, plants used in rituals, and plants of miscellaneous uses, for example as fodder, fuel, timber, soap, dyes, fibres etc. In addition, clarification was sought concerning the significance the gathering of plants still has today for the inhabitants of Manang District, and the extent to which plant lore can be understood as the common property of all the people or only as the specialized knowledge of individual experts.

The survey was carried out in part with the help of local specialists - Tibetan doctors ("amjis"), priests ("lamas"), Gurung shamans - and in part with that of other villagers who possessed knowledge of plants. It took place in the monsoon period of 1984 and was extended during later sojourns (spring 1985). In order to check on the local names and uses, the plants were generally shown to several different persons, though uses could often be observed directly. The identification of the plants was accomplished in the herbarium at

Godavari in collaboration with the botanist N.P. MANANDHAR². The transliteration and transcription of the local names was undertaken together with the linguist R. BIELMEIER in Bonn. Plants were collected from the three regions of Manang District: Gyasumdo (2000 m - 3800 m), Nyeshang (3200 m - 4600 m) and Nar (3400 m - 4400 m). As these are inhabited by different ethnic groups, the survey was at the same time able to give an impression of the knowledge of plants among the Gurungs and Gyasumdopas from Gyasumdo, the Manangis from Nyeshang and the Narpas from Nar. Before, then, the use and significance of the plants are given in detail, some information should first be provided concerning the natural features of Manang District, its inhabitants and their economic activities as well as some general remarks on the orthography and folk etymology of the local plant names.

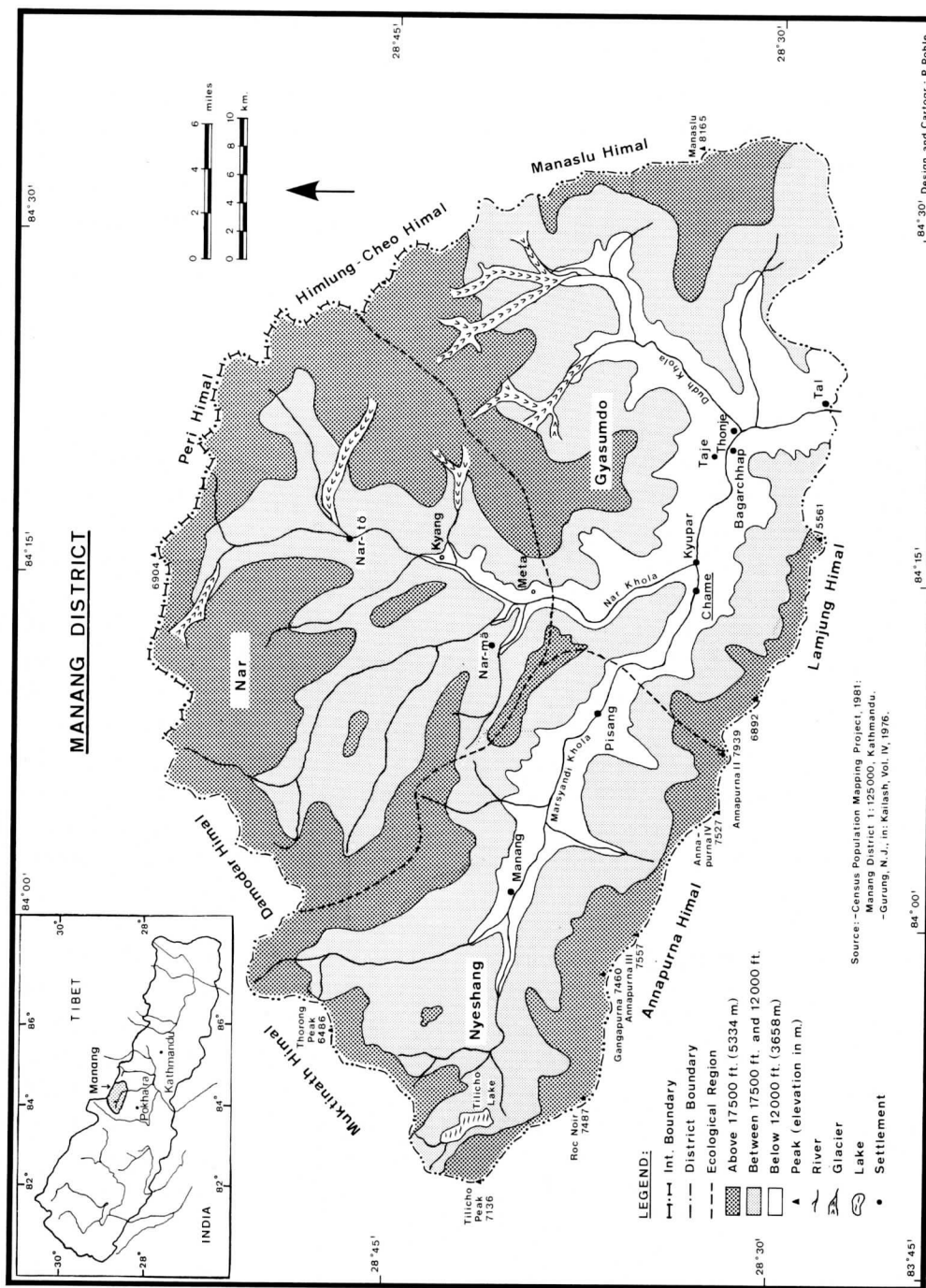
2. THE RESEARCH AREA

Manang District lies in the north-central part of Nepal (cf. fig. 1). Though it is an area delimited primarily according to administrative policy, it is also, from the natural point of view, sharply delimited from the surroundings by high mountain chains. To the south it is bounded by the main chain of the Himalaya, formed by Annapurna and Lamjung Himal, to the west by the mountain ranges of Damodar and Muktinath Himal, to the east by Manaslu Himal, while in the north Peri, Himlung and Cheo Himal at the same time form the border to Tibet. But the territory of the district is not only surrounded by high mountain chains, more than two thirds of the total surface area of approximately 2200 km² are occupied by high mountains. These are interrupted only by the main flow of the Marsyandi Khola, which together with its tributaries the Nar and Dudh Khola, drains the entire district area towards the south. In doing so the Marsyandi flows through the area north of Annapurna and Lamjung Himal in a longitudinal valley, extending from NW to SE, before it turns directly towards the south near the village of Thonje and subsequently breaks through the main chain of the Himalaya between Lamjung and Manaslu Himal in a steep and narrow gorge.

Due to the different geological and geomorphological conditions, various valley forms have been created along the river's course, and these have had a decisive influence on the settlement pattern and economic activities within the area. Thus in its upper reaches, in Nyeshang (3000 m - 3400 m), the relatively soft sediments of the Tibetan marginal synclinorium have been swept by glacial erosion into the form of a broad U-shaped valley, favourable to settlement and agriculture. With the onset of the crystalline roots of the main chain of the Himalaya in Gyasumdo (1600 m - 3000 m), however, the Marsyandi cuts deep into the harder rock formations. From here on a narrow V-shaped valley with huge

2 The botanical names are according to HMG (1976) and HARA et al. (1978, 1979, 1982).

Fig. 1: The location and natural differentiation of the Manang District.



differences between the valley floor (2750 m at Chame) and the mountain ridge (7939 m, Annapurna II), has been formed, which is particularly unfavourable to settlement and agriculture.

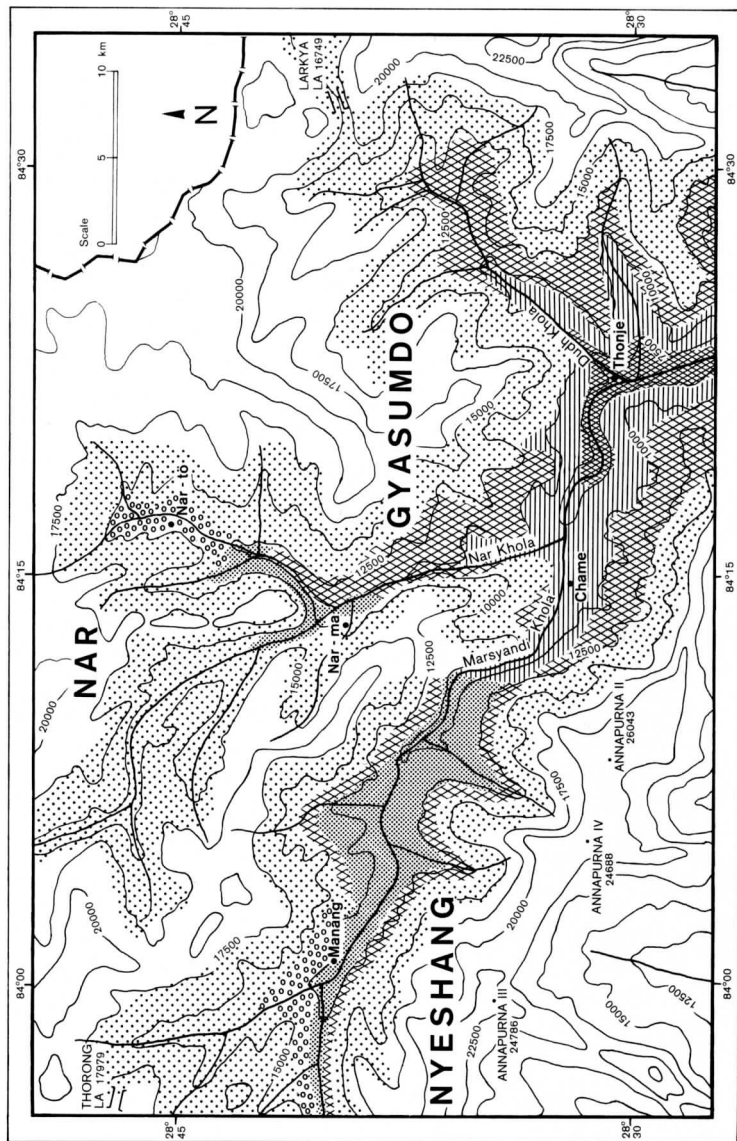
The extreme differences in height on the one hand and the opening of Manang District towards the south on the other are also reasons why the character of the landscape is subject to prominent change. The humid air masses of the summer monsoon approaching from the south are able to advance through the southerly open transverse valley of the Marsyandi Khola to the area behind the main chain of the Himalaya, which normally acts as a barrier. There they effect a transitional character of the landscape from the moist "Outer Himalaya" to the dry "Inner" and continental "Tibetan Himalaya" (cf. SCHWEINFURTH, 1957). At the same time, they form the basis for the territorial subdivision of Manang District into the regions of Gyasumdo, Nyeshang and Nar (cf. fig. 1). While Gyasumdo in the southeast of the district is still influenced by the summer monsoon, the regions of Nyeshang in the west and Nar in the north are barely within reach and, accordingly, have a drier climate. Thus the mean annual precipitation in Gyasumdo amounts to 908 mm (Chame station 1975-1984), whereas in Nyeshang it is only 442 mm (Manang station 1976-1984, cf. HMG, 1975-1984).

Corresponding to the climatic conditions there also occurs, with the decreasing influence of the monsoon and increasing altitude, a change in vegetation types from tropical-subtropical to temperate, xerophilous and alpine formations (cf. fig. 2). In Gyasumdo, where the humid air masses of the summer monsoon penetrate northwards through the Marsyandi gorge, there is still a relatively rich subtropical vegetation predominant, with dense oak and rhododendron forests in a lower belt and conifers (*Picea smithiana*, *Tsuga dumosa*) in an upper belt (cf. plate 1). In Nyeshang, *Picea* and *Tsuga* are replaced by pine forests (*Pinus wallichiana*) with an upper belt of firs (*Abies spectabilis*) and birches (*Betula utilis*). However, it is only the shady slopes of Annapurna Himal which still offer a relatively dense forest cover. The southerly exposed slopes of the Marsyandi valley now have only open pine and juniper forest (*Pinus wallichiana*, *Juniperus indica*), most of which has been cleared for cultivation and settlements (cf. plate 2). Large areas of Nar, by contrast, including the two main settlements of Nar-mä and Nar-tö³, are already situated above the timber line. Altitude and the increasing influence of the harsh continental climate allow only the steppe-vegetation of the Tibetan Himalaya (*Juniperus*, *Caragana*, *Berberis*, *Rosa*, etc.) to dominate here (cf. plate 3).

Also indicative of the alpine character of Manang District are the low population statistics. With a total population of 6422 (District Panchayat Chame 1982/83) and a population density of 3 inhabitants/km², Manang District is one of Nepal's most sparsely settled districts. This, however, is not all that surprising, as large areas remain uninhabited due to

3 The SURVEY OF INDIA refers to "Nar-mä" as "Nar" and to "Nar-tö" as "Phu".

Fig. 2: The vegetation map of Manang District according to DOBREMÉZ & JEST (1971, modified).



TEMPERATE MOUNTAIN FOREST

Rhododendron - oak forest
(Rhododendron arboreum, Quercus glauca,
Quercus semicarpifolia)

Spruce - Tsuga forest
(Picea smithiana, Tsuga dumosa,
Pinus wallichiana)

Rhododendron - fir - birch forest
(Abies speciosa, Betula utilis,
Rhododendron campanulatum)

XEROPHILOUS MOUNTAIN FOREST

Pine - juniper forest
(Pinus wallichiana, Juniperus indica)

HIGH MOUNTAIN STEPPE

Caragana steppe
(Caragana Gerardiana, Rosa sericea,
Berberis sp., Lonicera sp.)

ALPINE VEGETATION

Alpine shrub and meadows

feet meters

22500 6858

20000 6096

17500 5334

15000 4572

12500 3810

10000 3048

7500 2286

the high relief conditions. The settlements are predominantly concentrated along the Marsyandi valley, where they range in altitude from 1600 m to 3700 m. The highest settlements, however, lie in the region of Nar, at altitudes of 4100 m (Nar-tö) and 4200 m (Nar-mä).

Reflective of the varying natural conditions is the cultural situation, which itself by no means forms a unified whole. Thus, regarding the ethnic composition of the population only, there are as many as four different ethnic groups: the Gurungs, Gyasumdopas, Manangis and Narpas.

In Gyasumdo, approximately two thirds of the inhabitants - about 1300 persons - are Gurungs, a Tibeto-Burman ethnic group, the majority of whom is settled at middle-range altitudes on the southern slopes of Annapurna and Manaslu Himal. Similarly the Gurungs of Manang District today exclusively inhabit the middle-range altitudes of Gyasumdo, although the area previously settled by them is said to have extended far up into the upper Marsyandi valley.

Alongside the Gurungs, members of Tibetan ethnic origin have also taken up residence in Gyasumdo. Their ancestors came either from Mustang, Nubri, Kyirong (Tibet) or Sher (here the region of Langtang), and emigrated to Gyasumdo approximately five generations ago. Generally they are called "Gyasumdopas", "Lamas" or "Tibetans of Gyasumdo".

The inhabitants of Nyeshang are known under the names "Nyeshangpa", "Manangpa" or, more popularly, under the name "Manangi". In terms of numbers - approximately 3500 - they represent the largest ethnic group within Manang District. According to oral traditions their ancestors came originally from Tö-Ngari (sTod mNga'ris) in West Tibet, several centuries ago. They speak a Tibeto-Burman language closely related to Gurung, Tamang and Thakali (cf. GLOVER, 1969; MAZAUDON, 1978). Their religion, as in the case of the Gyasumdopas and Narpas, is Tantric Buddhism, in contrast to that of the Gurungs, the predominant majority of whom have become Hinduised.

The population of Nar-mä and Nar-tö, called Narpas, forms a small, local ethnic group. If one gives credence to the history of Nar-mä's settlement, the first inhabitants were emigrants from Bangba (Ngawal), a settlement in the Marsyandi valley of Nyeshang. Their language is also very similar to that of the Manangis, but unlike them they can also speak Tibetan fluently, and many can read and write Tibetan well.

Common to all four groups is the fact that they subsist economically on a combination of agriculture, animal husbandry and trade. In the individual cases, however, economic activities have developed along their own separate lines, depending upon the respective natural conditions on the one hand and decisions rooted in politics and history on the other (cf. POHLE, 1986).

Thus the main source of income for most of the Gurungs comes today from the cultivation of maize, barley and wheat, followed by animal husbandry (cows, sheep, goats) and an occasional trading in herbs. The Gyasumdopa families, by contrast, being immigrants, do not always possess land, and usually earn their livelihood by various trading ventures (e.g. in the newly resurgent border trade with Tibet, or in the trading of herbs in Kathmandu). To a certain extent, however, they also work as tenant farmers in the fields of the Gurungs or are engaged in the tourist business as owners of lodges and restaurants.

In the case of the Manangis, profound economic changes have come about during the last ten years. These have been stimulated by a strong interest in international trading ventures, with the consequence that many, predominantly young families, have left Manang to establish themselves in Kathmandu. It is estimated that more than one third of the population of Nyeshang has already emigrated (cf. POHLE, 1988). The families who have remained in Manang continue with the cultivation of buckwheat, wheat, barley and potatoes, but they can no longer do without the help of wage workers from Gorkha and Lamjung districts. The same is true for the herding of their goats, sheep, cattle and yaks, but the workers employed here, are mostly Tibetan refugee families.

The inhabitants of Nar, on the other hand, have scarcely altered their forms of economic activity for generations. They draw their main income from animal husbandry (yaks, goats, sheep, cattle), but they also cultivate barley and potatoes in irrigated fields and carry on small-scale trade in the lower altitudes during winter. Due to the very severe winter climate, the population migrates with its herds in December to winter quarters. Some people - predominantly the young - set off from there towards the south to exchange their trading products, such as yak wool, dried cheese, spices and herbs, for rice and other foodstuffs, either by barter or by way of cash. It is only in March that all the inhabitants return to Nar for sowing their fields.

In summary, then, the Gurungs from Gyasumdo represent a rural population group of long standing which lives on a subsistence economy, and which is culturally orientated partly towards Tibetan Buddhist traditions and partly towards Nepalese Hindu ones. The Gyasumdopas and Narpas, by contrast, are firmly rooted in the religious tradition of Buddhism and the cultural tradition of Tibet, though they differ significantly in their forms of economic activity, these being adapted to the respective local conditions. While for generations the Narpas have hardly changed their way of life and economic activities, being herdsmen and farmers during summer and traders in winter, the Gyasumdopas, being immigrants, were first forced to earn their livelihood from diverse trading ventures and only later were gradually able to invest the profit in land and livestock. The Manangis, on the other hand, have usually invested their considerable earnings from national and international trading ventures in the founding of a new life in Kathmandu or Pokhara, transforming, within a very short period of time, their way of life once adapted to the high mountain environment to one adapted to an urban setting today.

3. VERNACULAR PLANT NAMES, THEIR TRANSLITERATION AND TRANSCRIPTION

The problems in identifying and alphabetising plant names were related primarily to the great variety of languages and dialects spoken in Manang District. Thus, in Gyasumdo, both Gurung and Gyasumdo plant names, as well as Tibetan and Nepali ones, were in use. The Gyasumdo names derive from various Tibetan dialects⁴, though, for the sake of simplicity, they are here treated as Tibetan, while being marked separately. In Nyeshang, the local Nyeshang names predominated, but Tibetan names also existed. In Nar, there were even differences between the two main settlements of Nar-mä and Nar-tö, so that names from both dialects had to be registered. It is worth noting, however, that, local names aside, it was always the Central Tibetan plant names that were in use in all three regions, which indicates the firmly rooted nature of traditional plant lore in Tibetan culture, and particularly in the Tibetan science of plant pharmacology. The Gurungs, however, occupied an intermediate position; alongside their local names and the Tibetan names they also knew Nepali plant names to an equal extent. This can surely be explained on the one hand by their closer physical contact with the ethnically Nepalese groups, and on the other hand by the fact that people of Nepalese castes often come to Gyasumdo to purchase herbs, especially medicinal ones.

3.1 On the Orthography of Plant Names

The Nepali names were transliterated according to the system of TURNER (1965). The Tibetan and Gyasumdo names were reduced to phonetic script (see below) and, to the extent that a written form was obtainable, were transliterated according to JÄSCHKE (1980).

The transcription of Nyeshang, Nar and Gurung names was a complicated procedure, as these are unwritten Tibeto-Burman languages and dialects which, in the case of Nyeshang (Manang) and Nar, have hardly been studied (cf. MAZAUDON, 1978; HOSHI, 1984; NAGANO, 1984). While there is an accurate guide for Gurung (cf. GLOVER, 1969), it seemed more advisable, for reasons of clarity, to adapt it to the transcription of Nyeshang and Nar names. In general terms, a broad phonetic transcription was undertaken in which the various vowel quantities and tones are not marked. The following transcription rules apply:

4 Cf. Sec. 2 above, concerning the origin of the Tibetans from Gyasumdo; cf. also MUMFORD (1985).

ẽ	a tilde above vowels indicates nasalization;
p, t, k	are spoken, unlike in standard English, without aspiration;
ph, th, kh	h placed after these consonants designates strong aspiration;
ḍ, ṭ, ṭh	a dot under these consonants indicates retroflexive pronunciation, e.g. ḍ similar to the ḍ in English <u>dog</u> ;
ǰ	a voiced alveopalatal affricate, as j in English <u>John</u> ;
č	the unvoiced counterpart of ǰ ;
ts	an unvoiced dentoalveolar affricate, as z in German <u>Zucker</u> ;
dz	the voiced counterpart of ts ;
s/z	the distinction is made between an unvoiced s and its voiced counterpart, z ;
š/ž	the distinction is made analogously between an unvoiced š , as <u>sch</u> in German <u>Schule</u> , and its voiced counterpart, ž ;
ṇ	designates the velar nasal, as ng in English <u>long</u> ;
ñ	designates the palatal nasal, as ñ in Spanish <u>año</u> = year;

In the survey of Nyeshang names, one notices a certain proximity in the phonetic structure of Nyeshang to written Tibetan. Thus several examples point to the fact that consonant clusters at the beginning of a word in written Tibetan have in individual cases been preserved in the Nyeshang language. For example (**gro-ma**) from written Tibetan is pronounced today in Central Tibetan as **toma**, though in Nyeshang as **kroma** (*Potentilla fruticosa*). A further example from the realm of plant names is the term for buckwheat, the written Tibetan form of which (**bra-bo**) is pronounced **ḍawo** in Central Tibetan, and **pre** in Nyeshang. What is interesting then, is that, in their phonetic structure, a number of Nyeshang names are closer to written Tibetan than to the Central Tibetan forms. As Nyeshang is still largely uninvestigated, for the time being it cannot be determined whether these are old loan words from an archaic form of Tibetan, or whether the Nyeshang language has in general preserved an older phonetic inventory than Central Tibetan⁵.

3.2 On the Folk Etymology of Plant Names

Although the folk etymology of plant names could not always be explained, the attempt will be made here to undertake a classification of plant names on the basis of the given elucidations. It was, in fact, striking that in all three regions the plant name often describes the plant itself or some characteristic peculiarity. In other cases, the name refers to the plant's potential use or incorporates information concerning its habitat. This is made clear in the following examples:

⁵ A written communication from R. BIELMEIER. Cf. also BIELMEIER (1986).

a) Names that describe the plant:

Names describing the plant occur relatively often. They may highlight peculiarities and characteristic features of the plant, contain information concerning the colour of its flowers or leaves, refer to the appearance of particular parts, or describe either the plant or characteristic features by means of comparison to similar-looking objects.

yertsagumbu (Ny.), **yertsagumbu** (**dbyar-rtswa dgun-'bu**) (Tib.), **yer** (**dbyar**) ('summer'), **tsa** (**rtswa**) ('grass'), **gum** (**dgun**) ('winter'), **bu** ('bu') ('worm') = *Cordyceps sinensis*. The name 'summer-grass winter-worm' not only very accurately describes the appearance of this medical herb but also betrays a level of biological knowledge based on exact observation. The plant in this case is a parasitic mushroom (*Cordyceps sinensis*), which at the beginning of the monsoon period attacks a caterpillar (unidentified up to now) recently emerged from its cocoon. Whereas one can observe the caterpillar still alive in spring (winter-worm), it is no longer alive in autumn, at the time of picking. The part of the mushroom peeking out above the ground (*ophioglossum*) is at that time, in fact, hard to distinguish from the grass of the alpine pastures surrounding it (summer-grass) (cf. SACHERER, 1979:51 f.; LO BUE, 1981:96; HMG, 1982a:116).

poñkar (Ny., Nm., Nt.), **poñkar** (**boñ-dkar**) (Tib.) = *Aconitum violaceum*; **poñmar** (Gy., Ny.), **poñmar** (**boñ-dmar**) (Tib.) = *Aconitum* sp. The two *Aconitum* species are distinguished chromatically on the basis of a chemical process affecting their roots (cf. COBURN, 1984:81). If the root of **poñmar** is cut, the inside quickly becomes dark-red (**dmar-po**) (Tib.) ('red') by oxidation, whereas this process does not occur in the case of **poñkar** (**dkar-po**) (Tib.) ('white'), which retains its whitish colouration.

nyelbogbog (Nm.), **bogbog** ('leaping fruit') = *Impatiens* sp. This is a member of the touch-me-not plants (Balsaminaceae), whose ripe fruits explode upwards when their hull is touched.

ñolu (Nt.), **ñolu** (**sño-lo**) (Tib.), (**sño**) ('blue'), (**lo-ma**) ('leaf') = *Chenopodium album*. Here reference is made to the plant's strikingly light blue-green leaves.

phokirkir (G.), **kirkir** ('round') = *Cissampelos pareira*. In this case the round, heart-shaped leaves of the creeper are being referred to.

tuktser (Ny.), **tuktser** (**gdug-tsher**) (Tib.), **tuk** (**gdug**) ('damaging', 'dangerous'), **tser** (**tsher-ma**) ('thorn') = *Lonicera myrtilloides*. The name alludes to the dwarfish shrub's dangerously thorned branches.

serčenlugdu (Tib.), (**lug-ru ser-po**) (Tib.), (**lug-ru**) ('ram's horn'), (**ser-po**) ('yellow') = *Pedicularis longiflora* var. *tubiformis*. The upper lip of the yellow, bilabiate flower is bent like a ram's horn.

In addition, in all three regions plant names are frequently in use which refer with part of the name to the plant's membership in a particular plant category, such as:

tuñ (G.) ('tree'), in: **katutuñ** (G.) = *Juglans regia*, **ketuñ** (G.) = *Picea smithiana*;

šin (G., Ny., Nm., Nt., Gy.), **šin (šin)** (Tib.) ('wood', 'tree'), in: **toñsašin** (G.) = *Taxus wallichiana*, **thanšin** (Ny., Nt., Gy.) **thanšin (than-šin)** (Tib.) = *Pinus wallichiana*;

mendo (G., Ny., Nm., Nt., Gy.), **mendo (me-tog)** (Tib.) ('flowering plant') in: **šugumendo** (Gy.), **(šu-khu me-tog)** (Tib.) = *Daphne sp.*, **phazarmendo** (Ny.) = *Anaphalis nepalensis*;

či (Ny.) ('grass'), in: **ramči** (Ny.) = *Setaria pallide-fusca*;

tsema (Ny.) ('mushroom'), in: **phortsema** (Ny.) = (Fungus).

Often the characteristic parts of plants are highlighted in names, such as:

tser (Ny.), ('thorn') in: **tuktser** (Ny.) = *Lonicera myrtilloides*, **tserke** (Ny.) = *Hippophaë tibetana*;

palañ (Ny., G.) ('berry'), in: **syepalañ** (Ny.) = *Fragaria daltoniana*, **mapalañ** (G.) = *Rubus ellipticus*;

ro (Ny.) ('fruit'), in: **lañdañro** (Ny.) = *Scopolia straminifolia*.

A formative element such as **ta** (G.) ('root'), on the other hand, can be taken as a reference to the part of the plant that is used, as for example in: **tepta** (G.) = *Solanum nigrum*.

b) Names having a connection with use:

Names having a connection with a potential use likewise occur very frequently.

šamē (Ny.), **šamē (ša-sman)** (Tib.), **ša (ša)** ('meat'), **mē (sman)** ('spice') = *Pleurospermum hookeri*. The parts of the plant growing above the ground are used as a meat condiment.

tsyathuñ (G.), **tsya** ('tea'), **thuñ** ('to drink') = *Bidens pilosa*. The leaves and stalks are used to brew tea.

phutsitserma (Gy.), **(phu-se tsher-ma)** (Tib.), **phutsi (phu-se)** ('mouse'), **tserma (tsher-ma)** ('thorn') = *Caragana sp.* Food is protected from rodent consumption by the plant's thorny branches.

šugumendo (Gy.), **(šu-khu me-tog)** (Tib.), **šugu (šog-bu)** ('paper'), **mendo (me-tog)** ('flower') = *Daphne sp.* A flowering plant of which the branches were formerly used for producing paper.

Numerous plant names allude to particular categories of use. Thus plants yielding incense are often signalled by the nouns **pō** (G.), **bō** (Ny., Nt.), **pō** (**spos**) (Tib.) or **sañ** (G., Ny., Nm., Nt., Gy.), **sañ** (**bsañ**) (Tib.) ('incense'), as in: **nakpō** (G.), (**nag-spos**) (Tib.) = *Valeriana jatamansi*, **pañbō** (Ny., Nt.), **pañpō** (**span-spos**) (Tib.) = *Nardostachys jatamansi*, **pañsañ** (Ny.), (**span-bsañ**) (Tib.) = *Anaphalis contorta*. In Nyeshang, medicinal plant names may also exhibit the component **me** (Ny.) ('medicine'), as in: **šinme** (Ny.) = *Lactuca sp.*, **thüpmē** (Ny.) = *Elsholtzia eriostachya*.

c) Names referring to the habitat:

Names that contain information on the plant's habitat generally occurred in connection with plant descriptions or information concerning the use, such as:

pañrimendo (Ny.), **pañ** ('alpine meadow'), **ri** ('mountain'), **mendo** ('flower') = *Pterocephalus hookeri*. A flowering plant growing in alpine meadows.

pañsermendo (**span-dser me-tog**) (Tib.), **pañ** (**span**) ('alpine meadow'), **ser** (**dser-po**) ('yellow'), **mendo** (**me-tog**) ('flower') = *Potentilla fruticosa*. The yellow flowering cinquefoil is a typical dwarf shrub of alpine meadows.

pañbō (Ny., Nt.), **pañpō** (**span-spos**) (Tib.), **pañ** (**span**) ('meadow'), **pō** (**spos**) ('incense') = *Nardostachys jatamansi*. The root is sought after for use as incense. It is much esteemed not only on account of its aroma but also because of the ritual purity of its habitat (at high altitudes, far away from settlements and human-related impurities).

Thus it is seen that plant names can provide evidence that at least a traditionally differentiated knowledge of plants has existed, expressed in the naming of the plants according to their appearance, their use or their habitat. The extent to which the present-day local population is still in possession of this exact knowledge will be shown for individual cases in the following survey.

In the list that follows, the plants are sorted alphabetically according to their local names. An alphabetical list of the botanical names is provided at the end of this monograph (cf. index). Following the local names are further names in use from other languages. The meaning of the names, to the extent known, is placed afterwards in parentheses and quotation marks. Among abbreviations, (G.) stands for Gurung, (Gy.) for Gyasumdo, (Tib.) for Tibetan, (Nep.) for Nepali, (Ny.) for Nyeshang, (Nm.) for Nar-mä and (Nt.) for Nar-tö. The written Tibetan form of the names is placed in parentheses. The botanical names appear in italics, followed by the designation of the plant family in parentheses. After the hyphen appears information concerning the place where the plant's presence was recorded and its more general habitat. Following thereupon is a description of its use. Within the lists of plants, for purposes of clarity in consulting them, a subdivision was carried out according to the region and according to use, with a distinction being made

between medicinal plants, nutritive and narcotic-producing plants, ritual plants, and plants having other uses. Alongside these, however, there are also multipurpose plants, which are assigned to their respective categories according to which use predominates.

4. THE USE OF WILD PLANTS IN GYASUMDO

In Gyasumdo the documentation of plants was concentrated in the areas surrounding the settlements of Taje (2350 m) and Bagarchhap (2100 m). Ram Prasad from Taje, Pasang Namgyal from Bagarchhap and numerous other villagers were of help in the collection of data.

4.1 Medicinal Plants

1. **añla** (Ny.), **wañla** (dbañ-lag) (Tib.), **"loval"**⁶ (G.), **pāc aṅgule** (Nep.) ('five-finger') = *Dactylorhiza hatagirea* (D. Don) Soo (*Orchis latifolia*) (Orchidaceae) - Latamorong: The Gurungs and Gyasumdopas sell the roots in Lamjung District, in Kathmandu and in India. They are regarded as rich in vitamins. In Gyasumdo they are pulverized, mixed with water and applied to burns. Gathering period: end of September. Selling price in Kathmandu: 700 NRs for 2400 g.
2. **bhoṭe khāyo** (G., Nep.) = *Fagopyrum megacarpum* Hara (Polygonaceae) - Taje, cultivated in gardens: The root is dried, pulverized and applied in cases of profusely bleeding wounds. It is a coagulant. In cases of broken bones a viscous mass is boiled from the powdered root mixed with other herbs (**padamcāl**, **"halile"**, **"kazuchimri"**) as well as pine resin and fine flour, the whole being applied in a large area surrounding the fracture. Planting is done commercially. The roots are sold in Lamjung District, in Kathmandu and in India.
3. **čhōta** (G., Ny.) = *Acorus calamus* L. (Araceae) - Taje, cultivated in gardens: The long, spiral root is used to relieve tooth- and headaches. It is ground and prepared with water into a salve, which is applied to cheeks and temples. It can be used throughout the year.
4. **čhurtsa** (G.), (**čur-rtsa**) (Tib.), **padamcāl** (Nep.) = *Rheum australe* D. Don (Polygonaceae) - alpine pastures: Roots and the lower half of stems are used medicinally. They are boiled in water, and the decoction is drunk for diseases of the blood. In cases of bone fracture, **čhurtsa** mixed with an Indian medicine (**"gyamsal"**) is

6 Local names within quotation marks are not transliterated or transcribed according to phonetic symbols.

drunk. Root and stem are also made into a salve and applied to the area around the fracture. For other medicinal uses cf. MANANDHAR (1980a:60).

5. **gorki** (G.), **gurki** (Ny.) = *Picrorhiza scrophulariiflora* Pennell (Scrophulariaceae) - rocky slopes: The root is used in colds and fever. It is either boiled in water, with the decoction being drunk, or is pulverized and taken with water. The Gyasumdopas sell the roots in Kathmandu (170 NRs for 2400 g).
6. **gutum** (G.), **phopri** (Ny.) = *Lindera neesiana* (Nees) Kurz (Lauraceae) - Latamorong, underwood: The black fruits are eaten in cases of stomach complaints and flatulence.
7. **kañri** (G.) = (Lichenes) - Taje, on rocks: The lichen is pulverized and applied to suppurating swellings and boils. If the abscess does not come to a head, the cavity is filled with the powder.
8. **mendosañ** (Ny., G.) = *Aster sp.* (Compositae) - Chame, edges of forests and paths: The root is ground into a powder, mixed with water and applied as a salve to swollen cheeks in cases of toothaches.
9. **mirmire** (G.) = *Bupleurum longicaule* Wall. ex DC. (Umbelliferae) - Chame: The seeds, crushed and mixed with oil, are administered as eyedrops to livestock in cases of inflammation.
10. **nekipope** (Ny.) = *Impatiens sp.* (Balsaminaceae) - Chame, forests: The seeds are used for rheumatic complaints. They are also said to be rich in vitamins. They are roasted fresh or dried and then eaten.
11. **noriñ** (G.), **no** ('nose'), **riñ** ('long') = *Cuscuta santapaui* Banerji & Das (Convolvulaceae) - Dhanakyung, shrubberies: The plant is of pharmaceutical use in a salve for ulcers. It must be prepared fresh and used in combination with approximately 10 other medicinal plants.
12. **pakombet** (G.), "pakhanbed" (Nep.) = *Bergenia ciliata* (Haw.) Sternb. (Saxifragaceae) - rocky slopes: The root is used with rhododendron flowers and seeds for diarrhoea.
13. **pañsatilbu** (Gy.), "chüruru" (G.) - Bagarchhap: The longish bulb is said to house insects and is hung on the ear for relief of toothaches.
14. **phokirkir** (G.), **kirkir** ('round') = *Cissampelos pareira* L. (Menispermaceae) - Taje: The roots and leaves are dried, ground and made into a salve, which is used as an disinfectant and as a remedy for purulent ulcers and boils.

15. **poñmar** (Gy., Ny.), **poñmar (boñ-dmar)** (Tib.), "**nirmasi**" (Nep., G.) = *Aconitum* sp. (Ranunculaceae) - alpine pastures: The roots are frequently gathered in Gyasumdo for sale to Kathmandu (selling price: 300 NRs for 2400 g). Pharmaceutically it is of use in disorders of the digestive system and poisoning. The collecting (at the end of September) requires special knowledge of plants, as the herb can easily be mistaken for a poisonous *Aconitum* species (**rtswa-gdug**) (Tib.). The following features tell them apart: **poñmar**: 4-sided, hairless stem; thin, short root with many subsidiary roots; bitter to the taste; (**rtswa-gdug**): round, slightly hairy stem; thin, long root with at the most 3-4 subsidiary roots; sweet to the taste.
16. **rendo** (G.), "**bigmari**" (Nep.) = *Flemingia procumbens* Roxb. (Fabaceae) - Taje: The root, mixed with other herbs, is used as a panacea. It is taken, for example, together with **poñmar** (Gy., Ny.) as an antidote in cases of poisoning. It causes vomiting.
17. **satua** (G.) = *Paris polyphylla* Smith (Liliaceae) - Taje, Dhanakyung, forests: The root is a well-known and often used disinfectant. Dried, ground and mixed with a little water, it is applied to open wounds. The powder is also an efficacious remedy for diarrhoea. In this case it should be taken with milk. The Gysumdopas sell the roots in Kathmandu and in Lamjung District for 2-3 NRs apiece.
18. **šinme** (Ny.), **šin** ('wood', here with reference to the root), **me** ('medicine') = *Lactuca* sp. (Compositae) - Chame: In cases of bodily infection and swelling of the lymph glands (e.g. in tonsillitis), the root and sometimes the whole plant is made into a salve and applied to the swollen glands.
19. **talenta** (G.), **ta** ('root') - alpine pastures, meadows: The root is ground and made with water into a salve, which is applied as an ointment to open wounds.
20. **talentakue** (G.) - alpine zones: The root is boiled in water and the decoction is drunk to relieve certain diseases of young males having difficulties in urinating.
21. **țamurke** (G.) = *Campylandra aurantiaca* Baker (Liliaceae) - Taje, forests, shrubberies: The root is crushed, made with soot into a salve and applied to purulent wounds.
22. **tepta** (G.) = *Solanum nigrum* L. (Solanaceae) - Taje: Leaves, seeds and roots serve as a medicament for fever. They are dried and crushed and taken with hot water. Whereas the leaves and seeds are used in summer, the roots are taken in winter.
23. **tibru** (G.), **tsakšin** (Gy.) = *Rhus javanica* L. (Anacardiaceae) - Taje, forests, shrubberies: The fruits are dried, ground and boiled in water. The decoction is drunk as a remedy in dysentery and stomach complaints.

24. **timlekyen** (G.) = *Gonostegia hirta* (Blume) Miq. (Urticaceae) - Taje: The root, mixed with numerous other herbs, is used for the treatment of purulent ulcers and boils.
25. **tine** (G.) = *Cyathula tomentosa* (Roth) Moq. (Amaranthaceae) - Taje: The root of **tine** and the pith of the stem of **šušu** (G.) are crushed, boiled thoroughly and drunk as a purgative (dosage: 1 cup).
26. **tobi** (G.) - Thonje, alpine zones: The seeds are made into a salve, which is applied to suppurating ulcers and boils.

Medicinal plants having ritual significance or other uses

27. **kyerpa** (Gy.), (**skyer-pa**) (Tib.), **namlešiñ** (G.), **šiñ** ('wood') = *Berberis ceratophylla* G. Don (Berberidaceae) - Bagarchhap: The pith of the stem is thoroughly boiled in water, and the liquid administered as eyedrops for conjunctivitis. From the starkly yellow wood small rods are made for "spirit and demon traps"; miniature bows and arrows are also made, which are of use in exorcising ceremonies. The stem is employed, too, as firewood. (For other medicinal use cf. BOD RAN SKYON LJONS GSAR BRJE U YON LHAN KHAN GI 'PHROD BSTEN (1973:165 ff.): the innermost part of the root, dried and crushed, is used for fever, poisoning, conjunctivitis and infections of the stomach and intestines.)

Medicinal plants having other uses

28. **šušu** (G.), **šugumendo** (Gy.), **šugu** ('paper'), **mendo** ('flower'), (**šu-khu me-tog**) (Tib.), (**šog-bu**) ('paper'), (**me-tog**) ('flower') = *Daphne bholua* Buch.-Ham. ex D. Don (Thymelaeaceae) - Taje: In Gyasumdo **šušu** is used nowadays only for medicinal purposes, as a purgative together with **tine** (G.). The use of branches for the production of paper is no longer common.

4.2 Nutritive and Narcotic-Producing Plants

29. **akhebobo** (G.), **akheno** (Ny.) = *Origanum vulgare* L. Marjoram (Labiatae) - Bradang, Chame, edges of forests, grasslands: **Akhebobo** is used with chili as a spice.
30. **awa** (G.) = *Coriaria nepalensis* Wall. (Coriariaceae) - Taje, forests, shrubberies: The fruits are eaten. Excessive consumption, however, causes intoxication. Gathering period: March/April.
31. **kañkar** (G.), **surti** (Nep.) = *Nicotiana tabacum* L. (Solanaceae) - Taje: The tobacco is cultivated in gardens.

32. **kantsya** (Ny., G.), **gāja** (Nep.) = *Cannabis sativa* L. (Cannabaceae) - Taje: The leaves are sold in Bagarchhap to tourists, either dried as "grass" or in a fermented state.
33. **kaṁsaṭa** (G.) = *Elsholtzia blanda* Benth. (Labiatae) - Taje: The leaves serve as a substitute for tobacco.
34. **malkati** (G.) = *Holboellia latifolia* (Wall.) Hook. f. & Thoms. (Lardizabalaceae) - Taje: The fruit is eaten. Plucking period: June/July.
35. **nekipope** (Ny.) = *Impatiens* sp. (Balsaminaceae) - forests: From the fruits, oil can be extracted. This is common in Lamjung District, though not in Gyasumdo.
36. **paipalaṁ** (G.), **palaṁ** ('berry') = *Rubus paniculatus* Smith (Rosaceae) - Taje, along paths: The fruits are eaten from the end of March to the beginning of May.
37. **palaṁ** (G.), **ñalaṁ** (Gy.) = *Rubus niveus* Thunb. (Rosaceae) - Taje, shrubberies: The berries are eaten in March/April.
38. **patame** (G.) = *Mentha spicata* (Labiatae) - Taje: The leaves are used together with chili as a spice.
39. **poṁke** (G.) = *Vitis lanata* Roxb. (Vitaceae) - Taje, ravines: The fruits are eaten in August/September.
40. **pramsre** (Gy.), **kyuṁšiṁ** (G.) = *Viburnum mullaha* Buch.-Ham. ex D. Don (Caprifoliaceae) - Bagarchhap, forests: The fruits are eaten.
41. **ṭena** (G.) = *Perilla frutescens* (L.) Britt. (Labiatae) - Taje, gardens: The seeds are eaten, fresh or roasted, as a snack. In Jagat (Lamjung) they are cultivated for their oil.
42. **timru** (G.) = *Elaeagnus conferta* Roxb. (Elaeagnaceae) - Taje, along paths: The fruits are eaten from the end of March to the beginning of May.
43. **timur** (G.), **proma** (Ny.), **(gyer-ma)** (Tib.) = *Zanthoxylum armatum* DC. (Rutaceae) - Bagarchhap, shrubberies: The seed capsules are pounded and used with chili as a spice. **Timur** is eagerly consumed and sold for 4-6 NRs/māṇā (= 0,6 l). According to POLUNIN & STANTON (1984:73) the seeds are also used for toothaches, and the branches for brushing teeth.
44. **tisya** (G.) = *Prinsepia utilis* Royle (Rosaceae) - forests, shrubberies: Oil is extracted from the seeds. The procedure for obtaining the oil is similar to that of rape. The seeds are dried, pounded, heated over fire with a little water and, as the final step, pressed out with hot water. Its use is common. Gathering period: March/April.

45. **tsyathuñ** (G.), **tsya** ('tea'), **thuñ** ('to drink') = *Bidens pilosa* L. (Compositae) - Taje: Stem and leaves are dried and brewed as a tea.
46. *Fragaria nubicola* Lindley ex Lacaita (Rosaceae) - Bagarchhap, forests: The fruits are eaten.

Nutritive and narcotic-producing plants having curative properties

47. **gukhu** (G.) = *Chenopodium ambrosioides* L. (Chenopodiaceae) - Taje, gardens: The leaves serve as a vegetable. They should be boiled a long time and drained with hot water. They are eaten either as **tarkāri** (cooked vegetables) or after having been fried in oil. The seeds are likewise edible. A black flour is derived from them; it is eaten mixed with warm water. The seeds may also be used together with rice for the production of "rakshi" (distilled liquor). After having been roasted they are also put into warm "chang" (beer) or "rakshi" and drunk with great delectation. Leaves and seeds are of medicinal use in cases of stomach complaints. They must be pounded fresh and drunk with warm water.
48. **mapalañ** (G.), **palañ** ('berry'), **ñalañ** (Gy.) = *Rubus ellipticus* Smith (Rosaceae) - Taje, along paths: The fruits are eaten in September/October. The root is said to be of help in reducing fevers and backache caused by heavy labour. They are crushed either fresh or dried and boiled in water, and the decoction is drunk.
49. **tañčañ** (G.), **tañšañ** (Ny.) = *Malva verticillata* L. (Malvaceae) - Bagarchhap, along paths, in gardens: The leaves are eaten with nettles as a vegetable. The fruits are likewise edible and are said to help reduce frequent urination during the night caused by cold. Consumption of the leaves and fruits has a costive effect. Leaves and roots also serve as a medicament and disinfectant. They are dried and applied in a pulverized state to the area around an open wound.
50. **tañsokoto** (G.) = *Melothria mucronata* Cogn. (Cucurbitaceae) - shrubberies: The fruits are eaten. They taste sweet and have a heady effect. They are also said to be effective against coughing with haemorrhage from the lungs (tuberculosis/TB).
51. **ṭawu** (Gy.), **(bra-bo)** (Tib.), **talkyuñ** (G.), **pre** (Ny.), **tito phapar** (Nep.) = *Fagopyrum dibotrys* (D. Don) Hara (Polygonaceae) - Latamorong: The leaves are eaten as a vegetable or salad. If they are eaten fresh with yoghurt, they are said to be helpful in stomach complaints, vomiting and biliousness. In cases of liver ailments, the nutlets are pounded and mixed with buckwheat flour (of *Fagopyrum esculentum*) and water into a round flat cake for consumption. In Gyasumdo the fruits do not completely ripen.

52. **tiphuñ** (G.) = *Aconogonum molle* (D. Don) Hara (Polygonaceae) - Taje, forests, shrubberies: The stems are eaten in April/May as a salad with chili or yoghurt. The leaves serve as a medicament for diarrhoea. They are boiled with rice and eaten.

Nutritive and narcotic-producing plants having curative properties and other uses

53. **kyuñšīñ** (G.), **tirkyu** (Gy.), **tirču** (Ny.) = *Hippophaë salicifolia* D. Don (Elaeagnaceae) - Bagarchhap, riversides, pioneer plant on landslides: The fruits are eaten. They are said to be helpful in stomach complaints. Ploughs and planes are made from the wood. It is not used as firewood because it gives out a displeasing smell.

Nutritive and narcotic-producing plants having other uses

54. **katutuñ** (G.), **takšīñ** (Gy.), **(star-ka)** (Tib.), **koto** (Ny.), **okhar rukh** (Nep.) = *Juglans regia* L. var. *kamaonia* C. DC. (Juglandaceae) - Taje: The walnuts are eaten. The shells of the nuts are collected and sold to traders from Lamjung. They are used in the dyeing of wool. Numerous items are made from the wood, such as: ploughs, table and chair legs, butter tea casks and gunstocks. The wood is easily worked with and very long-lasting. It is seldom cut for firewood because of the nuts.
55. **namli** (G.) = *Berberis* sp. (Berberidaceae) - Taje: The fruits are eaten. They also serve as a dye and are frequently collected by Pahāriyā traders (people from the mountains, e.g. Gurungs from Lamjung District), who come just for that purpose to Gyasumdo.
56. **polo** (G., Ny.), **satuk (zwa-gdug)** (Tib.), **sisnu** (Nep.) = *Urtica dioica* L. (Urticaceae) - Chame, forests, shrubberies, field margins: The fresh shoots are boiled, whisked and, after being mixed with a bit of butter, eaten as a vegetable. Cord is made from the stems. For this the latter are thoroughly boiled, and their fibres twisted together. They are said to be able to stand great stress and are used as ropes for livestock and as carrying straps.
57. **tana** (Gy.) = *Woodwardia unigemmata* (Makino) Nakai (Blechnaceae) - Bradang: The fresh shoots and stems are eaten as a vegetable, both boiled and fried. The whole plant is also used as stable litter, which is later transported to the fields as fertiliser.

4.3 Ritual Plants

58. **nakpō** (G.), **(nag-spos)** (Tib.), **(nag-po)** ('black'), **(spos)** ('incense') = *Valeriana jatamansi* Jones (Valerianaceae) - Bagarchhap, forests: The root has an intensive smell and is used as incense. For medicinal uses cf. HMG (1982a:145-46).

59. **sale** (G.) - Taje, cultivated in gardens: The plant is of ritual significance in ceremonies to exorcise spirits and demons. Frequently recurring nightmares, eczema and allergies supposedly originate from the entering of an evil force into body and soul, which can only be cast out with the help of a lama or shaman. **Sale** is among the items used in the exorcising ritual.
60. **thi** (G.) - alpine zones: The root is used as incense.

Ritual plants having other uses

61. **čōḍe** (G.), **saṅkhampa** (Gy.), **saṅ** ('incense'), **tompe** (Ny.), **thaṅkhawasaṅ** (Ny.), **pāṭi** (Nep.) = *Artemisia vulgaris* Linn. (Compositae) - Taje, shrubberies: Incense-producing plant. It also serves as a leech repellent. Either the plant is rubbed on exposed parts of the body or, having already been cut into small pieces, it is applied to the spot where the leech is sucking. In cases of itching due to louse or flea infestation, the whole body is rubbed down with the plant and subsequently cleaned with soap.

4.4 Other Useful Plants

62. **laṇḍuṇ** (G.), "**lahara**" (Nep.) = *Hydrangea anomala* D. Don (Hydrangeaceae) - Latamorong, forests: A creeper, used to bind loads of wood.
63. **laṇma** (Gy.), **lomba** (G.), (**glaṇ-ma**) (Tib.) = *Salix sp.* (Salicaceae) - Bagarchhap, forests: Used as firewood and fodder. The ashes of the wood are also used as gunpowder.
64. **loašiṇ** (Gy.), **šiṇ** ('tree') = *Castanopsis tribuloides* (J.E. Smith) A.D.C. (Fagaceae) - Bagarchhap, forests: Firewood, fodder.
65. **murki** (G.) - alpine zones: The root is used as an insect repellent. It is ground into a fine powder and sprinkled on the skin of the head or on clothes to ward off lice.
66. **pailo** (Gy.), **thoṇrošiṇ** (G.) = *Quercus glauca* Thunb. (Fagaceae) Bagarchhap: Firewood, fodder.
67. **pepe** (Gy.), **pipi** (G.) = *Neolitsea umbrosa* (Nees) Gamble (Lauraceae) - Bagarchhap: Firewood.
68. **phutsitserma** (Gy.), (**phu-se tsher-ma**) (Tib.), (**phu-se**) ('mouse'), (**tsher-ma**) ('thorn'), **leputsu** (G.) = *Caragana nepalensis* Kitamura (Fabaceae) - Bagarchhap: Consumable goods, particularly cuts of meat hung up for smoking, are protected from mice by the thorny branches.

69. **ramšaṅ** (Gy.), **kyoṅšiṅtuṅ** (G.), **tuṅ** ('tree'), **utis** (Nep.) = *Alnus nepalensis* D. Don (Betulaceae) - Bagarchhap, pioneer wood on landslides: Furniture is made from the wood. However, the quality of the wood is low, and use is not frequently made of it. Nor is the wood suitable for burning because of its low heating capacity.
70. **roro** (Gy.) = *Persea odoratissima* (Nees) Kosterm. (Lauraceae) - Bagarchhap: Firewood.
71. **šiṅyape** (G.) ('ear of the tree') = (Fungus) - Taje: Wicks for butter lamps are made from the fungus.
72. **taknak** (Gy.), **plišiṅšiṅ** (G.), **takar** (stag-dkar) (Tib.) = *Betula alnoides* Buch.- Ham. ex D. Don (Betulaceae) - Bagarchhap: Firewood.
73. **tsherpa** (Gy.), **toṅsašiṅ** (G.) = *Taxus wallichiana* (Zucc.) Pilger (Taxaceae) - Bagarchhap: Ax handles and handles for other implements (especially harvesting equipment) are produced from the wood. It serves also as firewood.
74. **tšišiṅ** (Gy.), **ketuṅ** (G.) = *Picea smithiana* (Wall.) Boiss. (Pinaceae) - Bagarchhap: The wood is worked into boards for covering roofs. It is also used as firewood.

Other useful plants having curative properties

75. **thaṅšiṅ** (Gy.), **thonšiṅtuṅ** (G.), **(thaṅ-šiṅ)** (Tib.) = *Pinus wallichiana* A.B. Jacks. (Pinaceae) - Bagarchhap: The wood is said to be of high quality and is used for house construction (roof frames) and in the production of furniture. It also serves as firewood and, reduced to splinters, as tinder. The resin is used medicinally as a balm for tuberculosis. In the household it is useful in repairing cracked pots of wood or clay.

Other useful plants having ritual significance

76. **dzulu** (G.), **ta** (Gy.) = *Anemone vitifolia* Buch.- Ham. ex DC. (Ranunculaceae) - Taje, forests: The woolly hairs from the achenes are used as tinder. The whole plant also serves as incense.

Other useful plants having ritual significance and curative properties

77. **tuṅrula** (G.), **takpa** (Gy.), **(stag-pa)** (Tib.), **"busbath"** (Nep.) = *Betula utilis* D. Don (Betulaceae) - Taje, timber line: Spoons and mortar pots (chili pot), occasionally also casks for butter tea, are made from the birch wood. The birch bark is peeled off and given as a present to relatives in Lamjung District. There the bark is used as padding in the "kun" (G.), a foldable bamboo hat worn during the monsoon period when rice is planted. Birch trees occur more frequently in the region of Thanchok, and the paper is

sold there to Pahāriyā farmers. Birch paper is also an important item on the offering plate during exorcism rituals. Medicinally it is used as a plaster on purulent swellings and boils. As fuel, birch wood is only used by herdsmen in high-altitude pastures.

5. THE USE OF WILD PLANTS IN NYESHANG

In Nyeshang, the settlements of Manang (3500 m) and Braga (3500 m) were the bases for the survey. The plants were collected in different altitudinal zones ranging from the Marsyandi valley floor (3400 m) up to the alpine meadows of Annapurna and Chulu Himal (4600 m). Acting as informants were Wangdu Lama, Purba Nepali and Bhu Jung Ghale from Manang and Latar, a Tibetan herb trader from Braga.

5.1 Medicinal Plants

1. **añla** (Ny.), **wañla** (dbaṅ-lag) (Tib.), "ongbolakpa" (Tib.), **pāc aṅgule** (Nep.) ('five fingers') = *Dactylorhiza hatagirea* (D. Don) Soo (Orchidaceae) - Tilicho, Gyatso, Pisang (3800 m - 4000 m), wet grasslands: The root is edible; it is held to be very nutritious and rich in vitamins. Ground and mixed with water, it is applied as a balm to burns. **Añla** was once among the most important herbs traded by the Manangis. Today it is sold only by a handful of traders in Narayanghat.
2. **gurki** (Ny.), "**gurki**" (Sanskrit?) = *Picrorhiza scrophulariiflora* Pennell (Scrophulariaceae) - Chongkor (>4000 m), rocks: The root is used in cases of colds, fever and headache. It is also said to stimulate blood formation and be of help for stomach complaints. To prepare for consumption, 2-3 dried roots are boiled in 1 liter of water, which should be drunk warm in the morning and evening. The dried and ground flowers and leaves can also be used. In Nyeshang **gurki** is collected for personal consumption and for sale (1 *ṭolā* (= 11,7 g) is traded in Kathmandu for 5-10 NRs). Gathering period: August.
3. **komsē** (Ny.), **rambačakya** (ram-pa phyags-brgya) (Tib.), (ram-pa) ('grass', here in the meaning of 'root'), (phyags) ('hand'), (brgya) ('one hundred') = *Polygonatum* sp. (Liliaceae) - Braga, Marsyandi valley floor: The root of Solomon's seal is dried, crushed and, after having been mixed with other herbs and oil, applied as a salve to painful parts of the body (back, breast). It is likewise said to be effective against the accumulation of water in tissue. After rubbing it in, one is supposed to lie down in bed in warm clothing. The parts of the plant growing above ground are poisonous.

4. **kyerap** (Ny.) = *Dicranostigma lactucoides* Hook. f. & Thoms. (Nymphaeaceae) - Ongre, Pisang, Marsyandi valley floor: The orange plant juice is used as a disinfectant on open wounds.
5. **kyiče (skyi-lče)** (Tib.) = *Gentiana stylophera* C.B. Clarke (Gentianaceae) - Braga, grasslands: The parts of the plant growing above ground are components of a panacea.
6. **lugmik (lug-mig)** (Tib.), **(lug)** ('sheep'), **(mig)** ('eye') = *Aster* sp. (Compositae) - Braga, forests: Stems, flowers and leaves have curative properties; the indication, however, was unknown. Gathering period: middle of August.
7. **miahali** (Ny.) = *Rumex* sp. (Polygonaceae) - Manang, along the edges of fields and irrigation channels: The root is a component of a salve composed of a number of herbs (including **bhoṭe khaer**); it is applied in cases of bone fracture and dislocation. The injured part should be washed with salt water before rubbing it in. Gathering period: throughout the summer.
8. **pañrimendo** (Ny.), **pañ** ('meadow'), **ri** ('mountain'), **mendo** ('flower'), **(spañ-ri me-tog)** (Tib.) = *Ptercephalus hookeri* (C.B. Clarke) Hook. (Dipsacaceae) - Latar, mountain pastures (3800 m): Flowers and leaves are dried and brewed as a tea to alleviate colds.
9. **parbata** (Tib.) = *Hypocym leptocarpum* Hook. f. & Thoms. (Fumariaceae) - Braga, in fields: The parts of the plant growing above ground are said to be helpful in colds and tuberculosis. Gathering period: end of August.
10. **poñkar** (Ny.), **poñkar (boñ-dkar)** (Tib.) = *Aconitum violaceum* Jacq. ex Stapf (Ranunculaceae) - Gyatso (>4400 m), alpine grasslands, scattered: A medicament for colds, fever and headaches. In summer, the plant (leaves and flowers) are boiled in water, and the decoction is drunk. In winter, only the root is boiled. Formerly **poñkar** was an important trading item for the Manangis. Although it is still gathered today, it no longer has great significance for trade.
11. **potsa** (Ny.), **mendopinkya** (Ny.), **mendo** ('flower'), **pinkya** ('blue') = *Nepeta leucophylla* Benth. (Labiatae) - Manang, along paths: The flowers of the catmint are regarded as an efficacious remedy for fainting spells and headaches. They are dried and crushed, and ignited in a receptacle (sometimes mixed with goat hair). The smoke is inhaled. The flowers are often collected, throughout the summer.
12. **šamḍu** (Tib.) = *Anemone rivularis* Buch.-Ham. ex DC. (Ranunculaceae) - Braga, field margins: The fruits have curative properties, though the indication was unknown. Gathering period: August.

13. **serčenlugdu** (Tib.), (**lug-ru ser-po**) (Tib.), (**lug-ru**) ('ram's horn'), (**ser-po**) ('yellow') = *Pedicularis longiflora* Rudolph var. *tubiformis* (Klotz.) Tsoong (Scrophulariaceae) - Braga, wet grassland: The parts of the plant growing above ground are said to help relieve accumulation of water in tissue.
14. **thüpmé** (Ny.), **me** ('medicine') = *Elsholtzia eriostachya* (Benth.) Benth. cf. (Labiatae) - Braga, grassland: When fainting spells occur the dried and crushed plant is ignited, and the smoke inhaled.
15. **tikta** (Ny.), (**tig-ta**) (Tib.) = *Sopubia trifida* Buch.-Ham. ex D. Don (Scrophulariaceae) - Bodzo: An ointment for colds, fever and headaches. The upper half of the plant is plucked after the flowering period (end of August), dried and, when the need arises, brewed into a tea, which is supposed to be drunk in the evening before going to bed. **Tikta** can be mixed with other herbs. It is sold in Kathmandu by herbalists as a medicament. In Manang it serves private needs and is not traded.
16. **tikta** (Ny.), (**tig-ta**) (Tib.) = *Gentianella paludosa* (Hook.) H. Smith (Gentianaceae) - Braga: The parts of the plant growing above ground are dried, crushed and drunk with water in cases of colds, fever, headache, catarrh and hoarseness.
17. **tikta** (Ny.), (**tig-ta**) (Tib.), **čaktik** (lčags-tig) (Tib.) = *Halenia elliptica* D. Don (Gentianaceae) - Braga, edges of forests, Marsyandi valley floor: The parts of the plant growing above ground are dried, crushed and drunk with water in cases of colds, fever and headache. Mixed with other medicinal herbs, it becomes an esteemed panacea.
18. **tsati** (Tib.) = *Cuscuta europaea* L. var. *indica* Engelm. (Convolvulaceae) - Braga, field margins: The fruits are dried and crushed, and made into a salve for relieving muscle pain.
19. **tuči** (**dur-byid**) (Tib.) = *Lactuca macrorhiza* Hook. f. (Compositae) - Braga, Marsyandi valley floor: Lettuce which, mixed with other medicinal plants, is used for dysentery and poisoning. The plant causes diarrhoea and cleanses the stomach.
20. **tuktser** (Ny.), **tuktser** (**gdug-tsher**) (Tib.), **tuk** (**gdug**) (here in the meaning of 'harmful', 'dangerous'), **tser** (**tsher-ma**) ('thorn') = *Lonicera myrtilloides* Purpus (Caprifoliaceae) - Ongre, Marsyandi valley floor: The fruits, fresh or dried, are made with oil into a salve, which is used to treat rheumatism.
21. **yertsagumbu** (Ny.), **yertsagumbu** (**dbyar-rtswa-dgun-'bu**) (Tib.), **yer** (**dbyar**) ('summer'), **tsa** (**rtswa**) ('grass'), **gum** (**dgun**) ('winter'), **bu** ('**bu**') ('worm') = *Cordyceps sinensis* (Berk.) Sacc. (Hypocreaceae) - Gyatso (>4400 m), alpine meadows: A mushroom which grows in the spring from the head of a newly emerged

caterpillar, and which is collected in August, when the caterpillar has presumably died from the effect of the mushroom. **Yertsagumbu** is much esteemed as a source of vitamins; it should be boiled in milk and drunk warm.

Medicinal plants having other uses

22. **oñma** (Ny.), **oñšiñ** (Ny.), **humbu** ('om-bu) (Tib.) = *Myricaria rosea* W.W. Smith (Tamaricaceae) - Manang, Marsyandi valley floor, open fields: The dark-brown stems of the tamarisk are used to treat tuberculosis. They are either boiled in water, with the decoction being drunk, or are chewed fresh and sucked out. They serve only private needs and are not sold. As the bushes can get to be quite big, the trunks are also used as firewood.
23. **phar** (Ny.), **phutsuphar** (Ny.) = *Juniperus communis* L. (Cupressaceae) - Bodzotong, alpine meadows: The juniper berries are eaten (approx. 4-7 pieces, fresh or dried) to relieve respiratory complaints, chest pains, lung infection, bronchitis and other ailments of the upper respiratory tract. The juniper branches are not used as incense, only as stall litter.
24. **rekemukta** (Tib.), **(re-lčag(s)-pa)** (Tib.) = *Stellera chamaejasme* L. (Thymelaeaceae) - Braga, Marsyandi valley floor, open fields, rocky slopes: The roots of the daphne plant are dried, ground and, after having been mixed with mustard oil or kerosene, applied as an antiseptic on open wounds to men and animals alike. Formerly the roots were used for the production of paper. They were boiled down to a sticky, viscous mass, which was spread out thin over a slab of wood and left to dry. In Nyeshang this method of making paper is no longer common, though it apparently still is in Mustang and Tibet. The parts of the plant growing above ground were also formerly used as an insect repellent. They were laid under mattresses in order to keep fleas away.

5.2 Nutritive and Narcotic-Producing Plants

25. **ape** (Ny.), **amañe** (Ny.), **ama** ('mother'), **ñe** ('milk'), **('a-ma yi-chu)** (Tib.) = *Salvia hians* Royle ex Benth., *Salvia nubicola* Wall. ex Sweet (Labiatae) - Ongre, Marsyandi valley floor: The fruity meat of the sage stem has a sweet taste and is eaten by children. The flowers, too, are plucked, and the nectar that collects in the tube sucked out. Excessive consumption is said to cause headaches.
26. **čhortę** (Ny.), **phutsute** (Ny.) = *Sonchus arvensis* L. (Compositae) Manang: The leaves are edible.

27. **čhortente** (Ny.) = *Capsella bursa-pastoris* (L.) Medik. (Cruciferae) - Chongkor, alpine pastures, in the vicinity of stalls: The leaves are boiled and fried in oil and eaten as vegetable. Gathering period: July/August.
28. **gyatsa** (Ny.) = *Rheum australe* D. Don (Polygonaceae) - Gyatso, wet alpine meadows (>4300 m): The leaf stalks of the rhubarb are frequently gathered in July and consumed as a salad with chili and buttermilk.
29. **hali** (Ny.) = *Rumex nepalensis* Spreng. (Polygonaceae) - Manang, field margins, along irrigation channels: The leaf stalks are eaten as a salad with chili and yogurt. Plucking period: June/July.
30. **kantsya** (Ny.) = *Cannabis sativa* L. (Cannabaceae) - Pisang, shrubberies: The leaves of the hashish plant are sold to tourists, either dried as "grass" or in a fermented state.
31. **khala** (Ny.) = *Prunus* sp. (Rosaceae) - Braga: The fruit is eaten.
32. **khalbuñ** (Ny.), **khalphuñ** (Ny.) = *Cirsium wallichii* DC. (Compositae) - Manang, Marsyandi valley floor: the roots of the thistle are edible. Formerly it was the custom to give them to children on account of their sweet taste. Gathering period: June/July.
33. **khaldi** (Ny.), **rambu** (ram-bu) (Tib.) = *Polygonum macrophyllum* D. Don (Polygonaceae) - Gyatso (4000 m - 4300 m), alpine grassland: Knotgrass was formerly an important nutritive plant for the Manangis, serving to supplement the harvest of grain. The spike-like flower clusters were gleaned in September/October, the nutlets dried, roasted and ground like "tsampa" (flour of roasted cereals). From the unroasted flour, flat round breads were made. Since today there is no longer any dependence on a supplement to the grain harvest, the spikes are no longer gleaned.
34. **kogate** (Ny.) = *Taraxacum* sp. (Compositae) - Manang, field margins: The young leaves of the dandelion are a favourite springtime vegetable. They are plucked at the end of May/beginning of June and eaten after having been boiled and fried in oil.
35. **kroma** (Ny.), **ṭoma** (gro-ma) (Tib.) = *Potentilla anserina* L. (Rosaceae) - Braga, wet grassland below the settlement: The root nodules can be eaten fresh, boiled or fried. They have a mildly sweet taste and therefore are customarily served in sweet rice dishes, e.g. at the New Year's festival. Mice lay up a store of the root nodules for the winter. Attempts are made to discover the hiding places by pounding the ground with a stick or, as is said to be common in Tibet, by throwing a horn in the air and digging out the spot where it produces a hollow sound on landing. In Nyeshang **kroma** is only seldom collected. It can be bought in Kathmandu for 16-17 NRs/mānā.
36. **kyuñbudzu** (Ny.) = *Berberis aristata* DC. (Berberidaceae) - Manang, Marsyandi valley floor: The fruits are eaten as a snack along the way.

37. **lambar** (Ny.) = (Fungus) - Pisang, forests: A yellow, stalked mushroom, which is eaten spiced and fried like meat.
38. **maru** (Ny.) = *Lonicera myrtillus* Hook. f. & Thoms. (Caprifoliaceae) - Manang: The berries are eaten. Plucking period: August.
39. **nane** (Ny.), **ñolu** (sño-lo) (Tib.), (sño) ('blue'), (lo-ma) ('leaf') = *Chenopodium album* L. (Chenopodiaceae) - Manang, screes, field margins: The leaves are thoroughly boiled and fried in oil, and eaten as a vegetable or prepared with yogurt and chili as a salad. Nane is the favourite salad after buckwheat leaves. The dried leaves are also consumable as a winter vegetable.
40. **nosyoñte** (Ny.) = *Allium* sp. (Liliaceae) - Pisang, Nangsang, alpine pasture: The leaves are dried and used in the winter to spice soups.
41. **pañčě** (Ny.), **grutsethañ** (Ny.), (span-ja) (Tib.), (span) ('meadow'), (ja) ('tea') = *Spiraea arcuata* Hook. f. (Rosaceae) - Chongkor, alpine meadows (>3900 m): The flowers were formerly used for brewing tea. After having been dried, they were roasted in a pan and then brewed. The tea has a red colour. Its taste is middling.
42. **phortimo** (Ny.) = (Lichenes) - forests: A small fruticose lichen growing underneath juniper trees. From June to August the whole plant is eaten after having been boiled and fried in oil.
43. **phortsema** (Ny.), **tsema** ('mushroom') = (Fungus) - Latar, forests: a collective term for a number of mushroom or lichen species, e.g. a very large, long-stemmed, whitish-black mushroom which is eaten boiled; a frequently gathered white, red and black lichen which is eaten after having been boiled and then fried. Gathering period: April-July.
44. **přiti** (Ny.) = (Fungus) - Pisang: A round, greyish-brown mushroom without stem that is eaten spiced like meat.
45. **proma** (Ny.) **yerma** (gyer-ma) (Tib.), **timur** (G.) = *Zanthoxylum armatum* DC. (Rutaceae) - Lamjung, Marsyandi valley between Bahundada and Chyange: The seed capsules serve as a spice and are frequently used together with chili. The Manangis do not collect them themselves but buy them for private consumption on the route from Manang to Kathmandu.
46. **puñguñemañ** (Ny.), **puñgu** ('donkey'), **ñemañ** ('ear') - Pisang: A white bellflower with long leaves which are consumed as a vegetable.
47. **šamě** (Ny.), **šamě** (ša-sman) (Tib.), **ša** (ša) ('meat'), **mě** (sman) ('spice') = *Pleurospermum hookeri* C.B. Clarke (Umbelliferae) - Gyatso, rocks (>4400 m): The

parts of the plant growing above ground serve as a meat spice. They are plucked in the summer and, once dried and crushed, may be used either alone or as a spice mixture with chili or **dzimbu** (*Allium sp.*).

48. **saphaldoñ** (Ny.) = *Fragaria nubicola* Lindl. ex Lacaita (Rosaceae) - Chongkor, birch forest (3800 m): The fruits of the wild strawberry are occasionally eaten along the way.
49. **syepalañ** (Ny.), **palañ** ('berry') = *Fragaria daltoniana* J. Gay (Rosaceae) - Pisang, forests: The strawberries are eaten as a snack.
50. **timosinsin** (Ny.) = (Lichenes) - Pisang: The small, curled, red, black or white, branche-like parts of the lichen are edible both fresh and dried. They are fried after being thoroughly boiled. Manangis who have been in Hong Kong and Singapore said that it is a much favoured dish there.
51. **timtsyu** (Ny.), **alu tañtu** (Ny.) ('root nodules of **timtsyu**') *Arisaema sp.* (Araceae) - Pisang: In Ngawal, Ghyaru, Pisang and Nar-mä the leaves of the Aaron's rod are frequently eaten as a vegetable. They must be boiled a long time before frying in oil and eating. After being boiled, they can also be dried and stored for the winter. Gathering period: August. The root nodules are eaten like potatoes. They are not stored.
52. **toñmaru** (Ny.), **maru** ('red berry') = *Ribes glaciale* Wall. (Grossulariaceae) - Manang, Marsyandi valley floor: The currants are eaten as a snack along the way.
53. **tsema** (Ny.) = (Fungus) - forests: A large, short-stalked, white mushroom which is eaten boiled.

Nutritive and narcotic-producing plants having curative properties

54. **akhenö** (Ny.), **ašeno** (Ny.) = *Thymus serpyllum* L. (Labiatae) - Bodzotong (4000m), dry locations: The thyme flowers are a favourite spice. They are either pounded fresh or dried and stored for the winter. Frequently they are made with chili into a spice mixture. They are also used to alleviate toothaches. Decayed teeth are filled with the crushed flowers to obtain an analgesic effect. Plucking time: August.
55. **mantša** (Ny.), **phantša** (Ny.), **butigyatso** (Tib.) = *Selinum tenuifolium* Wall. ex C.B. Clarke (Umbelliferae) - Braga, Pisang, Marsyandi valley floor: The inside of the stem can be eaten fresh. It is primarily children who suck it out (June/July). The whole plant can also be used pharmaceutically, though the indication was unknown.
56. **kumbuliñ** (Ny.) = *Malus baccata* (L.) Borkh. (Rosaceae) - Braga, near houses: The fruits are squeezed out, mixed with a bit of water, formed into patties and dried. Fruit patties are given as presents to relatives, e.g. in Kathmandu. The tree is cultivated.

The fruits are also said to be a medicament for treating headaches and coughing accompanied by haemorrhaging.

57. **ñakar** (Ny.) = *Viburnum cotinifolium* D. Don (Caprifoliaceae) - Ongre, Pisang, Marsyandi valley floor: The fruits are pleasant to the taste. They are said to be effective in relieving anaemia and chest pains.
58. **raldon̄te** (Ny.), **roldon̄te** (Ny.), **rukpa (rug-pa)** (Tib.) = *Allium stracheyi* Baker (Liliaceae) - Latar, rocks: A wild garlic plant collected by many Manangis in June to cultivate in their gardens. The bulbs survive the winter and sprout again in spring. The leaves and bulbs serve as a spice for soups, as well as for meat, vegetable and noodle dishes. They are frequently mixed with chili. The leaves, boiled and fried, are also eaten as a vegetable. **Raldon̄te** is regarded as a source of vitamins, particularly for pregnant women.
59. **saṅgalin̄** (Ny.), **kandakari** (Tib.) = *Rosa macrophylla* Lindl. (Rosaceae) - Braga, Marsyandi valley floor: The hips are eaten. Formerly they were dried and stored for the winter or used in the distilling of liquor. The leaves, dried and crushed, are claimed to be an effective antipyretic.
60. **tarčaken** (Tib.) = *Plantago major* L. (Plantaginaceae) - Braga, Marsyandi valley floor, open fields: The leaves of the plantain can be boiled as a vegetable. They have a sweetish taste. They were said to be eaten in Tibet, though not in Nyeshang. As a medicament, they are claimed to be effective against hypertension. Gathering period: end of August.

Nutritive and narcotic-producing plants having ritual significance and other uses

61. **tañtso** (Ny.) = *Rosa sericea* Lindl. (Rosaceae) - Manang, Marsyandi valley floor: The hips were formerly used in the distilling of liquor. They were boiled for approximately three hours, the juice was drained off, and the pulp covered with yeast and set in a warm spot to ferment for a week. Afterwards it was distilled like "rakshi". Even though fruit-based spirits are said to taste better than grain-based ones, they are seldom produced nowadays. As there is sufficient grain at hand, this is used and the trouble of gathering avoided. Nowadays hips are eaten as a snack, particularly by children. The fruits are also used as offering gifts and for the decoration of offering cakes ("tsog"). The branches serve to protect fields from grazing livestock. They are also placed on the walls of stalls to keep the animals from breaking loose.

Nutritive and narcotic-producing plants having other uses

62. **kotoñ** (Ny.) = *Medicago falcata* L. (Fabaceae) - Manang: The leaves are boiled, fried and eaten as a vegetable. Gathering period: June/July (before flowering). The plant also serves as winter fodder for livestock.

Nutritive and narcotic-producing plants having other uses and curative properties

63. **tserke** (Ny.), **tara (star-bu šin)** (Tib.) = *Hippophaë tibetana* Schltr. (Eleagnaceae) - Manang, Braga, Marsyandi valley floor: The fruits are eaten as a snack. They are also used as a fixative for dyed clothes, the dyed clothing (e.g. hand-woven belts) being boiled approximately 1 hour in 2 litres of fruit juice and afterwards rinsed out with water. The fruit juice is likewise suitable as a polish for metal objects. The latter are kept for some time in the boiling juice and afterwards polished with ash. The fruits are also said to be the basis of a TB medicament consisting of several herbs. They are boiled for approximately 2-3 hours and the skin of the fruits afterwards culled out.

5.3 Ritual Plants

64. **khamsaṅ** (Ny.), **khenjuṅ (mkhan-čuṅ gser-dkar)** (Tib.), **khamba serwa** (Nt.), **khamba lopsaṅ** (Nm.) = *Tanacetum nubigenum* Wall. ex DC. (Compositae) Bodzotong, alpine grasslands (4400 m), dry locations at lower altitudes (3500 m): The leaves are dried, crushed and used as incense (usually in winter).
65. **koma** (Ny.), **muktsi (smug-rtsi)** (Tib.) = *Onosma bracteatum* Wall. (Boraginaceae) - Tilicho, alpine meadows: The root of the female plant contains a red pigment soluble in oil which is used to colour butter. The coloured butter serves as a decoration for offering cakes ("tsog"). For this reason the roots are customarily given to priests as an offering gift.
66. **lopsaṅ** (Ny.) = *Cynanchum vincetoxicum* (L.) Pers. (Asclepiadaceae) - Pisang: The whole plant is used as incense.
67. **mendosaṅ** (Ny.), **(me-tog bsaṅ)** (Tib.), **(me-tog)** ('flower'), **(bsaṅ)** ('incense'), (generic term for all flowering plants used as incense) = *Aster trinervius* Roxb. (Compositae) - Pisang: Incense plant.
68. **mendosaṅ** (Ny.) = *Euphrasia himalayica* Wettst. (Scrophulariaceae) - Pisang: Incense plant.
69. **palukarpo** (Ny.), **palukarpo (ba-lu dkar-po)** (Tib.) = *Rhododendron lepidotum* Wall. ex G. Don (Ericaceae) - Chongkor, alpine meadows (>4000 m): The branches are

highly esteemed as incense. **Palukarpo** has red flowers, whitish branches and leaves that are larger than those of **palunakpo**.

70. **palunakpo** (Ny.), **palunakpo (ba-lu nag-po)** (Tib.) = *Rhododendron anthopogon* D. Don (Ericaceae) - Chongkor, alpine meadows (>4000 m): A rhododendron likewise used as incense. The flowers are white, the branches blackish, and the leaves smaller than those of **palukarpo**.
71. **pañbö** (Ny.), **pañpö (span-spos)** (Tib.), (**span**) ('meadow'), (**spos**) ('incense') = *Nardostachys jatamansi* DC. (Valerianaceae) - Gyatso, alpine grasslands (>4300 m): The root is a favoured incense. It is deemed an incense of the best quality, not only on account of its fragrance but also by reason of the "purity" of its habitat (at high altitudes, far from settlements and human defilements). **Pañbö** was formerly among the most important trading products of the Manangis. Even today the plant is still frequently collected and sold in Kathmandu (for its pharmaceutical use cf. HMG, 1982a:54 f.).
72. **pañsañ** (Ny.), (**span-bsañ**) (Tib.) = *Anaphalis contorta* (D. Don) Hook. f. (Compositae) - Pisang: Incense plant.
73. **phosorosañ** (Ny.) = *Anaphalis triplinervis* (Sims) C.B. Clarke (Compositae) - Pisang: Incense plant.
74. **phursañ** (Ny.), **phursañ (phur-bsañ)** (Tib.) = *Cassiope fastigiata* (Wall.) D. Don (Ericaceae) - Chongkor (3800 m): The branches are used as incense.
75. **syawaručuñ** (Ny.), **šawarabjü (ša-ba rwa-čo)** (Tib.) ('antlers') = (Lichenes) - Gyatso, alpine grasslands, rocky slopes: A white lichen which is used as incense.
76. **tompe** (Ny.) - along paths: Incense plant.

Ritual plants having other uses

77. **šukri** (Ny.), **šukpa (šug-pa)** (Tib.) = *Juniperus indica* Bertol. (Cupressaceae) - Manang, sunny slopes: The branches serve as incense. The trunk and branches are used as fuel; the wood is also occasionally used in house construction.
78. **thomo** (Ny.), **phurma** (Tib.) = *Artemisia* sp. (Compositae) - Manang, Marsyandi valley floor: The bush-like *Artemisia* is used as incense and horse fodder.

Ritual plants having other uses and curative properties

79. **phazarmendo** (Ny.), **serkamendo (gser-dkar me-tog)** (Tib.) = *Anaphalis nepalensis* (Sprengel) Hand.- Mazz. (Compositae) - Manang, forests, pastures: The flowers are

plucked to decorate the house altar with. Young persons also wear them on their ears as an adornment. They are gathered by herbalists for sale in Kathmandu as a medicinal plant. The indication, however, was unknown.

5.4 Other Useful Plants

80. **čipla** (Ny.) = (Liliaceae) - Ongre, grasslands: The root is fed with barley to livestock suffering from coughing fits.
81. **nekipope** (Ny.), **nekibobo** (Ny.) = *Impatiens* sp. (Balsaminaceae) - between Ngawal and Ghyaru along the path: The yellow-flowering herb is used for dyeing.
82. **proba** (Ny.), **ṭa (spra-ba)** (Tib.) = *Anaphalis cuneifolia* (DC.) Hook f. (Compositae) - Bodzotong, alpine pastures (4000 m - 4400 m), semidry locations: The small, downy leaves serve as tinder. They are rubbed between the hands in a dried or withered state, plucked apart and ignited in small bundles on a flint with a Tibetan lighter.
83. **rampakui** (Ny.), **čičhi** (Ny.), **či** ('grass'), **(ram-pa)** (Tib.) ('*Equisetum*') = (Cyperaceae) - Pisang: Sedge used for the mouthpiece of the "lama flute" (oboe). There are two types distinguished: flowering and non-flowering.
84. **ṭeba** (Ny.), **pāma (pad-ma)** (Tib.) = *Potentilla fruticosa* L. (Rosaceae) - Manang, Marsyandi valley floor, alpine meadows: The bushy branches of *Potentilla* are used as an inner layer in roof construction.
85. **tine** (Ny.) = *Arctium lappa* L. (Compositae) - Manang, Marsyandi valley floor: The burs are used to protect food from being eaten by mice. Usually they are attached next to cuts of meat hung up for smoking.
86. **toñbe** (Ny.) = *Convolvulus arvensis* L. (Convolvulaceae) - Manang, field margins: The field bindweed is brought in with the harvest and serves in the winter as fodder.
87. **tšharšīn** (Ny.), **(tšhar)** (Tib.), **toñsya** (G.), **"rhus"** (Nep.) = *Cotoneaster affinis* Lindley (Rosaceae) - Pisang, Ghyaru: Walking sticks and axe handles are made from the wood.
88. **yūtsa** (Ny.) = (Gramineae) - Braga, fields: Wild oats, which are plucked, dried and fed to livestock.

Other useful plants having curative properties

89. **dzinjūnthugre** (Ny.) = *Elsholtzia* sp. (Labiatae) - Gyatso, alpine pastures, near stalls: The plant serves in winter to supplement the livestock's fodder. It also has medicinal application, though the indication was unknown.
90. **lañdañro** (Ny.), **ro** ('fruit') = *Scopolia straminifolia* (Wall.) Shrestha (Solanaceae) - Manang, field margins, along paths, in the vicinity of settlements: Dried, the plant has application as fodder. The fruits are also said to be useful medicinally, but the indication was unknown.
91. **kreme** (Ny.) = *Clematis montana* Buch.-Ham. (Ranunculaceae) - Manang, Marsyandi valley floor: *Clematis* serves as a supplementary fodder, especially for horses. It is cut at the time of the grain harvest. The fruits with their numerous silky-haired styles are said to have medicinal application when mixed with other herbs. The indication, however, was unknown.
92. **thañšīn** (Ny.), **thañšīn (thañ-šīn)** (Tib.) = *Pinus wallichiana* A. B. Jacks. (Pinaceae) - Pisang: The pine wood splinters (Ny.: **thañšīn phyeko**, Tib.: (**thañ-šīn phyi-kog**)) are used to ignite fires. The pine trunks are favoured as timber for construction. They are formed into beams and set in the house masonry. Thin trunks have application in the construction of ceilings and roofs. Pine wood is, in addition, commonly used as fuel. The pine needles serve as litter in stalls. The pine resin (Ny.: **thañčyu**, Tib.: (**thañ-ču**)) is heated and applied to pains of the joints, on swellings and open wounds. Splinters taken from the inner part of the trunk of young trees may, when sucked, help to relieve tuberculosis and other lung diseases.

Other useful plants having nutritive or narcotic-producing properties

93. **ramči** (Ny.), **či** ('grass'), **ramba** (Ny.) = *Setaria pallide-fusca* (Schumach.) Stapf et C.E. Hubb. (Gramineae) - Manang, field margins, open fields: The grass is cut at the harvest time of the grain and stored as winter fodder. It is deemed the best fodder for livestock. The thick, longish, yellow roots (Ny.: **rambu**) are consumed fresh, usually by children. They have a sweetish taste.

Other useful plants having ritual significance

94. **kye** (Ny.) = *Abies spectabilis* (D. Don) Spach (Pinaceae) - shady slopes of Annapurna Himal: Fir wood is used for construction and making fires. The needles and cones serve as stall litter, which later is transported to the field as fertilizer. The branches can also be used as incense, though this occurs less often.

95. **khelešiñ** (Ny.), **takpa** (stag-pa) (Tib.) = *Betula utilis* D. Don (Betulaceae) - Chongkor, timber line (3900 m - 4000 m): Birch wood is used as fuel. Fences are made from the trunks of thin trees. The leaves serve as compost. The white bark is peeled off and used to cover jars of rice or "chang". During marriage ceremonies meals (e.g. rice, cooked with cheese and "chang") are served to the guests on birch bark. Formerly the Manangis also sold birch bark in India. They spread word that birch bark hung over the front door of the house would keep away tigers. The bark was likewise used formerly for drawing mantras on. It is still of ritual significance today in the construction of a "chörten" (Buddhist shrine): precious and semiprecious stones and texts with prayer formulas are purportedly wrapped in birch bark and buried underground at the spot where the new "chörten" is supposed to be built.

6. THE USE OF WILD PLANTS IN NAR

The survey in Nar was concentrated around the main settlements of Nar-mä (4200 m) and Nar-tö (4100 m), as well as the winter quarters of Meta (3600 m). The information concerning the medicinal plants was largely obtained from the monastery abbot Lama Karma Sonam of Nar-tö. Other informants were Karma Thündup from Nar-tö and Tsering Lagpa from Nar-mä.

6.1 Medicinal Plants

1. **gurki** (Nm.) = *Picrorhiza scrophulariiflora* Pennell (Scrophulariaceae) - Nar-mä: The root is used to relieve feverish colds. Narpa herdsmen collect them only for their own use, not for selling.
2. **kalen** (Nm.) = *Swertia ciliata* B.L. Burtt (Gentianaceae) - Meta: The plant is used medicinally by "amjis", though the indication was not known to the informants.
3. **lañnakarpo** (glañ-sna dkar-po) (Tib.), (glañ) ('elephant'), (sna) ('nose'), (dkar-po) ('white') = *Pedicularis* sp. (Scrophulariaceae) - high mountain steppe: In cases of rheumatic complaints the flowers are either drunk as tea or made into a salve and applied directly on the paining parts of the body. Gathering period: July/August.
4. **lañtañ** (Tib.) = *Hyoscyamus niger* L. Henbane (Solanaceae) - Nar valley, river terraces: The fruits are highly poisonous, and consumption of them fatal. In cases of toothache they are crushed and burned, and the smoke is inhaled. Gathering period: October.
5. **lugmik** (lug-mig) (Tib.) ('sheep's eye') = *Aster indamellus* Grierson (Compositae) - Nar-tö, alpine grassland: The crushed flowers are worked up with pañbö, wheat flour

and water into a paste, which is applied to relieve pain in the breasts of a woman who is giving suck.

6. **lugtsidobo (lug-rtsi do-bo)** (Tib.), (**rtsi**) ('fluid'), (**do-bo**) ('medicinal expression') = *Sausurrea* sp. (Compositae) - Nar-tö, in shady places: The plant's appearance was said to be similar to that of **pañtsidobo (span-rtsi do-bo)**, but with a much shorter stem, and the flowers somewhat smaller. It is used for diseases which may occur after a person has been in the lowlands, being caused, according to local opinion, by the heat. Even herbalists from Kathmandu come up to Nar-tö to collect it.
7. **pañsermendo (span-dser me-tog)** (Tib.), (**span**) ('meadow'), (**dser-po**) ('yellow'), (**me-tog**) ('flower'), **pema** (Tib.) = *Potentilla fruticosa* L. (Rosaceae) - Nar-tö, alpine meadows: The flowers are dried, crushed, mixed with water and applied to cuts. Gathering period: August.
8. **pañtsidobo (span-rtsi do-bo)** (Tib.), (**span**) ('meadow'), (**rtsi**) ('fluid'), (**do-bo**) ('medicinal expression') = *Ptercephalus hookeri* (C.B. Clarke) Hook. (Dipsacaceae) - Nar-tö, alpine pastures: The whole plant is dried, reduced to small pieces and taken as a medicament to relieve colds, fever, coughing, diarrhoea and the effects of poisoning. As a dose one teaspoon is given, to be drunk with warm water. Gathering period: June/July.
9. **poñkar** (Nm., Nt.), **poñkar (boñ-dkar)** (Tib.) = *Aconitum* sp. (Ranunculaceae) - Nar-mä (>4300 m), alpine grassland, scattered: The entire plant has a curative effect upon colds, fever and headaches. It is collected by the herdsmen only for their own consumption, not to sell.
10. **poñmar** (Nm., Nt.), **poñmar (boñ-dmar)** (Tib.) = *Aconitum* sp. (Ranunculaceae) - Nar-mä (>4300 m), alpine grassland: The root is pulverized and mixed with water, and taken to relieve the effects of poisoning and stomach disorders. The roots are collected only for personal use, not for commercial purposes. Some Narpas, however, buy **poñmar** in Gyasumdo in order to sell it themselves in Lamjung District.
11. **seba (se-ba)** (Tib.) = *Rosa* sp. (Rosaceae) - Nar-tö, alpine meadows: In cases of eczema and other skin diseases as well as open wounds, the flowers are dried and applied in a finely ground state as a disinfectant and antiseptic. Gathering period: June/July.
12. **sumčutikta (sum-bču tig-ta)** (Tib.) = (Gentianaceae) - Nar-tö, transitional zone between alpine grasslands and rocks: The parts of the plant growing above the ground are dried, crushed and drunk with boiled water in cases of infectious diseases, feverish colds, and other feverish diseases arising from a temporary stay in the lowlands. Among the most frequent diseases following a stay in the lowlands are, according to

the local people, disorders of the liver and gall, as well as hepatitis (mkhris-pa) (Tib.).
Gathering period: end of August.

13. **triyañku** (**pri-yañ-ku**) (Tib.) = *Dracocephalum* sp. (Labiatae) - Nar-tö, alpine zones: The dried and crushed flowers and leaves are taken with hot water to relieve liver complaints, stomach complaints and accompanying fever. Gathering period: June/July.
14. **tsahonlen** (**rtswa hon-len**) (Tib.) = *Legotis* sp. (Scrophulariaceae) - Nar-tö, moist rocky depressions (>4000 m): The root is used as a disinfectant on wounds and as a medicament to treat high blood pressure. Dried and crushed, it is prepared into a salve and applied to the wounds. In the case of hypertension, the powder is dissolved in water and drunk. In the latter case the flowers and leaves can also be used. Gathering period: July.
15. **čičekarpo** (Tib.) = *Campanula* sp. (Campanulaceae) - Nar-tö, sunny places, near springs: The white flowers are dried, crushed and prepared with cow milk into a salve which is applied to open wounds, particularly around joints. Gathering period: August.
16. **čičenakpo** (Tib.) = *Campanula* sp. (Campanulaceae) - Nar-tö, in shady places, near springs: The blue flowers are dried, crushed and mixed with the milk of a white goat into a salve which is applied in cases of subcutaneous ulcers and accumulation of water in tissues.
17. **wañla** (Nm., Nt.), **wañla** (**dbañ-lag**) (Tib.) = *Dactylorhiza hatagirea* (D. Don) Soo (Orchidaceae) - Nar-mä: Tonic properties are claimed for the roots. They are deemed rich in vitamins and can be eaten dried. Pulverized and mixed with water, they are also made into a salve and applied as a disinfectant on wounds, particularly those resulting from burns.
18. **yeihčuruk** (Tib.) = *Potentilla anserina* L. (Rosaceae) - Nar-tö (>4000 m): The flowers and leaves are dried, crushed and taken with water to relieve headaches, nausea, vomiting and heartburn.
19. **yertsagumbu** (Nm., Nt.), **yertsagumbu** (**dyar-rtswa dgun-'bu**) (Tib.) ('summer grass/winter worm') = *Cordyceps sinensis* (Berk.) Sacc. (Hypocreaceae) - alpine grassland: "If a person mixes **yertsagumbu** with 13 other herbs and takes the mixture over a period of 3 years, he will become as thick as an elephant, quick as a horse and pretty as a peacock." Ground, boiled in milk and drunk with honey or rock candy, it helps to reduce vitamin deficiency.

20. **yimoñ (dbyi-moñ)** (Tib.) = *Clematis montana* Buch.-Ham. (Ranunculaceae): A decoction effective in treating tuberculosis is made from the root in combination with other herbs.

6.2 Nutritive and Narcotic Producing Plants

21. **dzimbu** (Nt.), **dzim** (Nt.), = *Allium sp.* (Liliaceae) - Nar-tö: A garlic species whose leaves are cut, crushed and dried, and used as a spice for soups, lentils and meat. **Dzimbu** is an important trading product of the Narpas. They trade one pāthi (= 4,5 l) of **dzimbu** for one pāthi of rice or two pāthis of buckwheat.
22. **glešiñ** (Nm.) = *Viburnum cotinifolium* D.Don (Caprifoliaceae) - Meta, forests, shrubberies (3500 m): The berries, boiled in water, can be drunk as tea. Nowadays this tea is only drunk in case of urgent need, for example on trips.
23. **gudze** (Nm.) - Meta: Freshly brewed flowers can be used as tea. In former times they were often used, but nowadays they are gathered only during trips, when no other tea is on hand.
24. **gyatsa** (Nm.) = *Rheum australe* D. Don (Polygonaceae) - Nar valley, alpine grassland: The stems are eaten fresh.
25. **khalak** (Nm.) = *Prunus undulata* Buch.-Ham. ex D. Don (Rosaceae) - Meta: The fruits are eaten.
26. **khaldiñ** (Nm., Nt.) = *Polygonum macrophyllum* D. Don (Polygonaceae) - Nar-mä, Nar-tö, Tanglang, alpine meadows: The fruits are fried and ground, and consumed like "tsampa". It is usually eaten together with yogurt. Gathering period: August.
27. **khublunlun** (Nm.) = *Ribes alpestre* Wall. ex Decne. (Grossulariaceae) - Meta, shrubberies (3400 m): The red gooseberries are eaten as a snack.
28. **mat** (Nt.), **šamē (ša-sman)** (Tib.) = *Pleurospermum sp.* (Umbelliferae) - Nar-tö: A herb that serves as a meat spice.
29. **matimru** (Nm.) = *Berberis sp.* (Berberidaceae) - Meta: The sour fruits are eaten to quench thirst.
30. **matsa** (Nm.) = *Ribes sp.* (Grossulariaceae) - Meta: The currants are eaten as a snack.
31. **nao** (Nt.), **(sgog-pa)** (Tib.) = *Allium sp.* (Liliaceae) - Nar-tö, rocky slopes: A wild garlic species whose leaves are used as a spice.

32. **ñolu** (Nt.), **ñolu (sño-lo)** (Tib.), **(sño)** ('blue'), **(lo-ma)** (Tib.) ('leaf') = *Chenopodium album* L. (Chenopodiaceae) - Nar-tö: The leaves are dried and eaten in winter as a vegetable.
33. **palañ** (Nm.) = *Rubus sp.* (Rosaceae) - Meta: The raspberries are eaten as a snack.
34. **pañšermo** (Nm.), **(span ša-mo)** (Tib.), **(span)** ('meadow'), **(ša-mo)** ('mushroom') = (Fungus) - alpine grassland: The mushroom is eaten in small quantities raw, with a bit of salt and butter. In larger quantities it is eaten after being boiled and fried in oil.
35. **punza** (Nt.), **(zwa-gdug)** (Tib.) = *Urtica sp.* (Urticaceae) - Nar-tö: The leaves are dried and eaten in winter as a vegetable.
36. **ratsihle** (Nm.) = *Polygonatum verticillatum* (L.) All. (Liliaceae) - Meta: The stems are eaten as a salad. They are cut into pieces and boiled, and after the water has been drained off, are spiced with chili and eaten together with buttermilk or yogurt and bread. In addition, they are dried for winter consumption.
37. **razeno** (Nm.), **mati** (Nt.) = *Thymus serpyllum* L. (Labiatae) - Meta: Flowers and leaves are dried and pounded along with chili, and used as a spice. Gathering period: September.
38. **šasermo** (Nm.), **(ser ša-mo)** (Tib.) ('yellow mushroom') = (Fungus) - alpine grassland: The mushroom is roasted over a fire and eaten.
39. **šoma** (Nt.), **(šo-mañ)** (Tib.) = *Rumex sp.* (Polygonaceae) - Nar-tö, field margins: The stems are eaten as a salad.
40. **toñdoñdze** (Nm.) = *Rosa macrophylla* Lindl. (Rosaceae) - Chako: The hips are eaten.
41. **"töngu"** (Nm.), **šamē** (Ny.) = (Umbelliferae) - Nar valley: Meat spice.

Nutritive and narcotic-producing plants having ritual significance

42. **pole** (Nt.) - Nar-tö: A bush with white flowers which may be used to prepare tea. The branches and flowers also serve as incense.

Nutritive and narcotic-producing plants having other uses

43. **hali** (Nm.) = *Rumex nepalensis* Spreng. (Polygonaceae) - Meta: The sorrel stems are eaten fresh. The roots are used for dyeing (yellow colour). They are dried, pounded and boiled with the clothes (e.g. a monk's belt). One pāthi of roots is needed for one belt. Sour "chang" or "rakshi" is added as a fixative.

44. **khundutuñ** (Nt.), **gundu** (Nm.) = *Ribes sp.* (Grossulariaceae) - Nar-tö, Meta: The berries are eaten. The branches are used in Nar-tö as firewood.
45. **phyeldu** (Nt.), (**'phel-'bru**) (Tib.) - Nar-tö: The flowers are still gathered nowadays for making tea. The branches serve as firewood.
46. **tañdza** (Nt.), **tañdze** (Nm.) = *Rosa sericea* Lindl. (Rosaceae) - Nar-tö: The hips are eaten, and the branches used as fuel.
47. **yograšin** (Nt.), **yograšin** (**yog-ra šin**) (Tib.) - Nar-tö: The fruits are eaten, and the branches used as firewood.

Nutritive and narcotic-producing plants having other uses and curative properties

48. **kyerba** (Nt.) = *Berberis sp.* (Berberidaceae) - Nar-tö: The berries are eaten, and the branches used as fuel. The branches, stripped of their bark, are boiled thoroughly and ground into a viscous, brown paste, which is applied as an eye ointment.

6.3 Ritual Plants

49. **khambalopsañ** (Nm), **khambaserwa** (Nt., Nm.), (**mkhan-pa gser-po**) (Tib.) = *Tanacetum nubigenum* Wall. ex Dc. (Compositae) - Meta, Nar-tö: Incense plant. Gathering period: September.
50. **palukarpo** (Nm.) = *Rhododendron lepidotum* Wall. ex G. Don (Ericaceae) - Meta, alpine meadows: Incense plant. As *Rhododendron* is rare in Nar-mä, it is collected only on special occasions, for example, when sacred earthen statues are filled with various incense materials.
51. **palunakpo** (Nm.) = *Rhododendron anthopogon* D. Don (Ericaceae) - Meta: Incense, cf. **palukarpo**.
52. **pañbö** (Nt.), **pañpö** (**sapañ-spos**) (Tib.) = *Nardostachys jatamansi* DC. (Valerianaceae) - Nar-tö: Incense.
53. **sañšin** (Nt.), (**bsaṇ-šin**) (Tib.), (**bsaṇ**) ('incense'), (**šin**) ('wood') - Nar-tö: Incense.

Ritual plants having curative properties and other uses

54. **koma** (Nm.), **prama** (Nt.), **muktsi** (**smug-rtsi**) (Tib.) = *Onosma bracteatum* Wall. (Boraginaceae) - Meta, rocky slopes (3600 m): The root of the female plant contains a red dye, which is boiled out in oil or butter. The liquid is used to decorate offering cakes ("tsog"). **Koma** oil also has medicinal application. It is regarded as a

medicament which relieves earaches, and is administered in drops. The dye is also said to be used by Nepalese women to colour the parting of their hair as a sign of their marital status.

6.4 Other Useful Plants

55. **kudza** (Nt.), (**sku-rtswa**) (Tib.), (**rtswa**) ('plant') - Ngoru, along paths: The branches are used as fuel. They also serve to protect fields from being grazed by livestock.
56. **kye** (Nt., Nm.) = *Abies spectabilis* (D. Don) Spach (Pinaceae) - Meta: Fir wood is used in Nar-tö in dwelling interiors, e.g. as wooden planks for the floor. It serves, in addition, as firewood. As fir trees no longer grow in the region of Nar-tö, the wood must be purchased in Nar-mä.
57. **mae** (Nm.) = *Arundinaria sp.* (Gramineae) - Nar Khola ravine: A species of bamboo that is made into baskets in Nar-mä, which in turn are sold in Nar-tö and Manang.
58. **nemsi** (Nm.), **ñamsi** (Nt.) = *Silene stracheyi* Edgew. (Caryophyllaceae) - Meta: The roots are dried and crushed, and used as a soap with warm water to wash head and body. One handful of roots suffices for two women to wash their hair with.
59. **nyelbogbog** (Nm.), **bogbog** ('jumping fruit') = *Impatiens sp.* (Balsaminaceae) - Meta (3400 m): A sticky oil is obtained from the small, black seeds; it is applied to painted objects (windows, statues) as a conditioner. The production process is similar to that used in obtaining mustard oil.
60. **pañda** (Nm.) = *Gerbera nivea* (DC.) Schultz-Bip. (Compositae) - Meta, shrubberies: The hairy leaves are dried and, rubbed between the hands, used as tinder. They are also used in cauterizing wounds and in treating pain. In cases of open wounds, the leaves are rolled into a thread and used as a fuse. If the wound is not open, resin is applied to the paining part, followed by the leaves as tinder ("fire stamp").
61. **par** (Nt.), (**phar**) (Tib.) = *Juniperus communis* L. (Cupressaceae) - Nar-tö, alpine meadows: Firewood.
62. **supa** (Nt.) - Nar-tö: A thorny shrub, the roots of which are used as a detergent. They are crushed and boiled with soiled laundry, or else they are rubbed into the dirt stains and rinsed out with water.
63. **tsar** (Nt.), (**tshar**) (Tib.) = *Cotoneaster sp.* (Rosaceae) - Nar-tö: Firewood.

Other useful plants having curative properties

64. **thanšĩn** (Nt.), **thanšĩn (than-šĩn)** (Tib.) = *Pinus wallichiana* A.B. Jacks. (Pinaceae) - Meta: Pine wood is available only in Nar-mä, and the inhabitants of Nar-tö have to go there to obtain it. In Nar-tö it is used in the construction of houses and bridges. The resin is applied as a balm to relieve labour pain, e.g. in the joints due to overexertion when cutting with a sickle.

Other useful plants having curative properties and ritual significance

65. **takpa** (Nt., Nm.), **takpa (stag-pa)** (Tib.) = *Betula utilis* D. Don (Betulaceae) - Kyang, forest, timber line: The wood is deemed to be very durable. Ploughs, saddles and various household objects (snow shovels, chili pots, measuring cups, spoons etc.) are made out of it. The bark is used for covering dishes and drinks (e.g. "chang"). It also has application in house construction. The ends of wall girders are wrapped about with birch bark in order to protect against decay. A tea that helps to relieve neck pain (diagnosed as an effect of "overblood") can be made from the parts of the root growing above the ground. The birch leaves (Nt.: **takpoba**) can be used as incense, both fresh and dried. Numerous lathed household objects (e.g. butter jars, offering boxes, food bowls) are produced from birch wood.

Other useful plants having ritual significance

66. **šukpa** (Nm.), **šukpa (šug-pa)** (Tib.) = *Juniperus indica* Bertol. (Cupressaceae) - Meta, Kyang: Juniper wood is used in house construction in Nar-mä to make doors and posts supporting ceilings. Branches from which the bark has been removed are turned into nose rings for yaks, the wood being made pliable over fire. From juniper wood, too, are made vessels for milk products (e.g. butter kegs, milk pots), as pine, whose resin affects the taste, is unsuitable for these purposes. In contrast to birch wood juniper is easy to work with, while still being durable. It likewise serves as firewood. The branches are also used to light fires and as incense. In general, three types of juniper are distinguished in Nar: 1. **pašuk** (Nm.), **(bod-šug)** (Tib.) = Tibetan juniper; 2. **paršuk** (Nm.), **(bal-šug)** (Tib.) = Nepalese juniper, which is used as incense; 3. **kyašuk** (Nm.), **(rgya-šug)** (Tib.) = Chinese juniper, which only grows in the alpine meadows (e.g. in Chako) = *Juniperus squamata*.

7. RESULTS AND CONCLUSIONS

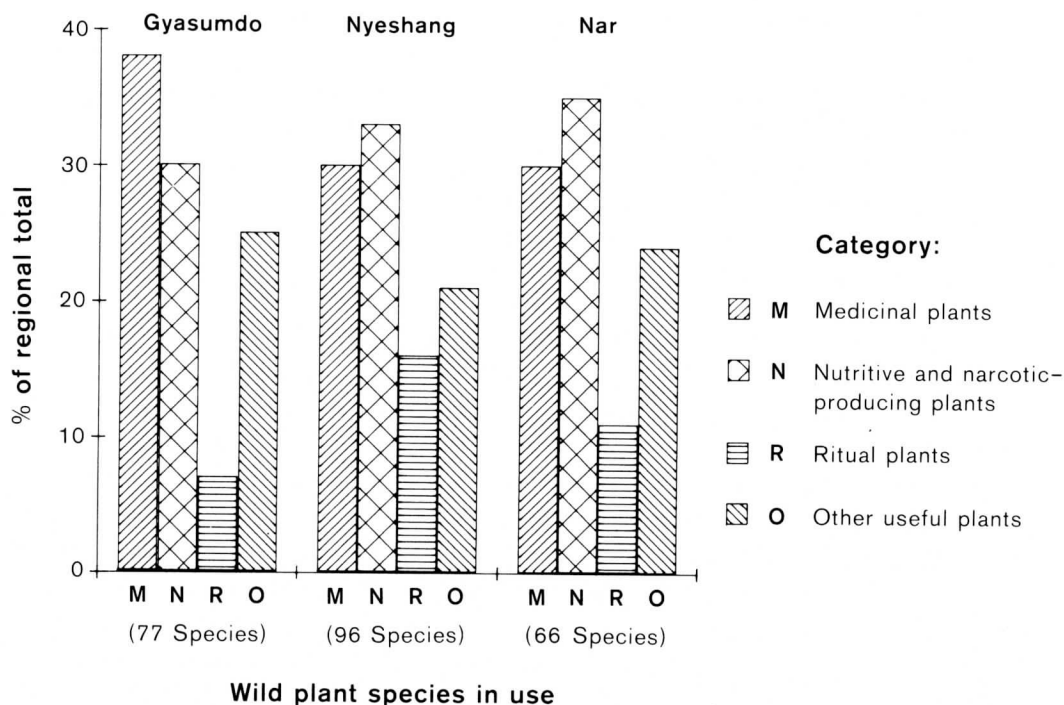
Altogether more than 300 useful wild plants were collected in the regions of Gyasumdo, Nyeshang and Nar. A number of plants, however, could not be identified, and in other cases differences arose concerning the use, so that the inventory reproduced here includes 239 wild plants used in Manang District. As the plant uses are documented according to the region, plants occurring in one region as well as in another are necessarily listed twice, so that the inventory in the final count contains approximately 200 different plant species (cf. index). Furthermore, consideration should be given to the fact that the surveys do not make any claim to completeness. Although the attempt was made to include the most important and most frequently used plants as comprehensively as possible, there are surely some other plants which have not been taken into account within this monograph.

Of the 239 useful plants recorded in Manang District, 77 species came from Gyasumdo, 96 from Nyeshang and 66 from Nar (cf. fig. 3). When one recalls the physical conditions of the various regions and at the same time takes into account the fact that the number of species greatly decreases with increasing altitude and continental climate, then the 66 documented plant species in Nar and, even more, the 96 species in Nyeshang must be judged to be quite a lot. What is striking is that the greatest number of wild plants used by the local people has not been recorded in the middle altitudes (around 2000 m) of Gyasumdo, where the flora has a greater variety, but in the region of Nyeshang, which lies higher up (above 3200 m) and where the climatic conditions are drier and more severe. This would seem to indicate that there is a greater dependence among the population upon natural resources in the higher and climatically less favourable regions than is the case in the lower ones, where there is overall a greater possibility of variation in the agricultural products.

This last statement would seem to be confirmed when one considers fig. 3, in which the percentage share that medicinal plants, nutritive and narcotic-producing plants, ritual plants and other useful plants have in the total sum of wild plants recorded in the various regions. It is seen, in fact, that wild edible plants were predominantly recorded in the high-altitude regions of Nar and Nyeshang, whereas medicinal plants figured most prominently in Gyasumdo. Apparently there is in fact a more urgent need for nutritive sources in the climatically less favourable regions to supplement the daily diet, so that there more plants are collected which can be used as wild vegetables or salads, such as *Rheum australe*, *Rumex nepalensis*, *Chenopodium album*, *Medicago falcata*, *Capsella bursa-pastoris*, *Taraxacum* sp. etc.

The larger number of medicinal plants recorded in Gyasumdo, on the other hand, corresponds to the broader spectrum of frequently occurring diseases. Thus in Gyasumdo alone, 6 medicinal plants were recorded which are used for diseases of the gastrointestinal tract (e.g. *Bergenia ciliata*, *Paris polyphylla*, *Rhus javanica*) and also 6 such plants that are effective in cases of suppurating tumors and boils (e.g. *Cissampelos pareira*, *Cuscuta*

Fig. 3: The use of wild plants in Manang District according to region and category



santapau, *Gonostegia hirta*). What is striking is that boils and gastrointestinal disorders are precisely the diseases that are the most frequently registered by the local health post in Bagarchhap. In Nyeshang, by contrast, there are strikingly many plants (8 species) which are used in cases of colds accompanied by fever (e.g. *Aconitum violaceum*, *Gentianella paludosa*, *Halenia elliptica*, *Picrorhiza scrophulariiflora*), with such illnesses being here, too, the most frequent causes of diseases registered by the local health post in Manang. The frequency of particular diseases is thus reflected in the number of medicinal plants that are drawn upon to treat them.

All this notwithstanding, however, the prominent specialized knowledge among individual population groups concerning plants that provide nutritive or narcotic substances for consumption or concerning plants of medicinal value cannot only be explained by way of natural environmental conditions; rather, it must also be seen in connection with the cultural traditions of the individual ethnic groups, their relation to the plants and the significance of the plants to the forms their life and economic activities take.

Thus for the Gurungs, for example, knowledge of medicinal plants is a folk tradition in a way that it is not for the Gyasumdopas and Narpas. Among the Gurungs, each person asked was able immediately to specify a number of plants with medicinal properties. Moreover, almost all of the persons questioned had a detailed and discriminating knowledge of both useful and harmful properties of the plants.

The Gyasumdopas, by contrast, have rather a more comprehensive practical knowledge of the plants. They are acquainted more with other useful plants than with specifically medicinal ones. These include above all plants particularly suitable for the use as fodder, fuel or timber, concerning the quality of whose wood they are highly informed. Some of them also run a well-organized trade in herbs with Kathmandu, though they themselves are not doing the plant collection, hiring instead others for the work, usually Gurungs from Lamjung and Gorkha districts (cf. plate 4). The reason Gyasumdopas do not use medicinal plants for private consumption lies presumably in their Tibetan cultural tradition, in which knowledge concerning such plants and their effects and uses is the prerogative of specially trained "amjis" (doctors) or "lamas" (priests).

Thus the inhabitants of Nar-tö also had comparatively little grasp of folk medicine. There it is the abbot of the monastery (cf. plate 5) who commands the special knowledge of traditional Tibetan medicine, its proper application and pharmacognosy. As fundamental significance is attached within Tibetan medicine to herbal treatments, he was also the person best informed on medicinal plants and their effects upon the human organism. Moreover, he was familiar with the very intricate rules of collection, which stipulate, among other things, when particular herbs may be collected, which plant parts must be removed and which preserved in order to insure the plants' survival. Since the local population had full confidence in the lama's medical knowledge and abilities, they knew only comparatively few medicinal herbs. Usually these were plants which they do a business in, as **poñmar** (*Aconitum* sp.), which they buy in Gyasumdo for sale in Lamjung District, or **yertsagumbu** (*Cordyceps sinensis*), which they collect themselves in autumn in the alpine meadows. Apart from medicinal herbs, the Narpas stock other plant products among their assortment of trading goods, including **šukpa** (*Juniperus indica*) and **dzimbu** (*Allium* sp.). Whereas **šukpa** is sold as incense in Lamjung District in relatively small quantities, trade in **dzimbu** is of greater economic significance. As the yearly barley harvest cannot meet Nar's needs, additional grains must be obtained, either in exchange for **dzimbu** (at a ratio 1:1, 1:2) or through its sale. Thus the **dzimbu** harvest occupies an important place in the calendar of the Narpas' economic activities. In Nar-tö, on a specially chosen day before the barley harvest, the leaves of wild onions are all at the same time harvested over large tracts by the entire population. After having been cut into small pieces and dried, they are traded in Lamjung District in winter for food grains or even sold to Kathmandu and Pokhara, where they are a favorite spice for **dāl** (lentil soup) and **tarkāri** (cooked vegetables).

Earlier, among the Manangis, there must have been, as among the Gurungs, an extensive knowledge of medicinal plants, as during the early history of their trading activities it was for the most part herbs they stocked among their wares. Therefore, during the time when the trade in herbs was encouraged and supported by Prithvi Narayan Shah (1725-1775, cf. LO BUE, 1981; COOKE, 1988), they were the principal ones to profit, trading in numerous herbs from the high mountains, at first in the south of Nepal (cf. plate 7) and later in India and Burma. While on their extensive trading trips, which were usually undertaken by men during winter, they met people from other regions who were versed in herbal lore, and whose wide-ranging knowledge they appropriated for themselves. Thus, for example, on their yearly travels to the south during winter, they became acquainted with the Gurungs' most important herbs, used chiefly for medicinal purposes, and incorporated them into their assortment of trading products. They came by additional knowledge in India and Southeast Asia, and among some families in Nyeshang one can even today find numerous herbs whose origins are spread out over the entire area of South and Southeast Asia (e.g. **poñmar** from Bhutan, **subari** from India, etc.). While the trade in herbs had an important economic role to play for the Manangis up into the 1950s, it quickly fell into the background when their trading journeys were extended over the entire area of Asia and their traditional wares more and more replaced by more profitable goods, such as precious and semiprecious stones and their imitations, electric and manufactured wares, clocks, gold and much more. Nowadays, therefore, knowledge among the common Manangi is largely restricted to the best known trading herbs, such as **gurki** (*Picrorhiza scrophulariiflora*), **poñkar** (*Aconitum violaceum*), **añla** (*Dactylorhiza hatagirea*), **poñmar** (*Aconitum* sp.) and **yertsagumbu** (*Cordyceps sinensis*). Herbal lore beyond this in Nyeshang derives for the most part from Tibetans who settled there after having fled Tibet (cf. plate 8). Even the picking of wild vegetables is of significance nowadays only in the case of a few Manangis, usually older persons who have remained behind in Nyeshang. As a shortage of food grains no longer prevails, due to the emigration of numerous families, there is also no longer any immediate necessity to look for substitute foodstuffs, such as **khaldi** (*Polygonum macrophyllum*) to replace "tsampa" (flour of roasted cereals); rather, such collecting is more likely to be viewed as a toilsome work to be performed only to get some variation in the diet, especially during spring.

In contrast to the knowledge of medicinal and nutritive plants, that of ritual plants exists among all ethnic groups to a fairly equal degree. As every family has to perform "pujas" (religious rituals) on certain occasions and is itself partially responsible for procuring the ritual objects necessary for them, all persons were familiar with a number of ritual plants (particularly incense plants), their distinguishing features and their symbolic significance. It is notable that the plants found in higher altitudes were held to be ritually purer and were consequently accorded greater esteem, as for example **pañbō** (*Nardostachys jatamansi*). Moreover, all flowering plants (**mendosañ**, (**me-tog bsañ**)) may be used either as incense or as decorations for the house altar, so that the documentation carried out in the various

regions contains only a restricted number of plants, those used in particular rituals or serving customarily as incense.

Whereas ritual plants still have an important role to play in both the Buddhist and Hindu religions, so that they have scarcely lost their significance, many other useful plants, except those for daily use as fodder, fuel or timber, have in general lost theirs to a very great extent. Thus, paper is no longer made from *Daphne* and *Stellera* plants, the shells of walnuts are no longer used for dyeing, and plants that can be used as tinder have lost their function through the commonness of benzine lighters. Apart from such examples, the production of diverse household objects made of wood has drastically decreased, and one can probably no longer find any household in which wooden containers have not been replaced by aluminium and plastic ware.

In summary, then, the survey of plants from Manang District reflects a fairly extensive and detailed knowledge on the part of the local population concerning wild plants and their utility. Since they are usually providing their livelihood through the use of various plant resources, whether it be by cultivating grains, vegetables and fruits, through pasturing and the procuring of fodder for livestock during winter or through occasionally trading in herbs, they have developed a close relationship to the plant world. However, knowledge concerning nutritive and narcotic-producing plants, as well as medicinal herbs, is not distributed evenly over the different population groups. Whereas the Gurungs were for the most part thoroughly conversant with medicinal plants, in Nar it was only individual specialists who had detailed knowledge of them. This is in keeping, however, with their traditional Tibetan culture, in which herbal lore is the concern of especially trained persons. In Nyeshang, by contrast, the collecting of medicinal herbs was carried out, at least at certain times, primarily for economic reasons. As the necessity for this no longer exists, due to more profitable trading ventures, interest in herbs and their exchange value has been lost, particularly within the younger generation. Only families which are economically less well off still migrate in the winter to the southern part of Nepal (Narayanghat) in order to do trading in herbs and other essential goods.

8. BIBLIOGRAPHY

- BAJRACHARYA, Dayananda, 1980: Some Nepalese Edible Wild Fruits & Their Nutritive Values. In: Tribhuvan University Journal.
- BAJRACHARYA, Mana Bajra, 1979: Ayurvedic Medicinal Plants and General Treatment. Kathmandu.
- BHANDARY, Hemanta R. & SHRESTHA, Purushottam, 1982: Ethnobotanical Approach on the Poisonous Plants of Annapurna and Langtang Himal. In: Journal of the Natural History Museum, Vol. 6, No. 4: 125- 135.
- BIELMEIER, R., 1986: Zur Stellung des Dialekts von Mustang in Nepal. In: KÖLVER, B. (Ed.): Formen kulturellen Wandels und andere Beiträge zur Erforschung des Himalaya. Colloquium des Schwerpunktes Nepal, Heidelberg, 1. - 4. Febr. 1984, Sankt Augustin.
- BOD RAN SKYON LJONS GSAR BRJE U YON LHAN KHAN GI 'PHROD BSTEN ("U-Yon" Gesundheitsinstitut der neuen autonomen Region Tibet), 1973: Bod Ljons rgyun spyod krun dby'i sman rigs (Alltägliche tibetische medizinische Praxis). Bod Ljons mi dmans dpe skrun Khan (Tibetische Volksdruckerei), Peking.
- COBURN, B., 1984: Some Native Medicinal Plants of the Western Gurung. In: Kailash, Vol. XI, No 1-2: 55-88. Kathmandu.
- COOKE, M.T., 1988: The People of Nyishang: Identity, Tradition and Change in the Nepal - Tibet Borderland. Diss. University of California, Berkeley.
- DOBREMEZ, J.F. & JEST, C., 1971: Carte écologique du Népal. I: Région Annapurna-Dhaulagiri. C.N.R.S. (Ed.): Cahiers Népalais 3, Grenoble.
- FORD, R.I., 1978: Ethnobotany: Historical Diversity and Synthesis. In: FORD, R.I. (Ed.): The Nature and Status of Ethnobotany. Anthropological Papers No. 67, Univ. of Michigan, Michigan.
- GLOVER, W.W., 1969: Gurung Phonemic Summaries - I. Summer Inst. of Linguistics, Tribhuvan University Kirtipur, Kathmandu.
- HMG, Ministry of Food, Agriculture and Irrigation, Department of Irrigation, Hydrology and Meteorology: Climatological Records of Nepal 1975-1984, Vol. I, 4, Kathmandu.
- HMG, Ministry of Forests and Soil Conservation, Department of Medicinal Plants, 1976: Catalogue of Nepalese Vascular Plants. Bulletin of the Department of Medicinal Plants No. 7, Kathmandu.
- HMG, Ministry of Forests and Soil Conservation, Department of Medicinal Plants, 1982a: Medicinal Plants of Nepal. Bulletin of the Department of Medicinal Plants No. 3, Kathmandu (1. Edition 1970, 2. Edition 1976).
- HMG, Ministry of Forests and Soil Conservation, Department of Medicinal Plants, 1982b: Wild Edible Plants of Nepal. Bulletin of the Department of Medicinal Plants No. 9, Kathmandu.
- HMG, Ministry of Forests and Soil Conservation, Department of Medicinal Plants, 1984: Medicinal Plants of Nepal (Supplement Volume). Bulletin of the Department of Medicinal Plants No. 10, Kathmandu.

- HARA, H., STEARN, W.T. & WILLIAMS, L.H.J., 1978: An Enumeration of the Flowering Plants of Nepal. Volume One. Trustees of British Museum (Natural History), London.
- HARA, H. & WILLIAMS, L.H.J., 1979: An Enumeration of the Flowering Plants of Nepal. Volume Two. Trustees of British Museum (Natural History), London.
- HARA, H., CHATER, A.O. & WILLIAMS, L.H.J., 1982: An Enumeration of the Flowering Plants of Nepal. Volume Three. Trustees of British Museum (Natural History), London.
- HOSHI, M., 1984: A Praaka Vocabulary - A Dialect of the Manang Language. In: Anthropological and Linguistic Studies of the Gandaki Area in Nepal II. Monumenta Serindica No. 12:133-202.
- JÄSCHKE, H.A., 1980: A Tibetan-English Dictionary - With Special Reference to the Prevailing Dialects. Delhi, Reprint.
- JONES, V.H., 1941: The Nature and Status of Ethnobotany. In: *Chronica Botanica* 6: 219-21.
- LO BUE, Erberto, 1981: The Use of Official Plants Among the Lama People of Yol-mo. In: *Kailash*, Vol. VIII, No. 1-2: 89-108.
- MAJUPURIA, T.C., 1988: Religious & Useful Plants of Nepal & India. Lashkar, India.
- MANANDHAR, N.P., 1980a: Medicinal Plants of Nepal Himalaya. Kathmandu.
- MANANDHAR, N.P., 1980b: Some Less Known Medicinal Plants of Rasuwa District (Nepal). In: *Quart. J. Crude Drug Res.* 18, No. 3: 147-151.
- MANANDHAR, N.P., 1980c: Contribution à l'étude des plantes sauvages utiles du Népal et des pays Himalayens. Thèse de doctorat de troisième cycle, Grenoble.
- MANANDHAR, N.P., 1987: An Ethnobotanical Profile of Manang Valley, Nepal. In: *J. Econ. Tax. Bot.*, Vol. 10, No. 1: 207-213.
- MANANDHAR, N.P., 1987: Traditional Medicinal Plants Used by Tribals of Lamjung District, Nepal. In: *Int. J. Crude Drug Res.* 25, No. 4: 236-240.
- MANANDHAR, N.P., 1989: Useful Wild Plants of Nepal. Nepal Research Centre Publications No. 14, WEZLER, A. (Ed.), F. Steiner Verlag Wiesbaden, Stuttgart.
- MAZAUDON, M., 1978: Consonantal Mutation and Tonal Split in the Tamang Sub-Family of Tibeto-Burman. In: *Kailash*, Vol. VI, No. 3:157-179, Kathmandu.
- MESSER, E., 1978: Present and Future Prospects of Herbal Medicine in a Mexican Community. In: FORD, I.R. (Ed.): *The Nature and Status of Ethnobotany*. Anthropological Papers No. 67, Museum of Anthropology, Univ. of Michigan, Michigan.
- MOLVRAY, M., 1988: A Glossary of Tibetan Medicinal Plants. In: *Tibetan Medicin*, Series No. 11, Dharamshala, India.
- MUMFORD, S.R., 1985: Transmutation and Dialogue: Tibetan Lamaism and Gurung Shamanism in Nepal. Diss. Princeton University.
- MÜLLER-BÖKER, U., in press: Ethnobotanical Studies among the Citavan Tharus. In: *Journal of the Nepal Research Centre*, Vol. IX, Kathmandu.

- NAGANO, Y., 1984: A Manang Glossary. In: *Anthropological and Linguistic Studies of the Gandaki Area in Nepal II*. Monumenta Serindica No. 12:203-234.
- PANDAY, Kk., 1982: *Fodder Trees and Tree Fodder in Nepal*. Bern, Birmersdorf.
- POHLE, P., 1986: High Altitude Populations of the Remote Nepal-Himalaya. Environmental Knowledge and Adaptive Mechanisms. (A Study of the Manang District) In: SEELAND, K. (Ed.): *Recent Research on Nepal*. Schriftenreihe Internationales Asienforum, 3:113-139, München, Köln, London.
- POHLE, P., 1988: The Adaptation of House and Settlement to High Altitude Environment - A Study of the Manang District in the Nepal-Himalaya. In: *Journal of the Nepal Research Centre*, Vol. VIII, Kathmandu.
- POLUNIN, O. & STANTON, A., 1984: *Flowers of the Himalaya*. New Delhi.
- SACHERER, J., 1977: *The Sherpas of Rolwaling, North Nepal: A Study in Cultural Ecology*. Diss. Paris.
- SACHERER, J., 1979: The High Altitude Ethnobotany of the Rolwaling Sherpas. In: *Contributions to Nepalese Studies*, Vol. VI, No. 2: 44-64.
- SCHWEINFURTH, U., 1957: Die horizontale und vertikale Verbreitung der Vegetation im Himalaya. *Bonner Geogr. Abh.* 20, Bonn.
- SHRESTHA, Keshab, 1984: *A Field Guide to Nepali Names for Plants*. Natural History Museum, Kathmandu (1. Edition 1979).
- SHRESTHA, Keshab, 1984: Grasses and Sedges - Their Ecology, Distribution and Economic Uses in Manang - Mustang Region. In: *Journal of the Natural History Museum*, Vol. 8, No. 1-4: 41- 51.
- SHRESTHA, Purushottam, 1985: Research Note: Contribution to the Ethnobotany of the Palpa Area. In: *Contribution to Nepalese Studies*, Vol. 12, No. 2: 63-74.
- SHRESTHA, P., 1989: Ethnobotanical observations of Helambu and adjoining area. In: *Banko Janakari*, Vol. 2, No. 2:121-126, Kathmandu.
- STANTON, A., 1988: *Flowers of the Himalaya - A Supplement*. New Delhi.
- TOBA, Sueyoshi, 1975: Plant Names in Khaling. A Study in Ethnobotany and Village Economy. In: *Kailash*, Vol. III, No. 2: 145-169.
- TOFFIN, G. & WIART, J., 1985: Recherches sur l'ethnobotanique des Tamang du massif du Ganesh Himal (Népal Central): les plantes non cultivées. In: *Journ. d'Agric. Trad. et de Bota. Appl.* XXXII:127-175, Paris.
- TURNER, R.L., 1965: *A Comparative and Etymological Dictionary of the Nepali Language*. London, Reprint.

Numerous plant species described within this monograph are illustrated in: BOD RAN SKYON LJONS GSAR BRJE U YON LHAN KHAN GI 'PHROD BSTEN, 1973 (colour drawings); MANANDHAR, 1989 (line drawings); POLUNIN & STANTON, 1984 (colour photographs); STANTON, 1988 (colour photographs).

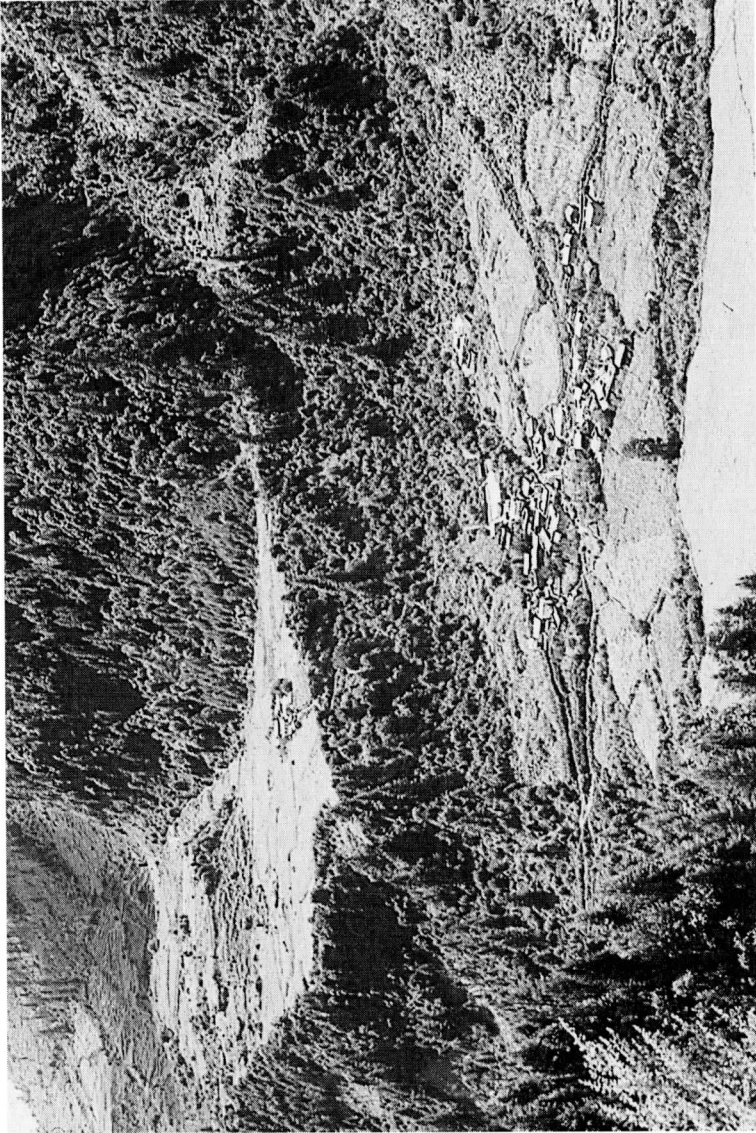


Plate 1: Around the village of Bagarchhap (2100 m) in Gyasumdo a subtropical vegetation predominates with oak forests (*Quercus semicarpifolia*) in a lower belt and conifers (*Picea smithiana*, *Tsuga dumosa*) in an upper belt (September 1984).



Plate 2: In Nyeshang, the pine and juniper forests of the valley bottom and the southern slopes of the Marsyandi valley are largely cleared for cultivation and settlements (Manang 3500 m, September 1983).

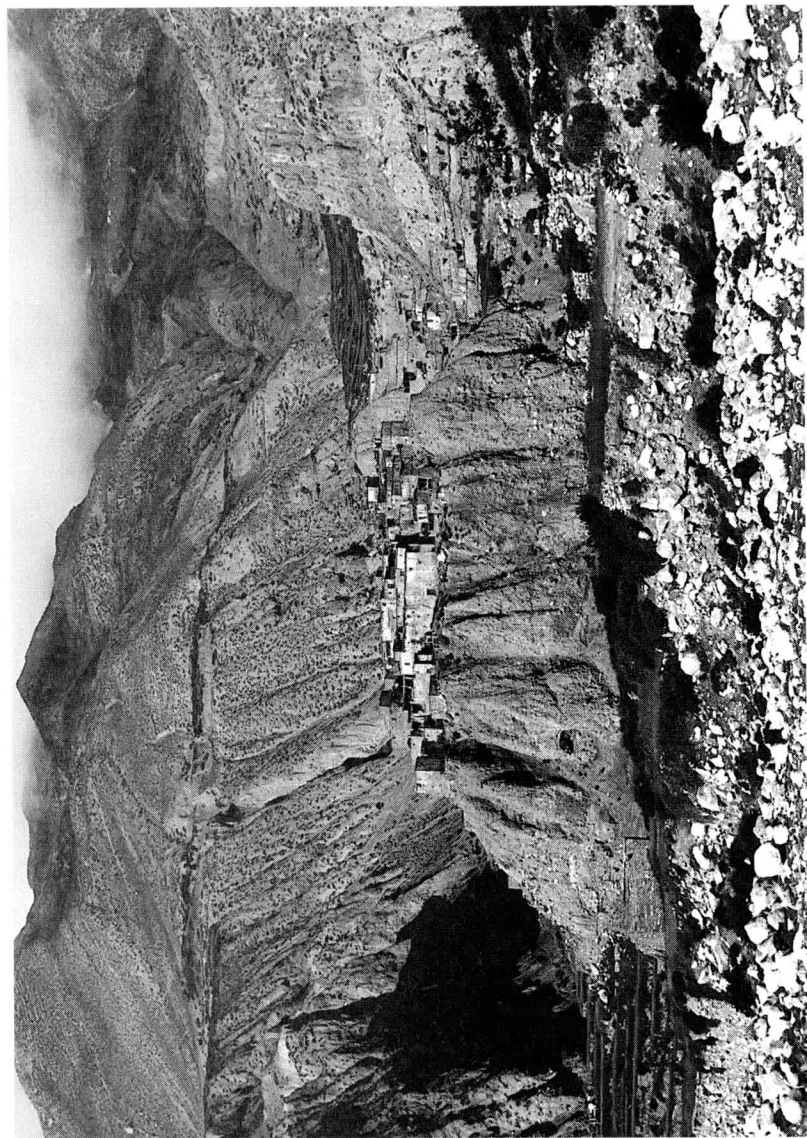


Plate 3: In Nar, the village of Nar-tö (4100 m) is situated above the timber-line, where the steppe vegetation of the Tibetan Himalaya predominates (September 1984).



Plate 4: Along with corn, roots of medicinal herbs (*Dactylorhiza hatagirea*) are dried on the roof of a house in Taje (Gyasumdo) before they are sold to Kathmandu (September 1984).

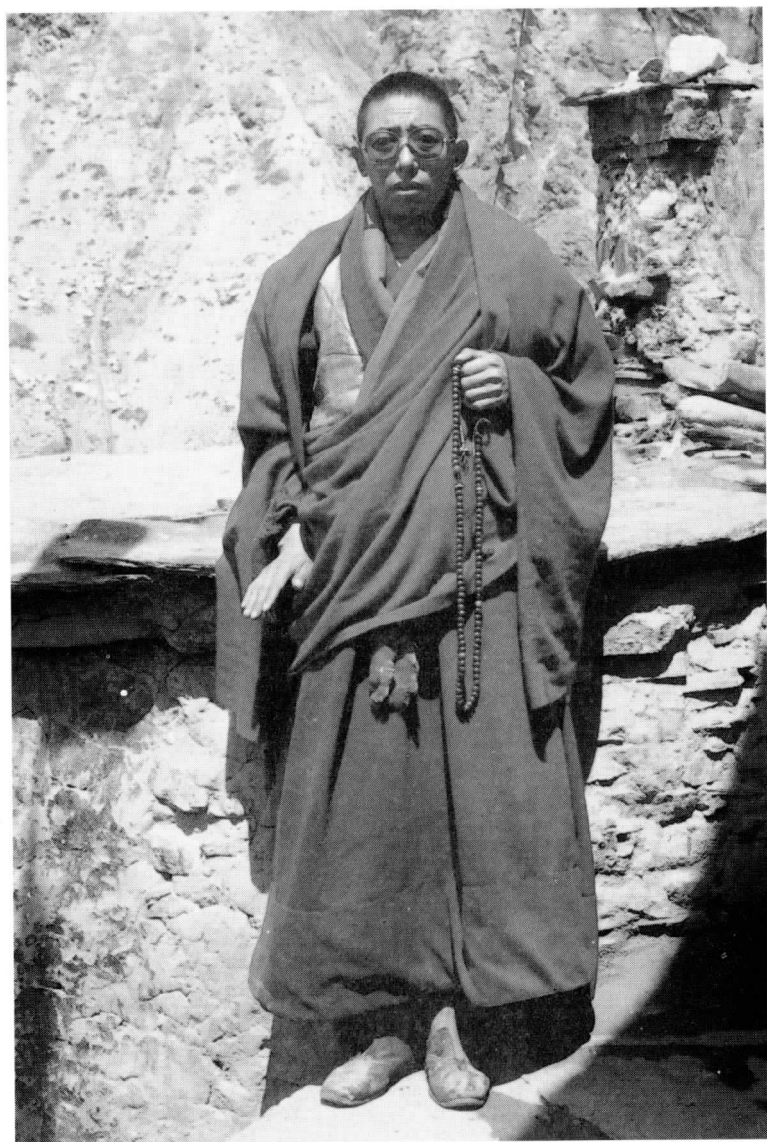


Plate 5: In Nar-tö the abbot of the monastery, Lama Karma Sonam, was the best informed person on medicinal plants and their effects upon the human organism (September 1984).



Plate 6: A young woman from Nar-tö pounding **dzimbu** (*Allium* sp.), which is sold during winter in Lamjung District (September 1984).



Plate 7: A Manangi trader in Narayanghat selling medicinal herbs from Manang and India along with other goods (September 1983).

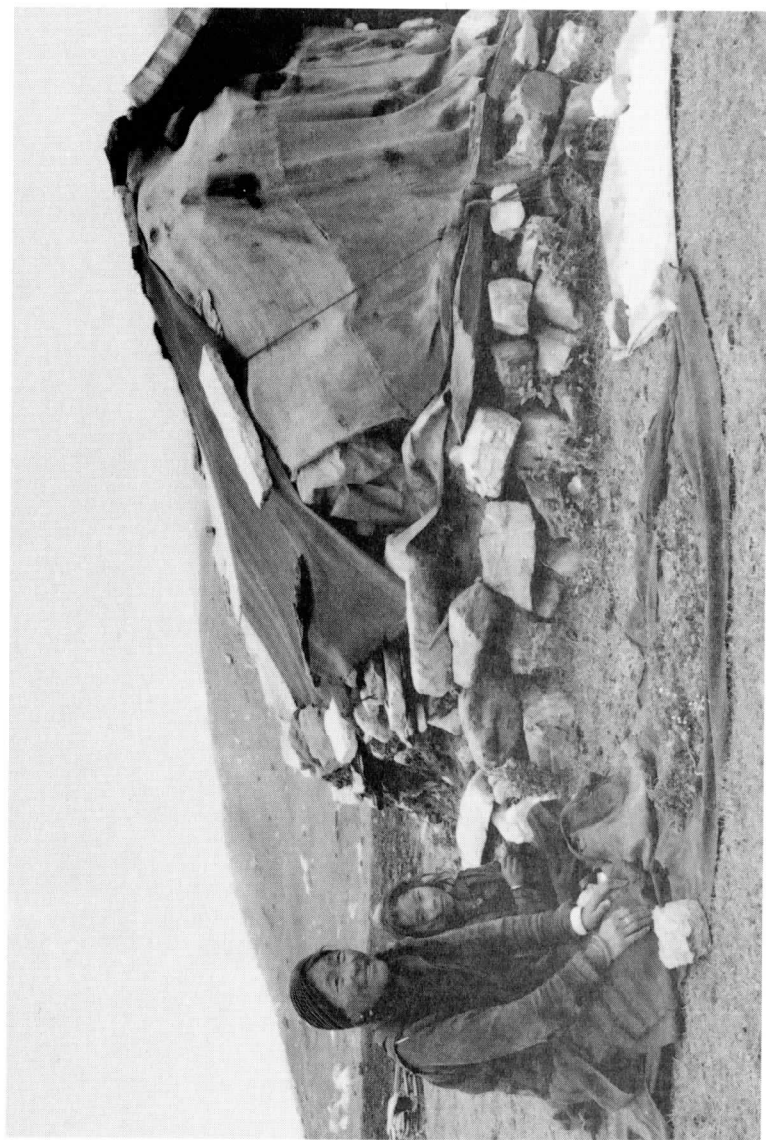


Plate 8: Tibetans on a high-mountain pasture in Nyeshang drying šamē, a meat spice (*Pleuro-spermum hookeri*), and salt in front of their shelter (August 1984).

Index 1: Botanical names of wild plants used in Gyasumdo

Botanical name	Vernacular name	Page
<i>Aconitum</i> sp. (Ranunculaceae)	poñmar (Gy., Ny.)	16
<i>Aconogonum molle</i> (D. Don) Hara (Polygonaceae)	tiphuñ (G.)	20
<i>Acorus calamus</i> L. (Araceae)	čhöta (G., Ny.)	14
<i>Alnus nepalensis</i> D. Don (Betulaceae)	ramšaň (Gy.)	22
<i>Anemone vitifolia</i> Buch.-Ham. ex DC. (Ranunculaceae)	dzulu (G.)	22
<i>Artemisia vulgaris</i> Linn. (Compositae)	čöde (G.)	21
<i>Aster</i> sp. (Compositae)	mendosaň (Ny., G.)	15
<i>Berberis</i> sp. (Berberidaceae)	namli (G.)	20
<i>Berberis ceratophylla</i> G. Don (Berberidaceae)	kyerpa (Gy.)	17
<i>Bergenia ciliata</i> (Haw.) Sternb. (Saxifragaceae)	pakombet (G.)	15
<i>Betula alnoides</i> Buch.-Ham. ex D. Don (Betulaceae)	taknak (Gy.)	22
<i>Betula utilis</i> D. Don (Betulaceae)	tuñrula (G.)	22
<i>Bidens pilosa</i> L. (Compositae)	tsyathuñ (G.)	19
<i>Bupleurum longicaule</i> Wall. ex DC. (Umbelliferae)	mirmire (G.)	15
<i>Campylandra aurantiaca</i> Baker (Liliaceae)	řamurke (G.)	16
<i>Cannabis sativa</i> L. (Cannabaceae)	kantsya (Ny., G.)	18
<i>Caragana nepalensis</i> Kitamura (Fabaceae)	phutsitserma (Gy.)	21
<i>Castanopsis tribuloides</i> (J.E. Smith) A.D.C. (Fagaceae)	loašin (Gy.)	21
<i>Chenopodium ambrosioides</i> L. (Chenopodiaceae)	gukhu (G.)	19
<i>Cissampelos pareira</i> L. (Menispermaceae)	phokirkir (G.)	15
<i>Coriaria nepalensis</i> Wallich (Coriariaceae)	awa (G.)	17
<i>Cuscuta santapau</i> Banerji & Das (Convolvulaceae)	noriň (G.)	15
<i>Cyathula tomentosa</i> (Roth) Moq. (Amaranthaceae)	tine (G.)	17
<i>Dactylorhiza hatagirea</i> (D. Don) Soo (Orchidaceae)	aňla (Ny.)	14
<i>Daphne bholua</i> Buch.-Ham. ex D. Don (Thymelaeaceae)	řuřu (G.)	17
<i>Elaeagnus conferta</i> Roxb. (Elaeagnaceae)	timru (G.)	18
<i>Elsholtzia blanda</i> Benth. (Labiatae)	kaňsata (G.)	18
<i>Fagopyrum dibotrys</i> (D. Don) Hara (Polygonaceae)	řawu (Gy.)	19
<i>Fagopyrum megacarpum</i> Hara (Polygonaceae)	bhoře kňayo (G.)	14
<i>Flemingia procumbens</i> Roxb. (Fabaceae)	rendo (G.)	16
<i>Fragaria nubicola</i> Lindley ex Lacaita (Rosaceae)		19
<i>Gonostegia hirta</i> (Blume) Miq. (Urticaceae)	timlekyen (G.)	17
<i>Hippophaë salicifolia</i> D. Don (Elaeagnaceae)	kyuňšin (G.)	20
<i>Holboellia latifolia</i> (Wall.) Hook. f. & Thoms. (Lardizabalaceae)	malkati (G.)	18
<i>Hydrangea anomala</i> D. Don (Hydrangeaceae)	laňduň (G.)	21
<i>Impatiens</i> sp. (Balsaminaceae)	nekipope (Ny.)	15
<i>Impatiens</i> sp. (Balsaminaceae)	nekipope (Ny.)	18
<i>Juglans regia</i> L. var. kamaonia C. DC. (Juglandaceae)	katutuň (G.)	20

<i>Lactuca sp.</i> (Compositae)	šiñme (Ny.)	16
<i>Lindera neesiana</i> (Nees) Kurz (Lauraceae)	gutum (G.)	15
<i>Malva verticillata</i> L. (Malvaceae)	tañčan (G.)	19
<i>Melothria mucronata</i> Cogn. (Cucurbitaceae)	tañsokoto (G.)	19
<i>Mentha spicata</i> (Labiatae)	patame (G.)	18
<i>Neolitsea umbrosa</i> (Nees) Gamble (Lauraceae)	pepe (Gy.)	21
<i>Nicotiana tabacum</i> L. (Solanaceae)	kañkar (G.)	17
<i>Origanum vulgare</i> L. Marjoram (Labiatae)	akhebobo (G)	17
<i>Paris polyphylla</i> Smith (Liliaceae)	satua (G.)	16
<i>Perilla frutescens</i> (L.) Britt. (Labiatae)	ţena (G.)	18
<i>Persea odoratissima</i> (Nees) Kosterm. (Lauraceae)	roro (Gy.)	22
<i>Picea smithiana</i> (Wall.) Boiss. (Pinaceae)	tsişiñ (Gy.)	22
<i>Picrorhiza scrophulariiflora</i> Pennell (Scrophulariaceae)	gorki (G.)	15
<i>Pinus wallichiana</i> A.B. Jacks. (Pinaceae)	thanşiñ (Gy.)	22
<i>Prinsepia utilis</i> Royle (Rosaceae)	tisya (G.)	18
<i>Quercus glauca</i> Thunb. (Fagaceae)	pailo (Gy.)	21
<i>Rheum australe</i> D. Don (Polygonaceae)	čhurtša (G., Ny.)	14
<i>Rhus javanica</i> L. (Anacardiaceae)	tibru (G.)	16
<i>Rubus ellipticus</i> Smith (Rosaceae)	mapalañ (G.)	19
<i>Rubus niveus</i> Thunb. (Rosaceae)	palañ (G.)	18
<i>Rubus paniculatus</i> Smith (Rosaceae)	paipalañ (G.)	18
<i>Salix sp.</i> (Salicaceae)	lañma (Gy.)	21
<i>Solanum nigrum</i> L. (Solanaceae)	tepta (G.)	16
<i>Taxus wallichiana</i> (Zucc.) Pilger (Taxaceae)	tsherpa (Gy.)	22
<i>Urtica dioica</i> L. (Urticaceae)	polo (G., Ny.)	20
<i>Valeriana jatamansi</i> Jones (Valerianaceae)	nakpö (G.)	20
<i>Viburnum mullaha</i> Buch.-Ham. ex D. Don (Caprifoliaceae)	pramsre (Gy.)	18
<i>Vitis lanata</i> Roxb. (Vitaceae)	poñke (G.)	18
<i>Woodwardia unigemmata</i> (Makino) Nakai (Blechnaceae)	tana (Gy.)	20
<i>Zanthoxylum armatum</i> DC. (Rutaceae)	timur (G.)	18
(Lichenes)	kañri (G.)	15
(Fungus)	šiñyape (G.)	22
	murki (G.)	21
	pañtsatilbu (Gy.)	15
	sale (G.)	21
	talenta (G.)	16
	talenta kue (G.)	16
	thi (G.)	21
	tobi (G.)	17

Index 2: Botanical names of wild plants used in Nyeshang

Botanical name	Vernacular name	Page
<i>Abies spectabilis</i> (D. Don) Mirb. (Pinaceae)	kye (Ny.)	34
<i>Aconitum violaceum</i> Jacq. ex Stapf (Ranunculaceae)	poŋkar (Ny.)	24
<i>Allium sp.</i> (Liliaceae)	nosyoŋte (Ny.)	28
<i>Allium stracheyi</i> Baker (Liliaceae)	raldonŋte (Ny.)	30
<i>Anaphalis nepalensis</i> (Sprengel) Hand.-Mazz. (Compositae)	phazarmendo (Ny.)	32
<i>Anaphalis cuneifolia</i> (DC.) Hook. f. (Compositae)	proba (Ny.)	33
<i>Anaphalis contorta</i> (D. Don) Hook. f. (Compositae)	paŋsaŋ (Ny.)	32
<i>Anaphalis triplinervis</i> (Sims) C.B. Clarke (Compositae)	phosorosañ (Ny.)	32
<i>Anemone rivularis</i> Buch.-Ham. ex DC. (Ranunculaceae)	šamđu (Tib.)	24
<i>Arctium lappa</i> L. (Compositae)	tine (Ny.)	33
<i>Arisaema sp.</i> (Araceae)	timtsyu (Ny.)	29
<i>Artemisia sp.</i> (Compositae)	thomo (Ny.)	32
<i>Aster sp.</i> (Compositae)	lugmik (Tib.)	24
<i>Aster trinervius</i> Roxb. (Compositae)	mendosaŋ (Ny.)	31
<i>Berberis aristata</i> DC. (Berberidaceae)	kyuŋbudzu (Ny.)	27
<i>Betula utilis</i> D. Don (Betulaceae)	khelešiŋ (Ny.)	35
<i>Cannabis sativa</i> L. (Cannabaceae)	kaŋtsya (Ny.)	27
<i>Capsella bursa-pastoris</i> (L.) Medik. (Cruciferae)	čhortenŋte (Ny.)	27
<i>Cassiope fastigiata</i> (Wall.) D. Don (Ericaceae)	phursaŋ (Ny.)	32
<i>Chenopodium album</i> L. (Chenopodiaceae)	nane (Ny.)	28
<i>Cirsium wallichii</i> DC. (Compositae)	khalbuŋ (Ny.)	27
<i>Clematis montana</i> Buch.-Ham. (Ranunculaceae)	kreme (Ny.)	34
<i>Convolvulus arvensis</i> L. (Convolvulaceae)	tonbe (Ny.)	33
<i>Cordyceps sinensis</i> (Berk.) Sacc. (Hypocreaceae)	yertsagumbu (Ny.)	25
<i>Cotoneaster affinis</i> Lindley (Rosaceae)	tšharšiŋ (Ny.)	33
<i>Cuscuta europaea</i> L. var. <i>indica</i> Engelm. (Convolvulaceae)	tsati (Tib.)	25
<i>Cynanchum vincetoxicum</i> (L.) Pers. (Asclepiadaceae)	lopsañ (Ny.)	31
<i>Dactylorhiza hatagirea</i> (D. Don) Soo (Orchidaceae)	aŋla (Ny.)	23
<i>Dicranostigma lactucoides</i> Hook. f. & Thoms. (Nymphaeaceae)	kyerap (Ny.)	24
<i>Elsholtzia eriostachya</i> (Benth.) Benth. cf. (Labiatae)	thüpme (Ny.)	25
<i>Elsholtzia sp.</i> (Labiatae)	dziŋjũnthugre (Ny.)	34
<i>Euphrasia himalayica</i> Wettst. (Scrophulariaceae)	mendosaŋ (Ny.)	31
<i>Fragaria daltoniana</i> J. Gay (Rosaceae)	syepalaŋ (Ny.)	29
<i>Fragaria nubicola</i> Lindl. ex Lacaita (Rosaceae)	saphaldoŋ (Ny.)	29
<i>Gentiana stylophera</i> C.B. Clarke (Gentianaceae)	kyiče (Tib.)	24
<i>Gentianella paludosa</i> (Hook.) H. Smith (Gentianaceae)	tikta (Ny.)	25
<i>Halenia elliptica</i> D. Don (Gentianaceae)	tikta (Ny.)	25
<i>Hippophaë tibetana</i> Schltr. (Eleagnaceae)	tserke (Ny.)	31

<i>Hypocoum leptocarpum</i> Hook. f. & Thoms. (Fumariaceae)	parbata (Tib.)	24
<i>Impatiens</i> sp. (Balsaminaceae)	nekipope (Ny.)	33
<i>Juniperus communis</i> L. (Cupressaceae)	phar (Ny.)	26
<i>Juniperus indica</i> Bertol. (Cupressaceae)	šukri (Ny.)	32
<i>Lactuca macrorhiza</i> Hook. f. (Compositae)	tuči (Tib.)	25
<i>Lonicera myrtilloides</i> Purpus (Caprifoliaceae)	tuktser (Ny., Tib.)	25
<i>Lonicera myrtillus</i> Hook. f. & Thoms. (Caprifoliaceae)	maru (Ny.)	28
<i>Malus baccata</i> (L.) Borkh. (Rosaceae)	kumbuliñ (Ny.)	29
<i>Medicago falcata</i> L. (Papilionaceae)	kotoñ (Ny.)	31
<i>Myricaria rosea</i> W.W. Smith (Tamaricaceae)	oñma (Ny.)	26
<i>Nardostachys jatamansi</i> DC. (Valerianaceae)	pañbö (Ny.)	32
<i>Nepeta leucophylla</i> Benth. (Labiatae)	potsa (Ny.)	24
<i>Onosma bracteatum</i> Wall. (Boraginaceae)	koma (Ny.)	31
<i>Pedicularis longiflora</i> Rudolph var. <i>tubiformis</i> (Klotz.) Tsoong (Scrophulariaceae)	serčenlugdu (Tib.)	25
<i>Picrorhiza scrophulariiflora</i> Pennell (Scrophulariaceae)	gurki (Ny.)	23
<i>Pinus wallichiana</i> A.B. Jacks. (Pinaceae)	thanšiñ (Ny.)	34
<i>Plantago major</i> L. (Plantaginaceae)	tarčaken (Tib.)	30
<i>Pleurospermum hookeri</i> C.B. Clarke (Umbelliferae)	šamē (Ny.)	28
<i>Polygonatum</i> sp. (Liliaceae)	komsē (Ny.)	23
<i>Polygonum macrophyllum</i> D. Don (Polygonaceae)	khaldi (Ny.)	27
<i>Potentilla anserina</i> L. (Rosaceae)	kroma (Ny.)	27
<i>Potentilla fruticosa</i> L. (Rosaceae)	teba (Ny.)	33
<i>Prunus</i> sp. (Rosaceae)	khala (Ny.)	27
<i>Pterocephalus hookeri</i> (C.B. Clarke) Hook. (Dipsacaceae)	pañrimendo (Ny.)	24
<i>Rheum australe</i> D. Don (Polygonaceae)	gyatsa (Ny.)	27
<i>Rhododendron anthopogon</i> D. Don (Ericaceae)	palunakpo (Ny.)	32
<i>Rhododendron lepidotum</i> Wall. ex G. Don (Ericaceae)	palukarpo (Ny.)	31
<i>Ribes glaciale</i> Wall. (Grossulariaceae)	toñmaru (Ny.)	29
<i>Rosa macrophylla</i> Lindl. (Rosaceae)	sañgaliñ (Ny.)	30
<i>Rosa sericea</i> Lindl. (Rosaceae)	tañtso (Ny.)	30
<i>Rumex nepalensis</i> Spreng. (Polygonaceae)	hali (Ny.)	27
<i>Rumex</i> sp. (Polygonaceae)	miahali (Ny.)	24
<i>Salvia nubicola</i> Wall. ex Sweet (Labiatae)	ape (Ny.)	26
<i>Salvia hians</i> Royle ex Benth. (Labiatae)	ape (Ny.)	26
<i>Scopolia straminifolia</i> (Wall.) Shrestha (Solanaceae)	lañdañro (Ny.)	34
<i>Selinum tenuifolium</i> Wall. ex C.B. Clarke (Umbelliferae)	mantša (Ny.)	29
<i>Setaria pallide-fusca</i> (Schumach.) Stapf et C.E. Hubb. (Gramineae)	ramči (Ny.)	34
<i>Sonchus arvensis</i> L. (Compositae)	čhortē (Ny.)	26
<i>Sopubia trifida</i> Buch.-Ham. ex D. Don (Scrophulariaceae)	tikta (Ny.)	25
<i>Spiraea arcuata</i> Hook. f. (Rosaceae)	pañče (Ny.)	28

<i>Stellera chamaejasme</i> L. (Thymelaeaceae)	rekemukta (Tib.)	26
<i>Tanacetum nubigenum</i> Wall. ex DC. (Compositae)	khamšan (Ny.)	31
<i>Taraxacum</i> sp. (Compositae)	kogaṭe (Ny.)	27
<i>Thymus serpyllum</i> L. (Labiatae)	akhenō (Ny.)	29
<i>Viburnum cotinifolium</i> D. Don (Caprifoliaceae)	ñakar (Ny.)	30
<i>Zanthoxylum armatum</i> DC. (Rutaceae)	proma (Ny.)	28
(Cyperaceae)	rampakui (Ny.)	33
(Fungus)	lambar (Ny.)	28
(Fungus)	phortsema (Ny.)	28
(Fungus)	priti (Ny.)	28
(Fungus)	tsema (Ny.)	29
(Gramineae)	yütsa (Ny.)	33
(Lichenes)	phortimo	28
(Lichenes)	syawaručuñ (Ny.)	32
(Lichenes)	timosiñsiñ (Ny.)	29
(Liliaceae)	čipla (Ny.)	33
	puñguñemañ (Ny.)	28
	tompe (Ny.)	32

Index 3: Botanical names of wild plants used in Nar

Botanical name	Vernacular name	Page
<i>Abies spectabilis</i> (D. Don) Mirb. (Pinaceae)	kye (Nt., Nm.)	41
<i>Aconitum</i> sp. (Ranunculaceae)	poñkar (Nm., Nt.)	36
<i>Aconitum</i> sp. (Ranunculaceae)	poñmar (Nm., Nt.)	36
<i>Allium</i> sp. (Liliaceae)	dzimbu (Nt.)	38
<i>Allium</i> sp. (Liliaceae)	nao (Nt.)	38
<i>Arundinaria</i> sp. (Gramineae)	mae (Nm.)	41
<i>Aster indamellus</i> Grierson (Compositae)	lugmik (Tib.)	35
<i>Berberis</i> sp. (Berberidaceae)	kyerba (Nt.)	40
<i>Berberis</i> sp. (Berberidaceae)	matimru (Nm.)	38
<i>Betula utilis</i> D. Don (Betulaceae)	takpa (Nt., Nm.)	42
<i>Campanula</i> sp. (Campanulaceae)	čičekarpo (Tib.)	37
<i>Campanula</i> sp. (Campanulaceae)	čičenakpo (Tib.)	37
<i>Chenopodium album</i> L. (Chenopodiaceae)	ñolu (Nt.)	39
<i>Clematis montana</i> Buch.-Ham. (Ranunculaceae)	yimōñ (Tib.)	38
<i>Cordyceps sinensis</i> (Berk.) Sacc. (Hypocreaceae)	yertsagumbu (Nm.)	37
<i>Cotoneaster</i> sp. (Rosaceae)	tsar (Nt.)	41
<i>Dactylorhiza hatagirea</i> (D. Don) Soo (Orchidaceae)	wañla (Nm., Nt.)	37
<i>Dracocephalum</i> sp. (Labiatae)	triyañku (Tib.)	37
<i>Gerbera nivea</i> (DC.) Schultz-Bip. (Compositae)	pañđa (Nm.)	41
<i>Hyoscyamus niger</i> L. Henbane (Solanaceae)	lañtañ (Tib.)	35
<i>Impatiens</i> sp. (Balsaminaceae)	nyelbogbog (Nm.)	41
<i>Juniperus communis</i> L. (Cupressaceae)	par (Nt.)	41
<i>Juniperus indica</i> Bertol. (Cupressaceae)	šukpa (Nm.)	42
<i>Legotis</i> sp. (Scrophulariaceae)	tsahoñlen (Tib.)	37
<i>Nardostachys jatamansi</i> DC. (Valerianaceae)	pañbö (Nt.)	40
<i>Onosma bracteatum</i> Wall. (Boraginaceae)	koma (Nm.)	40
<i>Pedicularis</i> sp. (Scrophulariaceae)	lañnakarpo (Tib.)	35
<i>Picrorhiza scrophulariiflora</i> Pennell (Scrophulariaceae)	gurki (Nm.)	35
<i>Pinus wallichiana</i> A.B. Jacks. (Pinaceae)	thañšiñ (Nt.)	42
<i>Pleurospermum</i> sp. (Umbelliferae)	mat (Nt.)	38
<i>Polygonatum verticillatum</i> (L.) All. (Liliaceae)	ratsihle (Nm.)	39
<i>Polygonum macrophyllum</i> D. Don (Polygonaceae)	khaldiñ (Nm., Nt.)	38
<i>Potentilla anserina</i> L. (Rosaceae)	yeihčuruk (Tib.)	37
<i>Potentilla fruticosa</i> L. (Rosaceae)	pañsermendo (Tib.)	36
<i>Prunus undulata</i> Buch.-Ham. ex D. Don (Rosaceae)	khalak (Nm.)	38
<i>Pterocephalus hookeri</i> (C.B. Clarke) Hook. (Dipsacaceae)	pañtsidobo (Tib.)	36
<i>Rheum australe</i> D. Don (Polygonaceae)	gyatsa (Nm.)	38
<i>Rhododendron anthopogon</i> D. Don (Ericaceae)	palunakpo (Nm.)	40

<i>Rhododendron lepidotum</i> Wall. ex G. Don (Ericaceae)	palukarpo (Nm.)	40
<i>Ribes alpestre</i> Wall. ex Decne. (Grossulariaceae)	khublunluñ (Nm.)	38
<i>Ribes sp.</i> (Grossulariaceae)	khuñdutuñ (Nt.)	40
<i>Ribes sp.</i> (Grossulariaceae)	matsa (Nm.)	38
<i>Rosa macrophylla</i> Lindl. (Rosaceae)	toñdondze (Nm.)	39
<i>Rosa sericea</i> Lindl. (Rosaceae)	tañdza (Nt.)	40
<i>Rosa sp.</i> (Rosaceae)	seba (Tib.)	36
<i>Rubus sp.</i> (Rosaceae)	palañ (Nm.)	39
<i>Rumex nepalensis</i> Spreng. (Polygonaceae)	hali (Nm.)	39
<i>Rumex sp.</i> (Polygonaceae)	šoma (Nt.)	39
<i>Saussurea sp.</i> (Compositae)	lugtsidobo (Tib.)	36
<i>Silene stracheyi</i> Edgew. (Caryophyllaceae)	nemsi (Nm.)	41
<i>Swertia ciliata</i> B.L. Burt (Gentianaceae)	kalen (Nm.)	35
<i>Tanacetum nubigenum</i> Wall. ex Dc. (Compositae)	khambalopsañ (Nm.)	40
<i>Thymus serpyllum</i> L. (Labiatae)	razeno (Nm.)	39
<i>Urtica sp.</i> (Urticaceae)	punza (Nt.)	39
<i>Viburnum cotinifolium</i> D. Don (Caprifoliaceae)	glešiñ (Nm.)	38
(Fungus)	pañšermo (Nm.)	39
(Fungus)	šasermo (Nm.)	39
(Gentianaceae)	sumčutikta (Tib.)	36
(Umbelliferae)	"töngu" (Nm.)	39
	gudze (Nm.)	38
	kudza (Nt.)	41
	phyeldu (Nt.)	40
	pole (Nt.)	39
	sañšiñ (Nt.)	40
	supa (Nt.)	41
	yograšiñ (Nt.)	40