

Naming and Knowing an Ecuadorian Landscape: A Case Study of the Maquipucuna Reserve

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Resumen

LA MAYORÍA DE LOS ATRIBUTOS de la configuración del paisaje del piedemonte andino de la cuenca alta del río Guayllabamba son fácilmente descritos por sus nombres originales y su completa asociación cultural. Los ejemplos del cambio de nombres explican el efecto epistemográfico en esta área. Los paisajes tropandinos de los Andes del Norte son ignorados por la mayoría de los ciudadanos debido a la falta de versación geográfica y ambiental; los nombres indígenas de los atributos geográficos han sido reemplazados por nombres "cristianos" sin relevancia local ni significado ecológico alguno. Se presentan los datos de los atributos descriptivos de la Reserva Maquipucuna, en las montañas de Nanegal y la cuenca del río Alambi, en donde se inicia un ambicioso proyecto de agricultura sustentable y manejo de recursos naturales. La autogestión rural debida al conocimiento local es sugerida para incluir la nomenclatura geográfica como una herramienta educativa bicultural para la valoración del paisaje cultural para conservación.

Landscape Description

Epistemography—the study of how humans come to know a landscape—combines information from philosophy, cultural history, geography, and psychology. How the landscape features of a given region have been named provides important clues to the epistemography of the place. There are three avenues to landscape naming: toponymy, in which names are drawn from topography, orientation, and other terrain qualities (e.g., the term "deep hollow"); scientonymy, in which names are drawn from scientific attributes (e.g., the term "cave class 3"); and emotonymy, in which names are drawn from a description of attributes based on emotions (e.g., a term such as "lonely coldness") (see Figure 1).

As Christianity arose and the world began to be seen as a frontier to be conquered, the idea that humans were part of nature was replaced by the belief that humans are above nature (Jordan, 1995). Naming geographical features after hu-

mans instead of for their role in the landscape helped reinforce the idea that humans are above nature. Christianity brought new dimensions to landmarks and it became common to name them in honor of saints or religious figures. This is the case in the Upper Guayllabamba River Basin of northwestern Ecuador, where one finds places named Santa Marianita (Little Saint Mary), San Pedro (Saint Peter), or Santa Rosa (Saint Rose).

Epistemographic analyses can be performed by projecting the mental "inscape" of people onto a physical landscape (Dansereau 1975). This inscape—which is something of a mental shield harboring emotions—plays an important role in the way in which people relate to their surroundings and how they value natural areas worth protecting. Naveh and Lieberman (1994) point out the importance of fuzzy set theory and intelligent geographic information systems (IGIS), a type of expert system, to include no-quantitative attributes in the quantifiable analysis

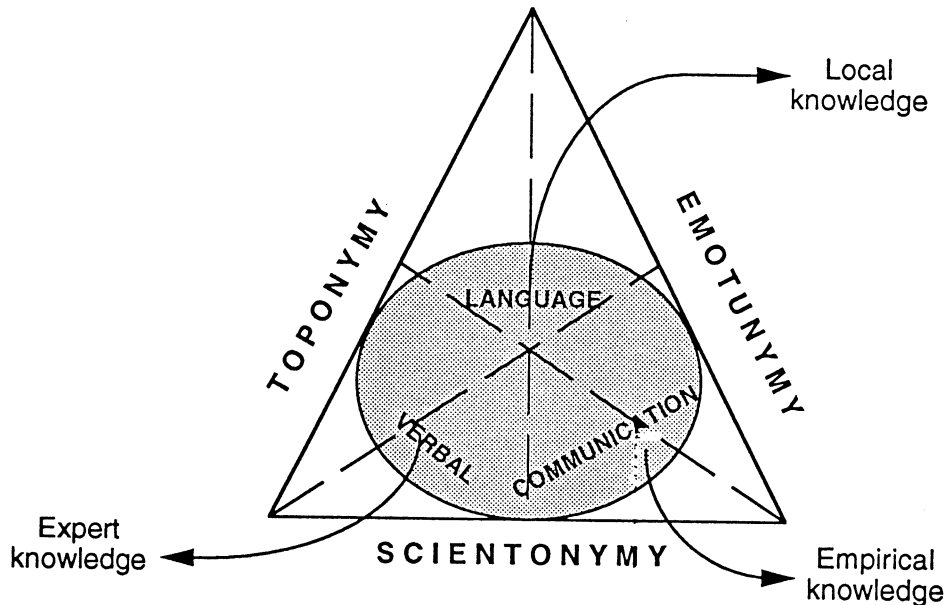


Figure 1. Methods of Landscape Naming

of nature, so emotional descriptors can be assimilated into landscape ecological analyses.

Every language has developed a set of words to reflect specific reactions to the landscape. Words created in this way deliver not just significance, but also sensation, feeling, and emotion (Sarmiento 1984). Therefore, analyses of landscape description can consider oral alongside written descriptors. As Troll (1968) pointed out in his "geoeology" concept, the cultural appraisal of the physical world also reflects the "character" of the landscape. Landscape character—whose importance was recognized long ago by the pioneering geographer Alexander von Humboldt (1845, in Jordan

1981)—is, for the Tropandean region, something that evolves along with the changing influence of humans and their modification of the natural world. A unique character will make the landscape distinguishable from closely related ones whose features evidence similar ecological, historical, and sentimental values.

The recovery of indigenous nomenclature is particularly useful for landscape conservation. The cultural attrition by the loss of language is delayed by revitalizing local toponymy and emotunymy. Also, the risk of "cosmopolitization" of the concept of the protected area—as if every park should offer the same rewards to the visitor—is minimized

in favor of authenticity. Overall, the cultural component of the ecodiversity that is protected in the reserve becomes an issue in redefining the city-oriented trends against the peasantry in the developing world.

Tropandean Human Influence

The character of the landscape on the Tropical Andes has been shaped along the course of history by both active geological force and an intense human occupation of several thousand years' standing. Budosky (1968) analyzed the role of humans configuring the current landscape of the neotropical mountains of Central and South America. In a deeper analysis, Ellenberg (1979) explored the fact that some of the human-made ecosystems, such as the Llanos or the Páramos, are pulsing according to fire regime or grazing frequency. He went further to acknowledge that, with the European colonization, neotropical montane ecosystems have been "Mediterraneanized," and hence some profound changes in landscape function; for example, deforestation of Tropandean slopes has exacerbated the Föhn effect in the leeward and diminished the evaporation-to-precipitation ratio of most Interandean valleys in Ecuador (Sarmiento, 1993).

With the advent of Western civilization, the Tropandean landscape has changed towards traditional European styles of agriculture and land management. Boundaries soon appeared as linear features and hedges now form corridors connecting remnants of native vegetation isolated by a matrix of pasture or cropland. For instance, the Equatorial Andes now show an exotic mixture of grasses, weeds, tree plantations (Knapp, 1993) and architectural features, to the point that the original landscape is gone (Sarmiento, 1987), giving the region an "anthropophilous" character which is present within the montane belt of the Tropandean biome (*sensu* Acosta-

Solis, 1977). Sarmiento (in review) emphasized the fact that habitat modification was present already before the Conquest, but the epistemographic effect—the replacing of indigenous geographical names with Christian ones lacking local significance—became evident only with the advent of Spanish rule and its Catholic beliefs.

In the Upper Guayllabamba River Basin, the same pattern has emerged, becoming a driving force for the landscape dynamics of the Tropandean Piedmont of north-western Ecuador (Sarmiento, 1994; 1995). Connecting both the Transandean domain (the western windward of the Andes cordillera) and the Interandean domain (the central leeward plateau), the Guayllabamba drains about 500 sq km before it joins the Blanco River to form the Esmeraldas, the second largest river on the Pacific coast of South America (see Figure 2). The mosaic of different habitat types and different land-use regimes endows the Basin with what may be the highest biodiversity per unit area in the world (Bennett, 1994). It encompasses one of Myers' (1990) "hot-spots": areas critical to the preservation of global biodiversity. The Basin also harbors great cultural variety, including native groups, Afro-ecuadorians, mestizos, mulattoes, and whites.

The Maquipucuna Reserve and Current Research

The Maquipucuna Reserve is a privately owned and managed 4,000-ha protected area on the Andean Piedmont near the town of Nanegal. Its elevation ranges from 1,200 m to 2,800 m, thus encompassing two distinct biotic provinces: the lower and upper montane. In the lower area, abandoned pastures and old farms create an ideal setting for successional studies since cultivation has stopped and natural recovery is being monitored with permanent plots. In the upper area, pristine old-growth forest covers the steeper

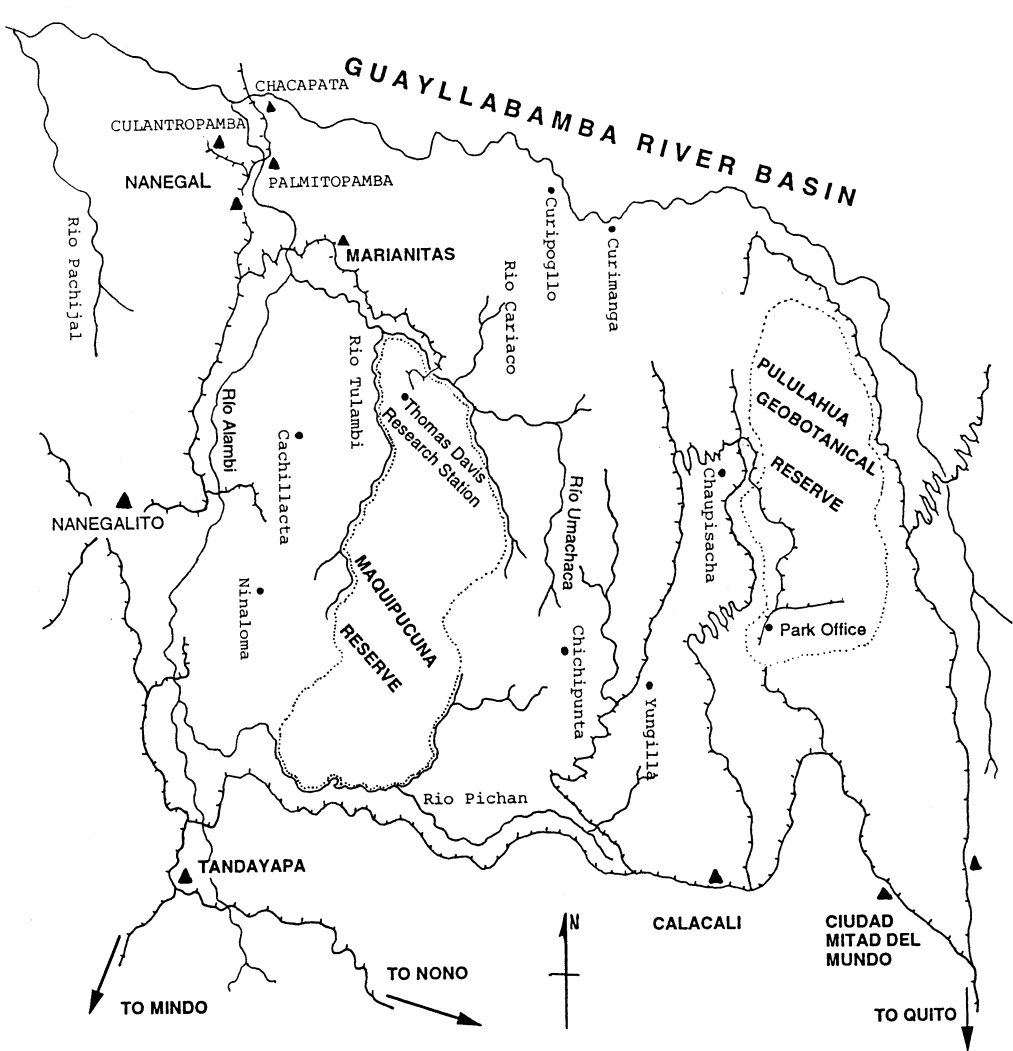


Figure 2. Upper Guayllabamba River Basin

slopes in a unique display of cloud forest ecology. In most of its buffer zone, active agriculture is ongoing, especially sugar cane cultivation and cattle ranching. Isolated patches of old growth are sparsely distributed among this anthropogenic grassland, offering restoration loci.

The Quito-based Maquipucuna Foundation, a non-profit Ecuadorian nongovernmental organization, coordinates the management of the reserve. The Foundation, a member of the World Conservation Union (IUCN), receives donations and grants to promote proactive conservation and restoration in its land for perpetuity. IUCN now is helping to develop a Rapid Assessment Program (RAP) for the Upper Guayllabamba River Basin, in which the Maquipucuna Reserve plays a key role. The Thomas Davis Research Station for Cloud Forest Ecology in the reserve has started biological and ecological work as baseline information for conservation and restoration purposes (Sarmiento 1992). Another program, the Bellow Ground Ecology Project (funded by the MacArthur Foundation through the University of Georgia Institute of Ecology and the Maquipucuna Foundation in Quito), is currently underway. It aims to understand the role of soil ecology and its application to restoration and conservation of the region.

Because of its strategic location and biotic richness, along with the history of land cultivation, the Alambi River, one of the main tributaries within the Basin, was chosen as the Ecuadorian field site for the International Project on Sustainable Agriculture and Natural Resources Management (SANREM-CRSP) which is now beginning to test landscape-lifescap interactions following the assumption of a "farmer first" concept within a "bottom-up" approach to economic development within a landscape ecological framework.

Some Examples of Local Landscape Terminology

Here follows a selection of local names analyzed etymologically to demonstrate the need to recover the indigenous nomenclature of TROPANDEAN sites that has been replaced by European-influenced terminology (refer to Figure 2). Recovering the indigenous nomenclature would help bring about an understanding of the role of selected features in the native culture.

Some of the geographic names are rooted in the pre-Inca language of the Yumbos that may have a Chibcha origin, such as "Tulambi" or "Alambi." Some others are rooted in the Quichua language and are commonly used even with a Spanish-like phonology, e.g., "Culantropamba" (Cordero, 1992). Others maintain their Spanish root.

Alambi. If the term is Chibcha, then it can be translated as "the river of the plain"; but if it is Quichua, *Allag-lambi*, then it can be translated as "the river that digs by licking."

Cachillacta. It can be translated from Quicha as "the land of salt."

Calacali. The Spanish version of the word *callig* with the Spanish suffix *cali*. It can be translated as "short-lived limestone hedges."

Cariaco. The Spanish version of the word *cari-yacu*, which describes the quality of a brave white water; it can be translated as "the river for men" or "male water."

Chacapata. It can be translated from Quicha as "the bridge on the flat small hill"; however, if the Spanish version can be used, then it may mean "the foot bridge" or "the beach bridge."

Chaupisacha. It can be translated from Quicha as "the semi-wilderness."

Chichipunta. The Spanish version to describe *chichi jahua*. It can be translated as "the ridge of the phantom," or as "the peak of the gnome."

Culantropamba. The Spanish version for *rushcu bamba*. It can be translated as "the land of cilantro."

Culunco. The Spanish version of *cullcu*. It can be translated as the "fallen log." Locally, it is used to describe a mountain trail, perhaps because of the trees that have fallen on the path.

Curimanga. It can be translated from Quicha as "the pot of gold."

Curipogollo. The Spanish version of the word *cury-pugllu*, a place where gold was so common as to appear to be flowing from a spring. It can be translated as "the source of gold."

Guayllabamba. It can be translated as "the oscillating plains." However, it has been suggested that the name is a deviation of *Huayra*, "the wind," and *Bamba*, "the plains" or "the field of." If this is correct, then the meaning of the name would refer to the "windy fields," or to the "land of winds."

Maquipucuna. The term can have more than one translation. If we assume that comes straight from *maqui-pucuna*, it can be translated as "the handy blow" as when dispersing seeds by blowing. However, the blowing connotation with "hand" has more of a tendency to refer to a good omen for harvesting or a good backing; therefore my initial translation of "the caring hand." But, if we assume that the term comes from *maquipa-cuna*, it can be translated as "the place of salutation" or "where you have to give your hand." Lastly, if the term comes from *Ma-quipus-cuna*, then it can be translated as "knotting great" or "happily writing with knots."

Mindo. If the term is of Chibcha origin, then it can be translated as "the corner," but if it comes from the Quichua *Mingay* with the Spanish suffix *-do*, then it can be translated as "the place to store with custody."

Nanegal. The Spanish version of *nina*, "fire" or "flares." It can be

translated as "the place of a lot of fires."

Nanegalito. The Spanish version of "little Nanegal." Actually, being the roadside town selected for the highway construction, it grew bigger than Nanegal.

Ninaloma. The Spanish version of *nina pata*. It can be translated as "the hill of fires or flares."

Nono. Spanish for the ninth ordinal number. It refers to the place where traditional pilgrimage or "novenas" for the "El Cinto" Virgin were concluded.

Pachijal. The Spanish version of *pachicuna*. It can be translated as "the river that crosses a lot of Pacches," a montane tree species (Lauraceae: *Nectandra* sp.).

Palmitopamba. The Spanish version of *chunti bamba*. It can be translated as "the palm fields," or "the land of small palm trees" (possibly *Euterpe* spp.).

Pichan. It can be translated as "the broomer." It is suggested that the term is a deviation of *pichana*, the broom.

Pupulahua. The Spanish version of *pullu-lahuay*. It can be translated as "the sheets of wheat" or "the wheat cover."

Tandayapa. It can be translated from Quicha as "the bread is plentiful."

Tulambi. If the term is of Chibcha origin, then it may mean "the river of the mountain"; but if is Quichua, *tula-lambi*, then it can be translated as "the river that licks the burial mount."

Umachaca. It can be translated from Quicha as "the headwater bridge."

Yungilla. The Spanish diminutive of *Yunga*. It can be translated as "the little warm place of the mountains."

Yumbo. The Spanish version of *yunga*, a "thing from the warm lowlands." It can be translated as "the people of the montane jungle," since the term was applied to the people that inhabited the area from 1,500-500 BP. It is also the local

name from the barbet toucan (*Semnoris ramphastinus*), which may reflect the fact that it is endemic to northwestern Ecuador and southwestern Colombia, i.e., a typical representative of the montane Tropicandean forest areas.

Discussion

After the onset of European domination of indigenous cultures, Spanish names replaced the local toponymy and emotunymy which had described the prominent features of the Tropicandean landscape. Since the understanding of "soft" landscape values is determined by different tools of conservation education (Naveh and Lieberman, 1994), rescuing the indigenous geographic lexicon of the Upper Guayllabamba River Basin can illuminate not only the history of land occupation through time, but can also provide environmental awareness (Western, 1989).

The Ecuadorian government has no clear policy for naming landmarks or other geographical attributes. On occasion, civic fervor has prompted the naming of places for dates of military victories or special events. In Quito, the capital city, the main avenues reflect an array of historic dates. In other instances, religious or civil powers hold sway, and towns, rivers, hills, or lakes are named for famous citizens or respected saints. It is easy to find at least a couple of dozen different towns with the name of San Rafael, and several rivers have the name of Santa Rosa.

By recovering the toponymy and emotunymy of a place, it is possible for managers to develop conservation education programs in their protected areas. Local names will bring immediacy and topological meaning to geographic attributes. To use the example of "Maquipucuna" itself, the explanation of the meaning of this word to visitors becomes a way for them to understand

the human impact on Tropicandean landscapes. By referring to the place-name "Cachillacta," for instance, visitors are encouraged to form an image of an important trading post for the salt supply that was a key to the highland-lowland dynamics of societies in the Equatorial Andes. Finally, by talking about the bird-name "Yumbo," visitors are encouraged to retain the idea of a mystic mountain people and its legends. So, the inference of early land-use practices reflected in the name of landscape features plays a role in the education of visitors to the protected area, to the benefit of both.

Conclusion

Now that humans have basically conquered the wild frontier, we must turn our attention to conservation and to recovering the relationship between nature and us. What better tool for such teaching than to name streams, mountains, and other features of the landscape for their ecological significance? It is imperative to reevaluate the policy of geographical naming of landscape features in Ecuador and elsewhere in the Tropicandean region. Maintaining a local toponymy and emotunymy unique to the montane area will help continue the cultural tradition. This, in turn, will help identify unique landscape characteristics for conservation. Therefore, recovery of indigenous landscape nomenclature is needed to reinforce protection of cultures and their resource bases alike.

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Literature Cited

- Acosta-Solís, M. 1977. *Ecología y Fitoecología*. Ed. Casa de la Cultura Ecuatoriana, Quito.
- Bennett, B.C. 1994. Indigenous destruction. *BioScience* 44(5):367-368.
- Budosky, G. 1968. La influencia humana en las vegetación natural de montañas tropicales americanas. In: G. Troll (ed.), *Geocology of the Mountainous Regions of Tropical Americas*. Ferd. Dümmlers Verlag, Bonn.
- Cordero, L. 1992. *Diccionario Quichua-Castellano y Castellano-Quichua*. Quinta edición. Corporación Editora Nacional. Quito.
- Dansereau, P. 1975. *Inscape/Landscape*. Columbia University Press, New York.
- Ellenberg, H. 1979. Man's influence on tropical mountain ecosystems of South America. *Journal of Ecology* 67:401-416.
- Jordan, C.F. 1995. *Conservation*. J. Wiley & Sons, New York.
- Jordan, E.L. 1981. The birth of ecology: An account of Alexander von Humboldt's voyage to the equatorial regions of the new continent. Pp. 4-15 in C.F. Jordan (ed.), *Tropical Ecology*. Benchmark Papers in Ecology No. 10. Hutchinson Ross, Stroudsburg, Pennsylvania.
- Knapp, G. 1991. *Andean Ecology: Adaptive Dynamics in Ecuador*. Westview Press, Boulder, Colorado.
- Myers, N. 1990. The biodiversity challenge: Expanded hot-spot analysis. *The Environmentalist* 10(4): 243-256.
- Naveh, Z., and A. Lieberman. 1994. *Landscape Ecology: Theory and Applications*. Second Edition. Springer-Verlag, New York.
- Sarmiento, F.O. (In review). The birth place of ecology: Tropandean landscapes at risk. *Environmental History Review*.
- . 1995. Restoration of Equatorial Andes: the challenge for conservation of Tropandean landscapes of Ecuador. In: S. Churchill, E. Forero, H. Balslev, and J. Luteyn (eds.), *Neotropical Montane Forest: Biodiversity and Conservation*. The New York Botanical Garden, Bronx, New York.
- . 1994. Human impacts on the cloud forests of the upper Guayllabamba river basin, Ecuador, and suggested management responses. Pp. 183-190 in L.A. Hamilton, J. O. Juvik, and F. Scatena (eds.), *Tropical Montane Cloud Forests. Ecological Studies* 110:284-285.
- . 1992. Research in Tropandean protected areas of Ecuadorian landscapes. *The George Wright Forum* 9(3/4):148-160.
- . 1987. *Antología Ecológica del Ecuador: desde la selva hasta el mar*. Ed. Casa de la Cultura Ecuatoriana, Quito.
- . 1986. *Diccionario Ecológico Energético Ecuatoriano*. Ed. U.N.P., Quito.
- . 1984. Comunicación y ecología. *Boletín de Informaciones Científicas Nacionales* 115:39-43.
- Troll, C. 1968. *Geo-ecology of the Mountainous Regions of the Tropical Americas*. Ferd. Dümmlers Verlag, Bonn.
- Western, D. 1989. Conservation without parks: Wildlife in the rural landscape. In D. Western and M. Pearl (eds.), *Conservation for the Twenty-First Century*. Oxford University Press, New York.

