Sociedade de Geografia de Lisboa

Número Especial Dedicado à Antropologia do Ambiente

Special Issue on Environmental Anthropology

Lisboa 2014

Sociedade de Geografia de Lisboa
Rua das Portas Santo Antão, 100 - 1150-269 Lisboa
Tel. 21 342 54 01 - 21 342 50 68 Fax. 351 21 346 45 53
email: geral@socgeografialisboa.mail.pt www. socgeografialisboa.pt

Sociedade de Geografia de Lisboa

Memória

Número Especial Dedicado à Antropologia do Ambiente

Special Issue on Environmental Anthropology

Coordenação de/Eds.
C. Casanova & S. Frias

2014

ÍNDICE

WHEN THE YOUNG THINK THAT EVERY PLANT IS PARSLEY! SOCIAL VARIABILITY OF ETHNO-BOTANICAL KNOWLEDGE AND PLANT CATEGORIZATION IN TWO RURAL AREAS IN PORTUGAL

Amélia Frazão-Moreira[1] and Ana Maria Carvalho[2]

[1]CRIA and Faculdade de Ciências Sociais e Humanas da Universidade Nova de Lisboa, Av. Berna 26 C. 1069-061 Lisboa, Portugal

amoreira@fcsh.unl.pt

[2]CIMO and Instituto Politécnico de Bragança, Campus de Santa Apolónia 5301-855 Bragança, Portugal

anacarv@ipb.pt

> *Mon problème, avec les classements, c'est qu'ils ne durent pas; à peine ai-je fini de mettre de l'ordre que cet ordre est déjà caduc.*
>
> *My problem with classifications is that they never last long... I no sooner put things in some order than the ordering is outdated.*
>
> *Mi problema con las clasificaciones es que casi no duran... Tan pronto término de poner algo en orden y el orden caduca en seguida)*
>
> (Perec 1985:163)

The words of the French novelist and essayist George Perec are about his personal experience, but could be the image of the social process of categorization, and in our case, of the categorisation of a natural element such as plants.

We do not want to enter into a theoretical discussion about the existence of a universal classification process of natural beings, that have basically emerged around the debates about Berlin's ethnotaxonomic model (Berlin, Bredlove and Raven 1973; Berlin 1978, 1982) in line with the Lévi-Strauss legacy (1983 [1962]). According to Berlin we can find a hierarchical classificatory structure in which the different species are taxonomic organized by their linguistic and morphological similarity.

However, we are certain that the ethnoclassification process evolves multiple combinations of mechanisms that are not always linguistic, morphological, and hierarchical and does not necessarily follows a binary logic (Friedberg 1970; Morris 1984; Newmaster, Subramanyam, Ivanoff and Balasubramaniam 2006). Also the cognitive mechanisms of denomination, identification and

distinction of plants may or may not be coincidental, as Friedberg (1986) and Frazão-Moreira (2001) highlighted.

As several authors (Ellen 1979, 1993; Sillitoe 2002) emphasize, we also reported, that the classification process requires flexibility and variability, which is social, circumstantial and negotiated. After all, *systems of cultural classification are not a precondition for practical action in the world, but are invoked to recover the meaning that is lost when that action turns reflexively inwards on the self* (Ingold 1997:53). It is a process inherent in the human ecological condition, brought together in practice and not as a result of a fixed, structural construction that is put into practice (Angioni 2003, Ingold 1996), a continuous "putting in order."

Our goal is to point the connexions between ethnobotanical practices and knowledge and the variability of categorization criteria.

The starting point is that to use plants for practical purposes (medicinal, food, craft or ritual) is also to classify. When people describe "local ecological knowledge", reporting plants morphological characteristics, habitats, wisdom, are in fact evoking different criteria for classifying according to different social purposes and activities.

Data are drawn from the results of the research project "Ethnobotany of the Northeastern Region of Portugal: Local Knowledge, Plants and Use"[1] that aimed to observe social practices that make use of plant resources, to document plant knowledge and to record numerous memory accounts of plant uses. A case study was conducted in two communities, one in the Montesinho Natural Park and the other in the Douro International Natural Park, two of Portugal's most important protected areas, both rural contexts undergoing social and economic change and greatly influenced by agricultural decline (Carvalho, Frazão-Moreira and Ramos 2010). Within these contexts a "new rurality" is emerging, that is to say, people have new lifestyles that cross the peasant's values and social memories with many urban attitudes, expectations and behaviours. We applied different ethnographic methodologies to 79 people of both genders, from different age groups, personal life and experiences.

1. LINKING ETHNOBOTANICAL KNOWLEDGE AND PLANT CATEGORIZATION

Considering the study-case results we found that ethnobotanical knowledge (e.g. plant-use, practices, believes) influences plant categorization and is difficult to dissociate the two, as expressed in the following example where two plants with

[1] Research Project "Ethnobotany of the Northeastern Region of Portugal: local knowledge, plants and uses" supported by the Fundação Ciência e Tecnologia, Portugal (FCT - POCI/ANT/59395/2004).

phonetic proximity of their vernacular names, living in similar habitats (the banks and beds of rivers, streams and ponds) and taxonomically belonging to the same botanical family are differently categorized taking in account their usefulness.

Those plants are locally known as "rabaça" (*Apium nodiflorum* (L.) Lag.; English name, European marshwort) and "rabação" (*Oenanthe crocata* L.; English name, hemlock water-dropwort). "Rabaça" and "rabação" are linguistically associated and are in the same syntactic category. Moreover, besides having the same etymology, each vernacular name has a derivational suffix, that does not alter the syntactic category, but changes the meaning of the base.

The linguist proximity of such names states the morphological family botanical characteristics and habitat similarities and also highlights the size differences between them, using the specific suffix "ão" that generally denotes something large in Portuguese language.

In the words of a farmer, who was asked to explain how to distinguish the two plants: "the 'rabaça' is smaller, with several prostrated stems and also erect ones but much lower than the 'rabação', whose erect stems can reach greater heights (>1,5m)".

Though, when referring to their uses, the two plants are not at all associated. The "rabaça" is considered edible and placed in the category of plants that are "good for salads", together with other wild species which were once or still are gathered for the same food use and share the same environment, such as "agrião" (*Rorippa nasturtium-aquaticum* (L.) Hayek; English name, watercress).

On the other hand, "rabação" come out in male narratives about the past because of the use of its toxic roots for fishing. The plant, fish expertise and practices are remembered along with other wild plants used in childhood activities and children's games, for instance, the flowers of the "chupetas" (*Trifolium pratense* L.; English name, red clover) and the fruits of "fogaças" (*Malva sylvestris* L.; English name, mallow) that were sucked while they grazed the cattle in the mountain (other examples in Frazão-Moreira, Carvalho and Martins 2007).

Different classificatory principles that are neither linguistic nor morphological are invoked when informants, instead of naming the plants, give explanations about their use and related practices.

2. VARIABILITY AND DIFFERENT LEVELS OF KNOWLEDGE IN CATEGORIZATION PROCESSES

Both the names of plants and the allocation of uses vary in the same social universe according to gender and age, for example. Names and uses reflect

different knowledge and individual experiences, and are described in different ways according each situation. We have already shown (Frazão-Moreira, Carvalho and Martins 2009) how some people in the studied contexts, especially those aged between 50 and 65 and locally considered experts and skilful plant-users, will give either local names or exogenous names depending on circumstances when they refer to the same plants, i.e., common names used in other places and even scientific names, learned in books or through the media.

In their narratives and practices of use, these people also speak of local know-how, handed down from generation to generation as well as knowledge and ideas that have been recently acquired from other sources. The same process is repeated particularly in regard to cosmetic and medicinal uses of plants, such as the preparation of medicines for digestive problems, to control cholesterol levels or hypertension and even for weight loss, as well as to assert scientific wisdom about properties of food plants. This is a modern appreciation of local knowledge and ancient tastes and flavours related to securing local heritage by means of a change in the perception of nature as a means of know-how into a means to "know-how-to-say-it" (Frazão-Moreira and Carvalho 2009).

On the other hand, there is an obvious lack of knowledge of plant names, uses and habitats among younger people, even those who work everyday in agricultural activities.

In order to get a more continuous understanding of the social variability of knowledge and concept of plants, we carried out a series of formal interviews with 79 men and women of different ages (between 10 and 89 years of age), schooling and personal life stories (their origins, careers, migration experiences). Each informant was shown 11 plants (Table1) that had been chosen on the basis of a prior ethnobotanical survey and collected by means of participant observation and informal interviews. The plants were selected so that they could be clearly associated with different uses, habitats, morphologies and local categories, that is to say, the plants had a varied local social sense.

Table 1 – Synthesis of the plants selected for the interviews in both communities

Case study 1 - Montesinho Natural Park		Case study 2 - Douro International Natural Park	
Local name (English name) *Scientific name*	**Main reported local uses**	**Local name (English name) *Scientific name***	**Main reported local uses**
arçã or arcenha (lavender) *Lavandula stoechas* L.	medicinal, condiment, fodder	romeiro (rosemary) or arçã (lavender) *Lavandula stoechas* L.	medicinal, condiment, fodder
agrião (watercress) *Rorippa nasturtium-aquaticum* (L.) H.	food	norça (bryony) *Bryonia dioica* Jacq.	food
agrião-real *Centranthus calcitrapae* (L.) Dufresne	medicinal, food	mangerico-do-monte (oregano) *Origanum virens* Hoffmanns. et Link	medicinal, condiment
arruda or ruda (fringed rue) *Ruta chalepensis* L.	Ritual	arruda or ruda (fringed rue) *Ruta chalepensis* L.	ritual
carqueja (broom-like Iberian fabaceae) *Pterospartum tridentatum* (L.) Willk.	fuel, medicinal, condiment, fodder	escova-amarela (common broom) *Cytisus scoparius* (L.) Link.	fuel, medicinal, handicraft, fodder
carrasco, azinheira (holm oak) *Quercus ilex* L subsp. *rotundifolia* (Lam.)	fodder, medicinal, fuel handicraft	freixo (narrow-leafed ash) *Fraxinus angustifolia* Vahl	fodder, medicinal, fuel, handicraft
cheirosinha (thyme sp.) *Thymus zigis* L.	medicinal, condiment	tomilho-branco (other thyme sp.) *Thymus mastichina* L.	medicinal, condiment
espinheiro (common hawthorn) *Crataegus monogyna* Jacq.	ornamental, medicinal	espinheiro (common hawthorn) *Crataegus monogyna* Jacq.	ornamental, medicinal
erva-prata or prata (nailwort) *Paronychia argentea* Lam.	medicinal	ervas-lobas (like spotted rockrose) *Xolantha tuberaria* Sweet) Samp.	medicinal
fiolho (fennel) *Foeniculum vulgare* L.	medicinal, condiment	fiolho (fennel) *Foeniculum vulgare* L.	medicinal, condiment
tremoceiro-bravo (blue lupine) *Lupinus angustifolius* L.	no defined use	grama (stonecrop sp.) *Sedum* sp.	no defined use

Scientific nomenclature according to Flora Iberica, http://www.rjb.csic.es/floraiberica/

The plants used in each community were not exactly the same because some species do not have equal importance, distribution and use in both contexts. However, the plant selection took into account the characteristics of specimens as explained in Table 1, which presents the sets of plants selected. Free pile sort tests (free categorization, Bertrand 2002; Marti, 1995; Molina and Bertran 2008) were carried out on the 79 subjects. People were asked to name the plants and to tell what they knew about each plant. Then they were invited to group the plants freely according to their own categorization criteria.

The interviews showed that children in general have very little knowledge about plants. Young people, unlike adults, find it very difficult to recognize the fragments of plants presented, though in some cases when they were told the names of the plants, they were able to describe some of their uses, locations or morphological similarities, as the following two examples suggest:

A young farm worker when interviewed and shown a woody and spiny branch with leaves of a tree ("espinheiro"; *Crataegus monogyna* Jacq.) tried to identify the plant and said: "This is more or less parsley!" and he also mistook "fiolho" (*Foeniculum vulgare* L.) for carrots, which indeed have some resemblance.

A young woman, who lives in a nearby village although she spent her childhood in the community and visits it every weekend, had some difficulty in identifying some of the plants. She said: "If there was some parsley here ..." and asked "Why didn't you bring any mint?", which suggests that parsley and mint are plants she would have easily identified. She was astonished when she found out that some of the plants were kitchen herbs that she usually uses, such as oregano ("mangerico-do-monte", *Origanum virens* Hoffmanns. et Link). She commented: "See what happens when we only get dried and ground cooking spices and herbs at the supermarket!"

The results obtained from free pile sort test were analysed by multidimensional scaling (Alternating Least Squares Scaling - ASCAL) that gives a "perceptual map" through the representation of the similarities and dissimilarities found in all groups made by informants.

Figure 1 shows the degree of proximity and the antagonisms between some of the plants or groups and how groups reflect informant's perceptions:

- "carrasco" (*Quercus ilex* subsp. *ballota*) and "freixo" (*Fraxinus angustifolia*) grouped with "espinheiro" (*Crataegus monogyna*);
- "arçã" and "romeiro" (*Lavandula stoechas*) with "cheirosinha" (*Thymus zigis*) and "tomilho-branco" (*Thymus mastichina*);
- "arruda" (*Ruta chalepensis*) with "tremoceiro-bravo" (*Lupinus angustifolius*) and "grama" (*Sedum* sp.)
- "fiolho" (*Foeniculum vulgare*) with "agrião" (*Rorippa-nasturtium-aquaticum*)

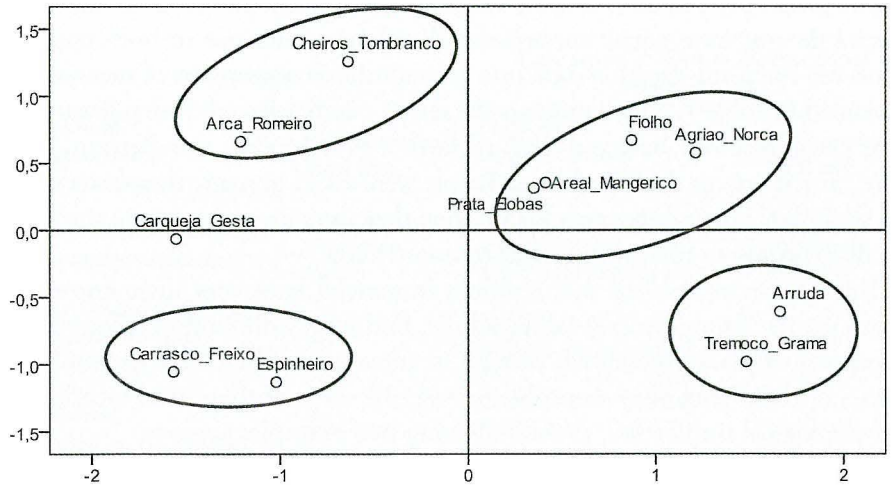

Figure 1 - ASCAL "perceptual map" - result of free pile sort tests.

and "norça" (*Bryonia dioica*), "agrião-real" (*Centranthus calcitrapae*) and "mangerico-do-monte"(*Origanum virens*), "erva-prata" (*Paronychia argentea*) and "ervas-lobas" (*Tuberaria lignosa*).

In Figure 1 we observe the consensual proximities generated among different plants because they share some identifiable attributes. As the informants were given complete freedom to form their groups of plants, the attributes reflect different concepts and perceptions of the plants.

For instance, the proximity of "carrasco", "freixo" and "espinheiro" is due to the placement of the plants in the same group, although the criteria varied according to the informant's perception and knowledge. Some informants jointed these plants in a group because they considered their usefulness as firewood; others because they thought that the trees provide good wood for furniture and craft; the habitat and the presence of fruits, e.g. all three producing fruits were also identified as common attributes by several people. While the proximity of "arruda" and "tremoceiro-bravo" and "grama" results from the lack of knowledge about plants or their uses.

The ways in which informants grouped the plants varied a great deal and resulted in a total of 119 different combinations. Some plants were left isolated on the basis of their specificities and unique characteristics in terms of use, habitat or morphology. For example, many informants highlighted the magical nature of "arruda" used as a protection against witches and the "evil-eye" and the most relevant use of "norça" and "agrião" was that are eaten raw in salads.

Interestingly, in one of the communities, there were two species whose names are linguistically linked together, "agrião" (watercress) and "agrião-real" (real-cress). Twenty-three in forty-two people identified and knew the names of the two species, although only five managed to make a pair with the two plants. As for analysing the underlying criteria, only one informant did so because the plants have similar names, as he commented: "They are two types of watercress". The rationale for the categorization by the other four informants was the habitat, the biological type (both are "herbs") or morphological similarity in leaves and flowers.

Overall, the factor that dominated plant categorization was a utilitarian one, which can be related to the fact that the use-report of plant use was a key part in the survey conducted before and simultaneously with the interviews. Habitats and morphological differences, including the ethnotaxonomical (the distinction between "trees", "shrubs", "herbs" and "creeping plants") were less cited as sorting criteria.

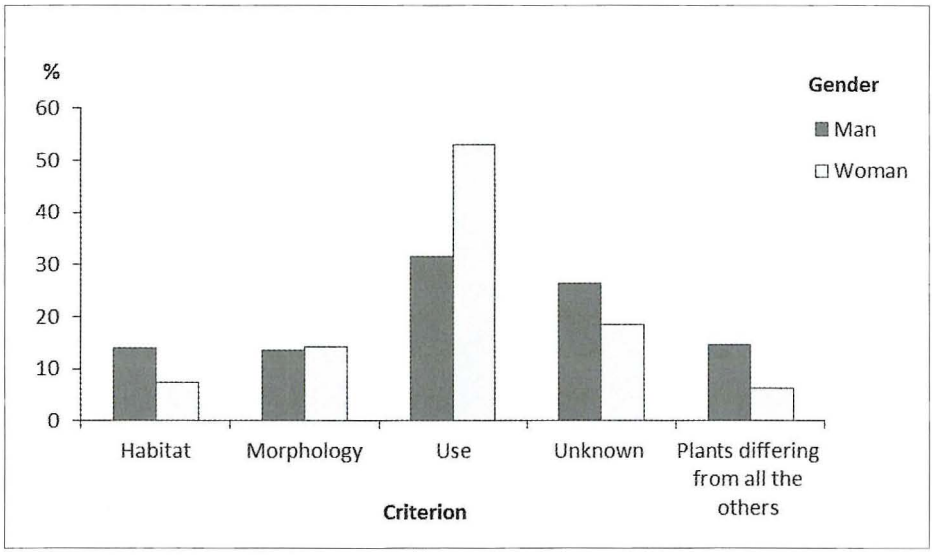

Figure 2. Criteria invoked according to gender (values in percent).
Legend: Criteria of categorization: Habitat (plants sorted according to their habitat), Morphology (plants sorted according to morphological aspects, such as leaf or fruit shape), Use (plants sorted according to plant uses as food, medicine or others), Unknown (plants grouped together because they were unknown), Plants differing from all the others (plants left isolated because they do not match any criteria used for categorizing in other groups formed)

It seems that in the case of completely free inquiry-based categorization tasks, linguistic and ethnotaxonomical criteria do not dominate the cognitive process of categorizing. However, it also seems that there is social variability

in the criteria that guided the categorizations. As can be seen in Figure 2, the criterion use was chosen by more women than by men and the criterion habitat was invoked by a higher percentage of men. Women appealed essentially to their expertise regarding their knowledge of medicinal and ritual plants uses. Men invoked, slightly more, their knowledge about landscape and environment.

Nevertheless, when we focus the analysis on differences according to age of individuals (Figure 3) we see major discrepancies in the choice of each criterion for plants categorization. The huge difference was in the choice of the criterion morphology for the arrangement of plants. During the task, younger people often based their categorization on immediate perceptual similarities of the vegetal materials, such as the shape or colour of the leaves and much less on uses or habitats, which in many cases were unknown.

Without being able to understand and follow the knowledge associated with social practices such as older people do, younger informants simulated categorizations with no cultural meaning.

The results of data collection under artificial situations show social differentiation by gender and age in terms of ethnobotanical knowledge and in the principles of plant categorization. They fundamentally demonstrate that

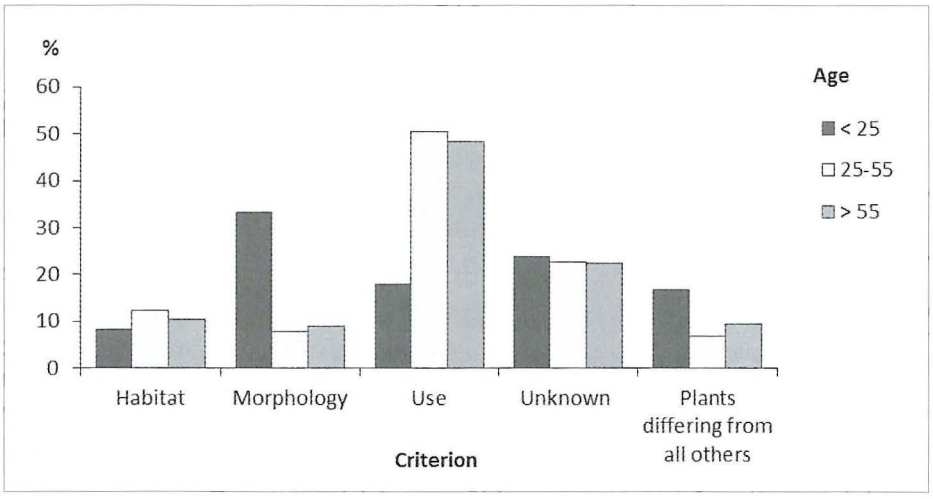

Figure 3. Types of criteria mentioned by age (values in percent).
Legend: Criteria of categorization: Habitat (plants sorted according to their habitat), Morphology (plants sorted according to morphological aspects, such as leaf or fruit shape), Use (plants sorted according to plant uses as food, medicine or others), Unknown (plants grouped together because they were unknown), Plants differing from all the others (plants left isolated because they do not match any criteria used for categorizing in other groups formed)

each individual has the capacity and the cognitive flexibility to invoke different embodied knowledge, and to join several classificatory operators according to practices and memories, which refer to the classifications developed through action and present in narratives. The results also allow us to conclude that the discontinuity of traditional social practices that make direct use of plant resources leads to the inability to recognize plants and to build categorizations based on principles culturally significant. As a consequence, young people based in visual similarities, at a first glance, think that every plant is parsley!

REFERENCES

Angioni, G. 2003. Doing, thinking, saying. In Sanga, G. and G. Ortalli (Eds). *Nature Knowledge. Ethnoscience, Cognition, and Utility*. New York: Berghahn Books. Pp. 301-311

Berlin, B. 1978. Ethnobiological classification. In Rosch, E. and B. Lloyd (Eds.). *Cognition and Categorization*. Hillsdale: Lawrence Erlbaum Associates.

Berlin, B. 1992. *Ethnobiological Classification Principles of Categorization*. Princeton: Princeton University Press.

Berlin, B.; D. Bredlove and P. Raven 1973. General principles of classification and nomenclature in folk biology. *American Anthropologist*, 75(19):214-242.

Bernard, H. R. 2002. *Research Methods in Anthropology. Qualitative and Quantitative Approaches*. Walnut Creek: Altamira Press.

Carvalho, A.M.; Frazão-Moreira, A. and M.T. Ramos 2010. Connecting landscape conservation and management with traditional ecological knowledge: does it matter how people perceive landscape and nature? In Azevedo, J.; Feliciano, M.; Castro, J. and M. A. Pinto (Eds.). *Proceedings of the IUFRO Landscape Ecology Working Group International Conference: 21-27 September 2010*, pp. 474-479. Bragança, Portugal.

Ellen, R. 1979. Introductory essay. In Ellen, R. and D. Reason (Eds.). *Classifications in Their Social Context*, London: Academic Press. Pp. 1-32.

Ellen, R. 1993. *The Cultural Relations of Classification. An Analysis of Nuaulu Categories from Central Seram*. Cambridge: Cambridge University Press.

Frazão-Moreira, A. 2001. As Classificações Botânicas Nalu (Guiné-Bissau): Consensos e Variabilidades. *Etnográfica*, V(1):131-155.

Frazão-Moreira, A. and AM. Carvalho, in press. Du savoir-faire à la connaissance des plantes: pratiques ancestrales et savoirs modernes au sein du monde rural portugais. *Actes Septième séminaire annuel d'ethnobotanique - L'imaginaire contemporain du végétal*. Salagon: Musée de Salagon.

Frazão-Moreira, A.; AM. Carvalho and ME. Martins 2009. Local ecological knowledge also 'comes from books': Cultural change, landscape transformation and conservation of biodiversity in two protected areas in Portugal. *Anthropological Notebooks*, 15(1):27–36.

Frazão-Moreira, A. Carvalho, A. M. and M. E. Martins 2007. Conocimientos acerca de plantas en la nueva ruralidad. Cambio social y agro ecología en el Parque Natural de Montesinho (Portugal). *Perifèria*, 7, 15pp.

Friedberg, C. 1970. Analyse de quelques groupements de végétaux comme introduction à l'étude de la classification botanique bunaq. In Pouillon, J. and P. Maranda eds. Échanges et Communications. Mélanges Offerts à Claude Lévi-Strauss. Mouton: The Hague. Pp. 1092-1131

Friedberg, C. 1986. Classifications populaires des plantes et modes de connaissance. In Tassy, P. ed. *L'Ordre et la Diversité du Vivant*. Paris: Fayard. Pp. 21-52.

Ingold, T. 1996. Hunting and gathering as ways of perceiving the environment in Ellen, R. and K. Fukui eds. *Redefining Nature. Ecology, Culture and Domestication*. Oxford: Berg. Pp. 117-155.

Lévi-Strauss, C. 1983 (1962) *La Pensée Sauvage*, Paris: Plon.

Martin, G. J. 1995. *Ethnobotany, a Methods Manual*. London: Chapman and Hall.

Molina, José L. and Bertrán, Júlia V. 2008. Tipologías y Classificaciones. *Perifèria* 8, 21 pp.

Morris, B. 1984. The pragmatics of folk classification. *Journal of Ethnopharmacology*, 33:107-128.

Newmaster, S.; R. Subramanyam; R. Ivanoff and N. Balasubramaniam 2006. Mechanisms of ethnobiological classifications. *Ethnobotany*, 18:4-26.

Perec, G.1985. *Penser/Classer*, Paris: Hachette.

Sillitoe, P. 2002. Contested Knowledge, Contested Classifications: Animals in the Highlands of Papua New Guinea. *American Anthropologist*. 104(4):1162-1171.

Depósito Legal: 376021/14
ISBN: 978-989-96308-6-4

Impressão e composição: Página Ímpar, Lda.

Tiragem: 400 ex.