

**ETHNOPHARMACOLOGICAL STUDY OF THE PHILIPPINE
ETHNOLINGUISTIC GROUPS : THE DUMAGAT PEOPLE
OF THE PROVINCES OF AURORA, BULACAN, NUEVA ECIJA
AND QUEZON IN LUZON ISLAND**

*Isidro C. Sia, MD, PhD**, *Aster Lynn D. Sur, RN, BSNut**, *Leonard Co***, *Ferdinand John M. Gaerlan, MA****, *Remedios S. Naynes, BSChem#*, *Rainier M. Galang, BSIE+*, and *Vivian B. Estabillo, BSN*

ABSTRACT

An ethnopharmacological study of the Dumagat people in the provinces of Aurora, Bulacan, Nueva Ecija, and Quezon in Luzon island, Philippines was conducted in October 1994 to April 1995. The study included documentation of the ethnopharmacological knowledge and indigenous healing practices of the Dumagats, and photodocumentation and collection of voucher specimens of plants and other natural products used by them. The study covered nine Dumagat communities and included information gathered from 29 Dumagat healers and family health care providers. A total of 179 plants, animal products, and mineral products were documented. Documentation of the natural products, mostly plants (total count: 174), included the local names, the therapeutic indications, the plant parts used, the method of preparation and the direction for use. The plants were identified by their scientific names, where applicable. Eleven (11) plants were reportedly used for malaria, 18 for diarrhea, 7 abortifacients, and 6 galactogogues, among others. Many of the medicinal plants used by the Dumagats were noted to be known among the lowlanders. The study was not able to find specimen vouchers for 15 plants despite repeated visits to different forest sites, underscoring the need to conserve the forests which provide the Dumagat people their food, water, shelter, medicine, economic livelihood, spiritual refuge, and home.

INTRODUCTION

The Philippines is home to about 13 million indigenous peoples belonging to more than 120 distinct ethnolinguistic groups. Each

ethnolinguistic group generally has a rich tradition of practices, including those which refer to healing of the sick. Our indigenous peoples, mostly living in the mountains or their fringes, have depended mostly on plants and other natu-

*Department of Pharmacology, College of Medicine, University of the Philippines Manila

**Herbarium, Institute of Biology, University of the Philippines Diliman, Quezon City

***Philippine Plant Inventory Project, Botany Division, National Museum, Manila

#Division of Physical Sciences and Mathematics, College of Arts and Sciences, University of the Philippines Manila

+National Drug Information Center, c/o Department of Pharmacology, College of Medicine, University of the Philippines Manila

ral products from the forest to treat their sick. The threat of forest denudation, coupled with the onslaught of lowland mainstream culture, may result in the loss of the healing traditions of our indigenous peoples.

Few studies have been conducted to document the ethnopharmacological knowledge and healing practices of our people. Madulid and others reported 46 plants used by the Ati tribe in Nagpana, Iloilo, Panay Island (Madulid et al, 1990).

We wish to address the need to document, and hopefully preserve, the beneficial healing traditions of our indigenous peoples. In addition, we recognize that the domain of our indigenous peoples is a rich source of potentially useful pharmacologic agents.

This study documented the ethnopharmacological knowledge of nine Dumagat communities in the provinces of Aurora, Bulacan, Nueva Ecija, and Quezon. The study, likewise, recognized the need for long-term, sustained advocacy to help preserve the ancestral homeland of the Dumagat people even as we rendered certain urgent health services that needed to be done for the Dumagat communities covered by this study.

METHODOLOGY

Gathering of data

A full-time field worker did the essential social preparation by coordinating with nongovernment organizations (NGOs) and local contacts in the area. Liaison was established with the officers and key members of seven NGO and peoples' organizations involved with the

Dumagat communities. Several meeting-consultations were held with the leaders of the Dumagats who gave the approval to conduct the study in the communities.

The field worker lived and integrated with the community during the period October 1994 to April 1995 during which time she gathered data by participant observation and by interview using a pre-tested interview guide. The main data consisted of the local name of the plant or other natural product, the medicinal use, the plant part used, the method of preparation and the direction for use. Methods of gathering and storing, where available, were also noted.

Natural products used as poisons, cosmetics, food coloring and tonic were also sought.

Collection of specimen vouchers

Collection of specimen vouchers was done based on the availability of a guide from the Dumagat community. Each guide was selected based on his knowledge of identifying plants. A list of plants for collection was prepared before the actual collection tour.

Four specimen vouchers for each plant were prepared and tagged according to the method of the National Museum. Identification was done by one of the authors (FJMG). Original copies were kept at the Department of Pharmacology, College of Medicine, University of the Philippines Manila. Replicate copies were sent to the National Museum Herbarium and University of the Philippines Diliman Herbarium.

Informants

The major informants were selected based on their reputation of active practice of the tradi-

tional healing arts in the community.

Twenty nine (29) major informants were identified.

Other informants included mothers and guides who identified medicinal plants apart from the collection list during the collection tour.

RESULTS

Location of the study

The study covered nine (9) Dumagat communities located in the provinces of Aurora, Bulacan, Nueva Ecija, and Quezon (See map, appendix).

The communities were selected based on the following criteria:

- 1) The community has a reputation for indigenous healing practices, as shown by the presence of traditional healers.
- 2) The community is living in or near a forest.
- 3) The community is reputed to have preserved its traditions to a significant degree.
- 4) Malaria is a problem in the area.
- 5) The community has no major peace and order problem.
- 6) The community is reasonably accessible by land transportation, boat and/or foot.
- 7) Presence of contact such as NGOs, church or government agencies working in the area is desired.

The documentation covered one Dumagat community in Aurora province – Sitio Dadiangao in Barangay Umiray, Dingalan town (Longitude 121°25', Latitude 15°14') and another community in Bulacan province – Sitio Libutan, in San

Ildelfonso town (Longitude 121°20' and Latitude 15°05'). From these communities, found in the middle of the forest, a total of eight plants, animal products and mineral products were recorded.

There were three (3) areas covered in the province of Nueva Ecija. The first site was a settlement area in Barangay Malinao, the second site was located in Purok Sawinis, Sitio Pinagsangahan, Barangay Tanawan, and the third site at Sitio Malikongkong, Barangay Mabaldog, all in Gabaldon town (Longitude 121°15', Latitude 15°28'). A total of 52 plants, animals products and mineral products were listed in these communities. Nine (9) Dumagats served as informants. Collection of plants vouchers was done in the nearest forested mountains.

Four communities were covered in Quezon province. Sitio Masla and Sitio Malatunglan in Barangay Sablang, General Nakar town (Longitude 121°34', Latitude 14°53') were located along the coast of eastern Luzon Island facing the Pacific Ocean. Plant collection was done in the nearest forested mountains. Sitio Matatambo and Sitio Bituan in Barangay Umiray, General Nakar town (Longitude 121°25', Latitude 15°8') were located in the middle of the forest along Umiray River. A total of 90 plants, animals and mineral products were recorded. Thirteen (13) Dumagats served as informants. The Dumagat people still practice a nomadic life. During the field study, it was noted that some of the informants moved around the provinces straddled by the southern Sierra Madre mountain ranges.

The Dumagat people

The Dumagat people are an indigenous group of Filipinos found along the coast of the Pacific ocean and in the hinterlands of the Sierra Madre mountains in the eastern part of Luzon island,

Philippines. They generally resemble the other Negrito groups such as the *Aetas* of Pinatubo mountain, *Ati* of Panay island and the *Ata-Manobos* of Davao and North Cotabato provinces. The Dumagats, however, are taller and of bigger built than the *Ati* and *Aeta* groups (Blumentritt, 1980; Eranista, 1994).

At present there are about 55,000 Dumagats distributed in and around the Sierra Madre mountains in the provinces of Aurora, Bulacan, Nueva Ecija, Quezon and Rizal (See map).

The term *dumagat*, derived from the Tagalog word *dagat* meaning sea, refers to people living along the sea. Economically stronger ethnic groups, eg., the Tagalogs, have "pushed" the Dumagats up the mountains. Some Dumagats prefer to be called *Agtá* which means *people* in the Dumagat language.

The Dumagat people may be divided into three subgroups: Tagibulos, Kabulowan, and Idimala. The subgroups are distinguished from each other by their languages. Majority of the Dumagats belong to the Tagibulos subgroup who are found along the shores of Aurora and Quezon and the mountains of Bulacan and Rizal. The Kabulowans are concentrated in the province of Nueva Ecija. The Idimala represent a small fraction of the total Dumagat population and are mostly found in Gabaldon town, Nueva Ecija.

Most Dumagats are nomadic. Some live in more or less permanent settlements and have assimilated the ways of the lowlanders.

The Dumagats depend on the sea and the forest for subsistence. Fishing, hunting, and rattan gathering are the major economic activities. Some Dumagats (who are settled more or less

permanently in an area) engage in farming.

Like other indigenous peoples, the Dumagats regard land as their life. They believe that the Sierra Madre mountains belong to their race but should be shared by everybody. They also believe that they have the responsibility to preserve the resources that the mountains provide. To them, forest, rivers, and sea ought to be protected from any form of detriment because it is *Makidiapat's* or God's gift to mankind.

Plants and other natural products used for healing

The study was able to document 174 plants, 3 animals, and 2 mineral products with medicinal uses from nine communities covered by this study. Table 1 enumerates the plants by their medicinal use.

The plants belong to 65 families (See Table 2). Thirty nine plants were not identified with their scientific names. Vouchers of these plants were sent to the National Museum for identification.

No specimen vouchers were collected for 15 plants despite repeated visits to the forest.

Eleven (11) plants and one animal product were documented as cure for malaria. *Alstonia scholaris* (L.) R. Br. (Family Apocynaceae) was the most commonly used medicinal plant for malaria. Two other plants belonging to Family Apocynaceae were also highly favored remedies for malaria.

Three (3) plants were noted to be used for intestinal parasitism, 6 for measles, 1 for otitis media, 11 for skin fungal infection, 7 for scabies, and 2 for lice infestation.

Eighteen (18) plants were noted to be used

for diarrhea, 16 for cough, 15 for colds, 10 for fever, 10 for gas pain, 14 for stomach ache, 6 for headache, and 6 for nausea.

Also documented were 7 plants as abortifacients, 1 for dysmenorrhea, 17 for amenorrhea, 1 for infertility, 6 galactagogues, and 13 for postpartum relapse, among others (See Table 1).

Most of the preparations were made from single-plants and were prepared by boiling (decoction) or as poultice; only a few (70 of a total of 295 preparations documented) made use of 2 or more plants.

Knowledge of the use of the plants by the Dumagats may be said to have two sources: those which are indigenous and those which are learned from the lowlanders. Those learned from the mainstream culture include plants introduced by the lowlanders such as yerba buena and amarillo, which are non-Dumagat names. Majority of the medicinal plants listed have Dumagat names. This reflects the indigenous knowledge of the Dumagats on healing.

DISCUSSION

The study showed that the Dumagat people significantly depended on the forest for their medicine. In addition to rituals and incantations to treat diseases (which are generally believed to be caused by supernatural powers), the Dumagat people have established a rich tradition of preparing teas and balms which altogether constitute a formidable materia medica.

This study was able to document 174 plants which altogether are being used for 60 therapeutic indications.

The therapeutic indications for these plants reflect the conditions being faced by the Dumagats. We were able to document a substantial list of plants being used for infectious diseases such as malaria, intestinal parasitism, pediculosis, scabies, and fungal infection; as well as for the treatment of the common symptoms of infectious diseases, including fever, cough and diarrhea.

A significant portion of their materia medica is also used for conditions that pertain to women and reproduction. We have documented plants used as fertility inducer as well as those used as abortifacient. The Dumagats also quite extensively use plants for postpartum bleeding, postpartum "relapse", post abortion bleeding and delayed placental expulsion, and for increased flow of milk.

We are inclined to note at this point that the specimen vouchers of the plants used as abortifacient were not identified by the taxonomist in our group (FJMG). These plants were gathered from the deep forest and were only revealed to our field researcher (ALDS) because she was able to gain the trust and confidence of the Dumagats after her months of integration with them.

The Dumagats had been suspicious of lowlanders because the latter had exploited them in many ways. Some informants related their sad experience with some lowlanders who befriended them, inquired about their healing skills, and used these skills for their healing trade and gained profit from them.

The Dumagat elders would very much like to pass on their knowledge of healing to the younger generations of Dumagats but the latter are noted to be greatly influenced by the lowland mainstream culture and have little interest in preserv-

ing their traditions. What is more, the continuing denudation of their forest home is seen by the Dumagats as a contributory threat to the extinction of their culture.

We feel that concerted effort from concerned groups and individuals should be carried out immediately before we lose a cultural heritage as priceless as those of our Dumagat brothers.

POSTSCRIPT

We believe that the Dumagat communities, our object of our research, should benefit from this exercise and not just remain as object of research. Our field researcher, also a nurse and nutritionist, gave valuable contributions to alleviate the sad health situation of the Dumagat communities. She gave health education and direct health services where needed. Feedback of the research was given to them in order to encourage beneficial healing practices and tactfully discourage harmful practices such as the septic techniques in maternal delivery. Links with NGOs and other groups and individuals with genuine concern for the Dumagats have also been established so we can continue to help, in our own little way, in the Dumagat people's struggle to preserve their culture and home.

ACKNOWLEDGMENT

We wish to express our most heartfelt thanks to Usa Generics for the financial assistance, to our contact groups and individuals working for the Dumagat communities – Kalipunan ng mga Katutubong Mamamayan ng Pilipinas, Samahan ng Kaagtaang Binabaka ang Suliranin sa Adhikain, Samahan ng mga Katutubo sa Kabuoang Sierra Madre, Aniban ng Kilusang Magbubukid ng Aurora, Gabaldon Parish staff,

staff of Social Action Foundation for Rural and Urban Development Inc. and Bantay Kalikasan para sa Kinabukasan, and to our informants for their unselfish sharing of the indigenous knowledge of the Dumagat people.

BIBLIOGRAPHICAL REFERENCES

- 1 Blumentrit, F. 1980. An attempt at writing a Philippine ethnography. In: The Negrito, Filipino Heritage, The Making of a Nation, Vol 1. Marawi City: University Research Center, Mindanao State University.
- 2 Eranista, J. A. 1994. The Agta situationer. Manila: ECTF.
- 3 Madulid, D. A., Gaerlan, F. J. M., Romeo, E. M., Agoon, E. M.G. 1990. Ethnopharmacological study of the Ati tribe in Nagpana, Barotac Viejo, Iloilo. Acta Manilana; 38: 25-40.
- 4 Quisumbing, E. 1978. Medicinal plants of the Philippines. Quezon City: Katha Publishing House.
- 5 Roceo, M. 1992. Ethnobotany of the Itawis tribes of Cagayan, Anthropological Papers # 14. Manila: National Museum.