

# Historical ethnobotany: an overview of selected studies

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## ABSTRACT

Historical Ethnobotany is an area of research responsible for understanding past interrelationships between people and plant using written records and iconography. The literature on this topic is scattered, and many of these studies are not recognised as such; therefore, it is difficult to compile historical ethnobotanical data. Accordingly, this study attempted to draw a general picture of the publications in this field. The Scopus, ISI Web of Knowledge and Scirus databases were used to search for articles with such keywords as “Ethnobotany + History” and “Historical Ethnobotany” among others. After the studies were selected, information was extracted that included the continents addressed and historical ages. Most studies encompassed a time frame that began in the Modern Age (54.7%), and 46% of the studies were focused on the American continent. With regard to the nature of the source, 98% of the studies included written records, and publications that used the documental analysis as a secondary data in their scope of research were among the most frequent types of studies that were found. In respect to iconographic sources, paintings were used in 6% of the studies. A total of 66% of the studies involved a species or species group as the study object. Our survey revealed the vast scope of these Historical Ethnobotany studies. We believe that this scientific field has great potential for future development and that its findings will only grow in importance considering the current ethnobotanical debate.

**Keywords:** *Ethnobiology, Ethnobotany, historical documents, human populations, literature review, plant use.*

## INTRODUCTION

The use of historical documents is of utmost importance for the accession of information that highlights the past relationships between human beings and their environment. Discovering or obtaining information that is found in manuscripts, books or other sources promotes a chronological view of evolving plant uses, for example, on the

question of the concepts of diseases and forms of cultivation (Barbera et al. 1992; Pardo-de-Santayana et al. 2006; Zepeda and White 2008; Bussmann and Sharon 2009). The chronological analysis of all disease concepts throughout history can help to clarify our current conceptions. However, extracting, analysing and interpreting these types of data represents a challenge, as it requires itself

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knowledge from different areas, such as History, Anthropology and Biology.

The scientific field that addresses these different aspects and that is responsible for understanding part of these interrelationships by focusing on the dynamics established between humans and plants is called Ethnobotany. Within this field, one of the research approaches concerning the past interrelationships through the use of written records and iconography is known as Historical Ethnobotany (Medeiros et al. 2010). Historical Ethnobotany differs from Paleoethnobotany or Archeobotany by including archaeological records and aims to understand the interrelationships between humans and plants (Ford 1979). Despite having similar subjects of study, the differences between Paleoethnobotany and Historical Ethnobotany are based on methodology. Such research is of great relevance because it aids in the reconstruction of historical facts that guide future studies aimed at novel plant-derived discoveries (Giorgetti and Rodrigues 2007; Burns 2008) to verify changes in vegetation cover and species distribution (Oudijk and Jansen 2000; Smith et al. 2003), to assist in understanding the process of plant species domestication (Raghavan and Baruah 1958; Negbi 1992; Prohens et al. 1996), to show temporal changes in plant use and to describe the history of cultivation and the economic importance of certain plants (Goor 1965; Porterfield 2008).

In addition, it should be noted that this scientific field allows for the reconstruction of cultural identities, from small human groups to large civilizations, through the retrospective review of different historical plant uses, such as food, wood, magical/religious purposes and medicinal and fibre applications (Norton 1981; Leal and Amaya 1991; Bedigian 2004; De Natale et al 2009). There are several articles that have already been published using these approaches. However, the literature on this topic is scattered, and it is therefore difficult to categorize these studies because they are not recognised as Historical Ethnobotanical studies.

Therefore, the present study represents one of the first efforts to compile and classify these studies and aims to outline an overview of selected published articles in this field. Accordingly, the aim of the present study was to compose a

general profile of the research related to Historical Ethnobotany and to identify gaps and future perspectives in this field of research.

## METHODS

This study involved the review of published articles that used written records, iconography and/or secondary data to access specific historical aspects of plant resources. Although this study aimed to provide an extensive literature review of how Historical Ethnobotany studies have been presented, it is not intended to be an exhaustive review all of materials on this subject.

To search for articles, we queried the Scopus ([www.scopus.com](http://www.scopus.com)), ISI Web of Knowledge ([www.isiknowledge.com](http://www.isiknowledge.com)) and Scirus ([www.scirus.org](http://www.scirus.org)) databases using the following search terms: "Ethnobotany + History", "Historical Ethnobotany", "Ethnohistory + Plants" and "Ethnobotany + Ancient Documents". To broaden the search criteria, direct surveys were performed on the websites of journals specialising in Ethnobotany (i.e., *Economic Botany*, *Journal of Ethnopharmacology*, *Journal of Ethnobiology*, *Journal of Ethnobiology and Ethnomedicine and Ethnobotany Research and Application*) using the search term "History". These search criteria yielded both ethnobotanical studies and also related but differentially labelled works; the latter were also included in this review. Studies of an archaeological nature were disregarded because they are classified under Paleoethnobotany (Albuquerque 1997), and studies with archaeological approaches were only included when they employed mixed approaches for archaeological or historical data and documentation. It was not possible to access to the entire wealth of publications on the subject.

After selecting reports for inclusion in our study, we extracted information regarding the following aspects of the select studies: (1) the continents addressed, (2) historical ages, (3) nature of the source, (4) types of sources used, (5) approaches, (6) use categories covered and (7) the existence of a counterpoint to the current literature on the subject.

Some studies provided information on more than one continent, used more than one source type, involved more than one approach or involved more than one use category. Therefore, the sum of the frequencies of these study aspects could be greater than 100%. Mixed-nature studies, including archaeological and documentary information, were considered by dating the proper historical sources, excluding the dating of archaeological evidence.

The nature of the sources was classified as written or iconographic. The iconographic sources included paintings, illustrations, sculptures, ceramics and other objects. In terms of mediation, the sources were classified as primary when they provided direct information about the object of study without mediation (Dalton and Charnigo 2004), regardless of whether the original records or the transcripts were primary or secondary. The types of primary written sources were classified as official documents (e.g., issued by former government agencies, kingdoms), manuscripts (e.g., codices, written literature, religious books and diaries and writings of travellers, naturalists and historians) and letters (unofficial writing directed to others) and prescriptions (medical or cooking prescriptions). Secondary sources included publications (recent works published in journals or books including historical information).

We used the following three categories for the analysis of the study object (Medeiros et al. 2009): (1) the focus was the analysis of a document source, (2) the focus was the species or species group and (3) the idea was derived from a study subject. Studies conflicting with the current literature were classified when they conformed to at least one of the following two criteria: (1) performing comparisons among the use, trade, cultivation or spread of plants in the past and present; or (2) following up the historical development of the cultivation, use, trade or distribution of a specific plant or a plant group. We did not refine our analysis in relation to the correct botanical nomenclature of the plants found in the works because, as mentioned above, our focus was solely to determine whether plants were the main focus of the research.

## RESULTS AND DISCUSSION

After filtering the relevant works, the search criteria identified 103 studies for inclusion (Table 2). Due to limited journal access or restricted content, the searches yielded a greater amount of recent works compared to past works. In total, 103 articles and reviews published between 1949 and 2012 were considered. Most of the studies occurred over a time frame that began in the Modern age (54.7%) or Contemporary age (25%), followed by Antiquity (21%) and the Middle Age (7%). However, 8% of the studies did not clearly delineate the specific contextual time frame encompassed, providing only such descriptions as “since ancient times” or “long ago”. The frequent lack of a specific contextual time frame is attributed to the difficulty in knowing the exact or approximate date of the source and may represent a lack of sufficient attention when dealing with historical data.

A total of 51% of the studies provided historical information regarding the American continent, whereas 46%, 36%, 18% and 6% of the studies provided information related to Europe, Asia, Africa and Oceania, respectively. Our results indicated that the modern age represents the majority of early records and that the American continent is the main focus of historical ethnobotanical research. This finding can be explained by the following two factors: (1) an abundance of historical records about the colonization of the New World, including letters, diaries and manuscripts of naturalists and travellers who documented the previously unknown richness of flora and fauna of the Americas and their pre-Columbian applications; and (2) a great interest by researchers to collect historical information on the use of plant resources in the pre-colonial and early colonial periods (Table 2).

One example is a study on the indigenous usage of plants during the Hispanic colonization of Mexico (Zepeda and White 2008). This study was based on the mural paintings by indigenous artists from the convent of the Divine Saviour of Malinalco, which, in addition to illustrating various aspects of Catholic beliefs, also incorporated elements of the local fauna and flora. The plants depicted in the paintings were identified, and their uses were assessed from codices of that period to

derive information about the pre-Hispanic uses of local plant species.

When comparing the different regions of the American continent, both North and South America exhibited the same percentage of studies, 18.3% each, whereas Central America exhibited 16% coverage, despite this continent be much smaller than the others cited. This average of studies developed in Central America could be justified by the fact that the researches made on this geographical region were focused on key-species that are distributed along this area and key-species that have an expressive economic importance for the world, like “vanilla” (see Correll 1953).

Regarding the nature of the sources, 98% of the studies extrapolated information from written records, which is expected because this type of record is the main form of overall historical research. Indeed, the emergence of writing itself has classically represented a watershed between

prehistorical and subsequent historical periods (Rai 2010). Iconographic sources have rarely been used in historical ethnobotanical studies and were found in only 14.0% of all of the papers analysed and were generally associated with the analysis of written records.

Among the most frequent types of written records were publications that used this kind of documentation as a secondary data in their analysis (and not as original source of informations). The adoption of documentary analysis by the authors of these studies was to achieve a more complete coverage of historical aspects on the topics covered in the survey. Considering the written records used as primary or secondary sources, these included: manuscripts, letters, diaries, prescriptions, old books; beyond official documents from governments, kingdoms or related organisations (Table 1).

**Table 1.** The main source types found in 103 historical ethnobotanical publications.

| Source nature |       | Type of source     |         |
|---------------|-------|--------------------|---------|
| Writing       | (98%) | Publications       | (77%)   |
|               |       | Manuscripts        | (52%)   |
|               |       | Official documents | (22.1%) |
|               |       | Prescriptions      | (4.7%)  |
|               |       | Others             | (3.1%)  |
|               |       | Iconographic       | (12.0%) |
|               |       | Illustrations      | (2.2%)  |
|               |       | Artefacts          | (1.1%)  |
|               |       | Others             | (4.4%)  |

With regard to iconographic sources, paintings were used in 6% of all studies, with different source forms, including murals, paintings and ceramics; iconographic sources including illustrations and artefacts were less informative (Table 1). Some illustrations of domesticated plants such as wheat and corn observed in the work of Zeven and Brandenburg (1986), important in festivities plants were found, such as grape (*Vitis vinifera* L.) used for the manufacture of wine and illustrated by people of antiquity (see Goor 1965), medicinal plants as illustrated in a convent wall from Mexico (Zepeda

and White 2008) and others. There were also works in which it was not possible to identify the nature of their iconographic sources; these works were therefore included in the “others” category.

Some codices have served as a source for various studies, and such writings represent significant historical significance for their respective countries or regions of origin in terms of a pioneering character or an exemplary compilation.

Among the most used codices as source by these analysed publications, it is highlighted the *Florentine Codex* (Zepeda and White 2008;

Terraciano 2010), which represents the most detailed chronicle of pre-Hispanic culture and a large graphic plurality of the Mexican colonial period (Zárate 1997), and *De Materia Medica* of Dioscorides (Negbi 1992; De Natale et al. 2009; Leonti et al. 2009; Leonti et al. 2010).

No works analysed thus far have used photographs as a data source, whereas photographic records have been commonly used to only illustrate species encompassed by the respective study or to represent sculptures, illustrations and other curios, which are iconographic sources themselves. Perhaps the fact that photographic resources are relatively recent entities compared to other iconographic features has limited their usage in historical ethnobotanical studies. The “Others” category included other types of written and iconographic sources, such

as cave paintings, and was present in 6.5% of all publications.

The paths that the authors use in the design of the survey were mainly in three ways, called by Medeiros (2009) as “species-document”, “document-species” and “theme-document-species” (Table 2). Sixty-seven percent of all studies were performed on a single species or species group defined as the study object, which was queried to locate historical records regarding the aspects of human relationships with the study object (“species-document” – e.g., uses, harvesting methods). Other topic-specific (“theme-document-species” – e.g., poisonous plants) studies either used related records (17%) or historical documents (16%, e.g., recipes or codices) for information about the plants that were studied (“document-species”).

**Table 2.** Main information extracted from 103 publications related to historical ethnobotany.

| REFERENCES              | AGE OF DOCUMENT   | PLACE OF DOCUMENT ORIGIN   | NATURE OF THE SOURCE  | SEARCH PATH            |
|-------------------------|-------------------|--|-----------------------|------------------------|
| ABRAMS and NOWACKI 2008 | Timeframe unclear | North America  | Writing               | Document-species       |
| ADERKAS 1984            | Modern age        | North America  | Writing               | Species-document       |
| ALENCAR ET AL 2010      | Modern age        | South America  | Writing               | Document-species       |
| ARGOUNOVA-LOW 2009      | Contemporary age  | Asia   | Writing               | Document-species       |
| AUSTIN 2007             | Modern age        | Africa; Central America; North America; South America; Asia; Oceania | Writing               | Species-document       |
| AUSTIN 2008             | Modern age        | Africa; Central America; South America; Asia; Europe                 | Writing               | Species-document       |
| AUSTIN and FELGER 2008  | Modern age        | Africa; Asia; Europe   | Writing               | Species-document       |
| BARBERA ET AL 1992      | Modern age        | Europe   | Writing               | Species-document       |
| BEDIGIAN 2004           | Antiquity         | Africa; Asia   | Writing; Iconographic | Species-document       |
| BRANDÃO ET AL 2008      | Modern age        | South America  | Writing               | Document-species       |
| BRANDÃO ET AL 2009      | Contemporary age  | South America  | Writing               | Document-species       |
| BRENDLER and WYK 2008   | Modern age        | Africa; Europe   | Writing               | Species-document       |
| BUCKLES 1995            | Contemporary age  | Central America; North America                                       | Writing               | Species-document       |
| BURNS 2008              | Contemporary age  | Asia   | Writing               | Species-document       |
| BURTON and COX 1998     | Contemporary age  | North America  | Writing               | Species-document       |
| BUSSMAN and SHARON 2009 | Modern age        | South America  | Writing; Iconographic | Theme-document-species |
| CHADWICK ET AL 1993     | Antiquity         | Asia   | Writing               | Species-document       |

| REFERENCES                   | AGE OF DOCUMENT             | PLACE OF DOCUMENT ORIGIN               | NATURE OF THE SOURCE  | SEARCH PATH            |
|------------------------------|-----------------------------|--|-----------------------|------------------------|
| CHARNEY and BASBOUS 1978     | Antiquity                   | Asia                                   | Writing; Iconographic | Species-document       |
| COLLINS 1949                 | Modern age                  | South America                          | Writing               | Species-document       |
| CORREL 1953                  | Modern age                  | Central America                        | Writing               | Species-document       |
| DAFNI ET AL 2005             | Antiquity                   | Asia                                   | Writing               | Species-document       |
| DE NATALE ET AL 2009         | Modern age                  | Europe                                 | Writing               | Document-species       |
| DELYSER and KASPER 1994      | Mean age                    | North America; Asia; Europe            | Writing               | Species-document       |
| DOVE 1997                    | Modern age                  | Asia                                   | Writing               | Species-document       |
| EDWARSON 1952                | Mean age                    | Europe                                 | Writing               | Species-document       |
| ERWIN 1950                   | Modern age                  | Central America; South America; Europe | Writing               | Species-document       |
| FULLING 1953                 | Modern age                  | Central America                        | Writing               | Species-document       |
| GENTRY ET AL 1958            | Modern age                  | Central America                        | Writing               | Species-document       |
| GIORGETTI and RODRIGUES 2007 | Modern age                  | South America                          | Writing               | Theme-document-species |
| GOOR 1965                    | Antiquity                   | Asia                                   | Writing               | Species-document       |
| GOOR 1966a                   | Antiquity                   | Asia                                   | Writing; Iconographic | Species-document       |
| GOOR 1966b                   | Antiquity                   | Asia                                   | Writing; Iconographic | Species-document       |
| GOOR 1967a                   | Antiquity                   | Asia                                   | Writing; Iconographic | Species-document       |
| GOOR 1967b                   | Antiquity                   | Asia                                   | Writing; Iconographic | Species-document       |
| GUARINO ET AL 2000           | Modern age                  | Europe                                 | Writing; Iconographic | Species-document       |
| HALLER JR. 1990              | Modern age                  | Africa; North America, Asia; Europe    | Writing               | Species-document       |
| HEINRICH ET AL 2006          | Contemporary age            | Central America                        | Writing               | Theme-document-species |
| HERNANDEZ and GARCIA 1998    | Mean age                    | Europe                                 | Writing               | Document-species       |
| HSU 2006                     | Antiquity                   | Asia                                   | Writing               | Species-document       |
| HU 1967                      | Contemporary age            | Asia                                   | Writing               | Species-document       |
| HYMOWITZ and HARLAN 1983     | Modern age                  | North America                          | Writing; Iconographic | Species-document       |
| JOUBERT ET AL 2008           | Contemporary age            | Africa                                 | Writing               | Species-document       |
| KINGSBURY 1961               | Antiquity; Contemporary age | Europe; North America                  | Writing               | Theme-document-species |
| KITAGAWA ET AL 2008          | Contemporary age            | Asia                                   | Writing               | Species-document       |
| KROCHMAL and GRIERSON 1961   | Modern age                  | North America                          | Writing               | Species-document       |
| LEAL E AMAYA 1991            | Modern age                  | South America                          | Writing               | Species-document       |
| LEONTI ET AL 2009            | Antiquity                   | Europe                                 | Writing               | Document-species       |
| LEONTI ET AL 2010            | Modern age                  | Europe                                 | Writing               | Document-species       |
| LOCHER and CURRIE 2010       | Modern age                  | Europe; Oceania                        | Writing               | Theme-document-species |
| LUCZAJ 2008                  | Contemporary age            | Europe                                 | Writing               | Document-species       |
| LUCZAJ 2009a                 | Modern age                  | Europe                                 | Writing               | Document-species       |
| LUCZAJ 2009b                 | Modern age                  | Europe                                 | Writing               | Species-document       |

| REFERENCES                    | AGE OF DOCUMENT  | PLACE OF DOCUMENT ORIGIN    | NATURE OF THE SOURCE     | SEARCH PATH            |
|-------------------------------|------------------|-----------------------------|--------------------------|------------------------|
| LUCZAJ 2010a                  | Contemporary age | Europe                      | Writing                  | Theme-document-species |
| LUCZAJ 2010b                  | Modern age       | Europe                      | Writing                  | Document-species       |
| LUCZAJ 2010c                  | Modern age       | Europe                      | Writing                  | Document-species       |
| LUCZAJ 2012                   | Modern age       | Europe                      | Writing;<br>Iconographic | Species-document       |
| LUCZAJ ET AL 2012             | Modern age       | Europe                      | Writing                  | Species-document       |
| MARTIN 1970                   | Mean age         | South America               | Writing;<br>Iconographic | Species-document       |
| MEDEIROS ET AL 2010           | Modern age       | South America               | Writing                  | Document-species       |
| MEDERIOS ET AL 2007           | Contemporary age | South America               | Writing                  | Species-document       |
| MERLIN 2000                   | Modern age       | Oceania                     | Writing                  | Theme-document-species |
| MONACHINO 1954                | Modern age       | Asia                        | Writing                  | Species-document       |
| MOOLLA and VILJOEN 2008       | Modern age       | Africa                      | Writing                  | Species-document       |
| MULLER ET AL 2010             | Modern age       | North America               | Writing                  | Species-document       |
| NEGBI 1992                    | Antiquity        | Africa; Europe              | Writing                  | Species-document       |
| NICHOLSON 1958                | Antiquity        | Africa                      | Writing                  | Species-document       |
| NORTON 1979                   | Modern age       | North America               | Writing                  | Species-document       |
| NORTON 1981                   | Modern age       | North America               | Writing                  | Document-species       |
| OUDIJK and JANSEN 2000        | Modern age       | Central America             | Iconographic             | Theme-document-species |
| PALMER 1985                   | Modern age       | Europe                      | Writing                  | Document-species       |
| PARDO DE SANTANAYA ET AL 2006 | Modern age       | Europe                      | Writing                  | Document-species       |
| POLATA and SATIL 2012         | Modern age       | Europe                      | Writing                  | Species-document       |
| POLLIO ET AL 2008             | Antiquity        | Europe                      | Writing                  | Species-document       |
| PORTERFELD 2008               | Modern age       | Central America             | Writing                  | Species-document       |
| PROHENS ET AL 1996            | Modern age       | Central America             | Writing                  | Species-document       |
| RAGHAVAN and BARUAH 1958      | Antiquity        | Asia                        | Writing                  | Species-document       |
| RAGONE ET AL 2001             | Modern age       | Asia                        | Writing                  | Document-species       |
| RAMON-LACA 2003               | Modern age       | Europe                      | Writing                  | Species-document       |
| RAZA 2006                     | Antiquity        | Africa; South America       | Writing                  | Theme-documents        |
| RIVERA ET AL 1994             | Antiquity        | Africa; Asia; Europe        | Writing                  | Species-document       |
| RUSSO 1998                    | Contemporary age | North America; Asia; Europe | Writing                  | Species-document       |
| SALICK ET AL 2006             | Contemporary age | Asia                        | Writing                  | Theme-document-species |
| SMITH E PERINO 1981           | Contemporary age | North America               | Writing                  | Species-documents      |
| SMITH ET AL 2003              | Contemporary age | Oceania                     | Writing                  | Theme-documents        |
| SPENCER 1984                  | Modern age       | North America               | Writing                  | Species-documents      |
| STÅHLBERG and SVANBERG 2010   | Modern age       | Asia                        | Writing                  | Document-species       |
| SWENSON ET AL 1997            | Modern age       | South America               | Writing                  | Theme-document-species |
| TICKTIN 2002                  | Modern age       | Central America             | Writing                  | Species-documents      |

| REFERENCES                 | AGE OF DOCUMENT   | PLACE OF DOCUMENT ORIGIN                           | NATURE OF THE SOURCE  | SEARCH PATH              |
|----------------------------|-------------------|--|-----------------------|--------------------------|
| WEIL 1965                  | Timeframe unclear | Africa; North America; South America; Asia; Europe | Writing               | Species-documents        |
| WIDRLECHNER 1981           | Antiquity         | Africa; Asia; Europe                               | Writing               | Species-documents        |
| WYK 2008                   | Timeframe unclear | Africa   | Writing               | Theme-document-species   |
| YESILADA 2005              | Timeframe unclear | Asia   | Writing               | Theme-document-species   |
| YONOS ET AL 2005           | Timeframe unclear | Asia   | Writing               | Species-documents        |
| ZÁRATE 1997                | Modern age        | Central America                                    | Writing               | Species-documents        |
| ZEPEDA and WHITE 2008      | Modern age        | Central America                                    | Writing; Iconographic | Document-species; others |
| ZEVEN and BRANDENBURG 1986 | Modern age        | Europe   | Iconographic          | Theme-document-species   |

Most studies (40.0%) reflected a contrast between the historical records and the current status of plant cultivation or usage, either by direct comparison (Zepeda and White 2008; Leonti et al. 2010) or by evaluating the historical evolution of human relationships with the specific plant resources addressed (Bedigian 2004; Aderkas 1984; Buckles 1995). Regarding the types of use discussed in the publications, the medical category predominated in 54% of all of the works that were assessed. This pattern is also found in conventional ethnobotanical studies and reflects a growing

interest among researchers to investigate this usage category (Oliveira et al 2009). However, both recent documents and old manuscripts generally contain a greater degree of medicinal usage-related detail; thus, the interest in these sources is not simply restricted to modern researchers but extends to historical naturalists. The use of plants for food purposes was addressed in 46% of the studies, whereas the “Other” categories of plant usage were present in less than 6.5% of all the studies that were assessed (Table 3).

**Table 3.** The use categories and their frequency of occurrence in 103 publications related to historical ethnobotany.

| Use category  | Publication frequency (%) |
|---------------|---------------------------|
| Medical       | 54                        |
| Food          | 46                        |
| General       | 12.5                      |
| Ornamental    | 6.5                       |
| Spice         | 5                         |
| Fibres        | 3.2                       |
| Wood          | 3.2                       |
| Magic         | 3.2                       |
| Aromatic      | 2.2                       |
| Forage        | 2.2                       |
| Technological | 2.2                       |
| Poison        | 2.2                       |
| Hallucinogen  | 1.1                       |
| Fuel          | 1.1                       |

## FINAL CONSIDERATIONS

The present study has highlighted specific key features of historical ethnobotanical studies. However it should be considered that some information diluted or deleted in articles hampered the search and analysis of information. One of the difficulties hampering the analysis of these works was the clarification of the temporal framework; for example, some authors accessed historical documents but did not indicate the period in which these sources were generated. Notably, archaeological and paleobotanical data were frequently convoluted with written and iconographic records, without a clear correspondence between the information and sources; for example, in some cases, the studies showed results without reference to the type of source used, that is, written, iconographic or archaeological.

Two other aspects may result in the analytical difficulty that is associated with the primary sources used in these works. The first aspect relates to where the works were deposited, particularly when authors do not emphasise or specify the place where the documents were found. This information is important because it allows other researchers who intend to perform similar studies to know exactly where to locate the documents that were mentioned. The second aspect relates to the access level of the documents used in the analyses; in some cases, it is unclear whether the authors used an original source, a transcript or works that analysed or interpreted an original source. As an example, this was the case for a work that cited the use of plants during the colonial period, although the authors did not clearly reference the document they accessed to generate their findings.

Finally, our study revealed the vast scope of historical ethnobotanical studies, both in relation to geographical areas of study and to the diversity of approaches, demonstrating the interest of many researchers in this subject. This finding is important because, through these investigations, one can better understand the past relationships between people and plants and also contribute to the understanding of the current state and future of these relationships. Therefore, we believe that

this scientific field exhibits great potential for development, and its findings continue to impact the importance of current ethnobotanical debates.

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