MEDIEVAL BERBER ORTHOGRAPHY

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Introduction

In the Middle Ages, Berber was written in the Maghribi style of the Arabic script, in what is to all appearances a standardized orthography. The earliest known examples of the medieval Berber spelling date from the middle of the 10th century A.D., while the youngest examples date from the 14th century.

Although there is some variation in the representation of a number of consonants, the orthography is remarkably consistent. In this respect it is quite unlike the early orthographies of the European vernaculars, where the same word is often written in different ways even within one line of text. This consistency implies that the Berber orthography was consciously designed, and that it was formally taught to berberophones.

It is to be noted that the highest consistency is found in the oldest manuscripts. Copies of medieval texts dating from the post-medieval period, when the old orthography had fallen into disuse, show varying degrees of corruption. This is partly due to some copyists being non-berberophones. Other copies were made by speakers of Tashelhit, which from the end of the 16th century up to the present has been written in a spelling which is fundamentally different from the medieval orthography (see on this orthography van den Boogert, 1997, chapter 3).

This article will first present a concise survey of the available sources, followed by an explanation of the rules and conventions of the orthography.1 It is hoped that this will enable future editors to transcribe and interpret medieval Berber materials more accurately than has hitherto been the case.

1. Some of the basic rules of the medieval orthography were noted by Marcy in an article (1932).
The sources

The sources for our knowledge of the medieval orthography are much more numerous than one might think. In fact, a number of these sources have been available in print for quite some time, although Berberologists have so far failed to exploit them. The sources can be divided into four groups:

(1) Pharmacological manuals. Almost all works on this subject that were written in the Maghrib contain a number of Berber names of plants and animals, sometimes only a handful, but in some cases more than a hundred. The following published sources were consulted for this article:

- Ibn Beklāresh of Saragossa, al-Mustа’īnī (written ca. 1000 A.D.), contains some forty Berber names. Most of these are quoted by Renaud in an article (1930) and in his annotations to the edition of the Tuhfa. Some names are mentioned by Dozy in his Supplément.
- Maimonides of Cordova (d. 601/1204), Sharḥ Asma‘ al-‘Uqqār (ed. and tr. Meyerhof, 1940), contains 27 Berber names of plants.
- ‘Abdallāh ibn Ṣāliḥ al-Kutāmī (early 13th c. A.D.), commentary on Dioscurides (ed. and tr. Dietrich, 1988), contains more than 170 Berber names of plants and animals.
- Ibn al-Baitār of Malaga (d. 646/1248), al-Jāmi‘ (ed. Boulaq, 1874-5, tr. Leclerc, 1877-83), contains some 55 Berber names of plants and animals. These Berber materials were studied by René Basset in an article (1899); his transcriptions are generally imprecise and he presents only 41 out of 55 names.

The editions by al-Khaṭṭābī of Ibn ‘Abdūn, and the Boulaq edition of Ibn al-Baitār are not up to modern scientific standards, but they are serviceable for our present purpose. Some important pharmacological manuals containing Berber materials remain unpublished, among them works by az-Zahrāwī (Abulcasis), as-Suwaydī and al-Idrīsī (on whom see Ullmann, 1970, pp. 149-151, 284, 278).

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2. The same edition was published twice (Rabat, 1990 and Beirut, 1996), with some revisions and a different numerations of the entries.
Berber names of plants in medieval spelling are often quoted in post-medieval sources, among them:

- al-Jazāʾīrī (fl. 1130/1717-8), Kāshf ar-Rūmūz (tr. Leclerc, 1874), ca 50 Berber names.

\{p. 359\} (2) Arabic works on history, geography and biography. Four of these sources were examined for this article:

- The anonymous Kitāb al-Ansāb (ed. and tr. Lévi-Provençal, 1928).
- The memoirs of Abū Bakr ibn ‘Alī ash-Sanḥājī, a close companion of Ibn Tumurt, known by the nickname al-Baidhaq ‘the Pawn’ (ed. and tr. Lévi-Provençal, 1928).

These two texts, written in 12th and 13th centuries A.D., deal with the early history of the Almohads. They contain hundreds of personal names, tribal names and place names as well as a dozen phrases in Berber. Marcy has tried, with scant success, to transcribe and translate the phrases in an article (1932).

- al-Bakrī (d. 487/1094), Kitāb al-Masālik wa-l-Mamālik (ed. de Slane, 1857), contains many Berber place-names.\(^3\)

(3) The Arabic-Berber dictionary Kitāb al-Asmāʾ compiled in the year in 540/1146 by Ibn Tunart (ابن تونارت, 478-567 A.H., 1085-1172 A.D.). This is the richest source for medieval Berber, containing more that 2,500 Berber words and phrases, including more than 250 names of plants.\(^4\)

(4) The ‘Leiden fragment’ (Leiden ms. Or. 23.306). This is a unique fragment

3. Some of these names were studied by Chaker (1981).
4. An edition of Ibn Tunart's Berber materials is in preparation by the present author. For a brief description of this source see also van den Boogert, 1998, pp. 11-13.
consisting of one leaf from a medieval manuscript (possibly 14th c.). The leaf contains a total of sixteen lines of continuous Berber text, written in calligraphic script. The subject of the text is ethics. This fragment may be seen as the ‘smoking gun’: apart from its mere existence, its contents as well as its external appearance are clear evidence that a mature and well-established written tradition in Berber existed in the medieval period. An edition and full analysis of the Leiden fragment is being prepared by the present author.

In the following exposition the rules and conventions of medieval Berber spelling will be illustrated mainly with plant names taken from the above-mentioned pharmacological handbooks and from Ibn Tunart’s dictionary.

Judging from the Leiden fragment, medieval Berber texts appear to have been written with full vocalization. In most of the other sources, Berber words are fully or partially unvocalized. The examples below will be quoted without vocalization. In cases where it is necessary to know the full vocalization, a transliteration will be given between square brackets.

Word-internal vowels

Medieval Berber orthography distinguishes four vowels: \(a\), \(i\), \(u\) and \(e\) (schwa). In word-internal position, the vowels \(a\), \(i\) and \(u\) are written with the \(\text{ḥurāf al-madd}: \text{alif}\) represents \(a\), \(\text{ya’}\) represents \(i\) and \(\text{wāw}\) represents \(u\).

\[
\text{tasaf\text{̣t}} \quad \text{tiznir\text{̣t}} \quad \text{tulul\text{̣t}}
\]

\[
\text{‘oak’} \quad \text{‘fan palm’} \quad \text{‘caper’}
\]

In unvocalized script, the central vowel \(e\) (schwa) is not represented in word-internal position. Schwa may also occur in open syllables:

\[
\text{tamemma\text{̣t}} \quad \text{tasselt} \quad \text{yeludi}
\]

\[
\text{‘tamarisk’} \quad \text{‘laurel’} \quad \text{‘Ranunculus sp.’}
\]

5. An alphabetical list of quoted forms with references is appended at the end of this article.
Medieval Berber orthography

In fully vocalized script, schwa is most frequently written with fatha. In some sources it is written with kasra.

Word-initial vowels

In the Kitāb al-Ansāb and in the memoirs of al-Baidhaq, initial i- and u- are regularly written with alif-madda followed by yā’ and wāw. Initial a- is written with alif-madda preceded by a high ‘chairless’ hamza:

ayıt Wersanen
İfeşitalen
Awqafen

The other sources contain only one example of an initial vowel other than a- written with alif-madda (Tuḥfa no 17):

عضداد ‘Barbary sheep’

This use of madda to indicate the presence of a word-initial vowel, a- as well as i- and u-, is typical of medieval Berber orthography. It is clearly a divergence from contemporary Arabic usage.

In fully or partially vocalized forms in Ibn Tunart’s Kitāb al-Asmā’, initial a- is written either with alif-madda, or with alif-madda with preceding low chair-less hamza, or with alif with preceding hamza:

أمكراز ‘plowman’
أدرار ‘Chinese lantern’
أغار ‘fruit of the fan palm’

These spellings of initial a- are also occasionally found in the other sources, especially alif-madda.

6. Lévi-Provençal has made several changes in the spelling of the Berber materials in the printed edition. The following exposé is based on an examination of the photographic plates added to the edition (esp. plate III).
7. On the use of madda in Maghribi-Arabic spelling see van den Boogert, 1989, p. 33.
In vocalized forms, Ibn Tunart writes initial *i- with *alif with subscript *hamza, followed by yā’:

إيردن irden ‘wheat’

Initial *u- is written with *alif with hamza written through its middle (reproduced here with superscript *hamza for typographical reasons), followed by wāw:

أوماد ummad ‘diss grass’

Word-initial schwa is represented by *alif (with superscript *fatha in vocalized text):

افسوا efsu ‘card (wool)’

انس ennes ‘of him’

وار الأغ war ellay ‘dodder’

In the other sources, Berber words are usually left unvocalized. When a word is written without vocalization, word-initial *a- is written with *alif and word-initial *i- and *u- are written with *alif followed by the appropriate *harf al-madd:

أدمام admam ‘medlar’

أيغري iyrey ‘asphodel’

أوكان ukkan ‘Caralluma europea’

Note that in the absence of vocalization, word-initial *alif-wāw may represent either *u- or aw- and *alif-yā’ may represent either *i- or ay-:

أوماد ummad ‘diss grass’

أوسرغينت awserγint ‘Corrigiola telephiifolia’

إيزري izrey ‘wormwood’

8. Also written as one word وارولاغ warellay. Etymologically war ‘he who has not’ and *allay ‘stalk, stem’ (cf. Touareg allay ‘javelin’, tallaq ‘wooden shaft of a lance’). The epiphytic dodder (Cuscuta epithymum) indeed has no rooted stem, cf. also its name in Tashelhit, azzar n tmanyrin ‘women’s hair’.
Medieval Berber orthography

ايرني  ayerni  ‘friar’s cowl’

On some examples in the work of Ibn al-Baitār of a divergent way of spelling word-initial vowels see below.

In order to present as clear a picture as possible, in the examples quoted below word-initial vowels will be written with simple alif, without hamza and/or madda, irrespective of the spelling found in the source.

Word-final vowels

Word-final -a is regularly written with alif. It is occasionally written with alif maqṣūra or with hā’:

\[
\begin{align*}
\text{تایدا} & \quad \text{tayda} & \text{‘pine’} \\
\text{تورزی} & \quad \text{turza} & \text{‘apple of Sodom’} \\
\text{تاسليخو} & \quad \text{tasilγwa} & \text{‘carob’}
\end{align*}
\]

Word-final -i is written with yā’, usually without its diacritical dots:

\[
\begin{align*}
\text{اسليلی} & \quad \text{aslili} & \text{‘dill’} \\
\text{تیبي} & \quad \text{tibi} & \text{‘mallow’}
\end{align*}
\]

Word-final wāw, representing either the vowel -u or the consonant -w, is often followed by an alif. This alif is a purely graphical device, and does not represent a vowel:

\[
\begin{align*}
\text{وابلوا} & \quad \text{waylulu} & \text{‘henbane’} \\
\text{خیزوا} & \quad \text{xizzu} & \text{‘carrots’} \\
\text{افرسیوا} & \quad \text{afersiw} & \text{‘fern’} \\
\text{تیقاتوا} & \quad \text{tilfaw} & \text{‘lupin’}
\end{align*}
\]

In the modern standard orthography of Arabic this so-called alif al-wiqāya ‘prophylactic alif’ is written with plural verbal forms only. In the spelling of the Koran it is used more widely, e.g. II اولوا الالباب 269 ُالله يحموا 39 اولوا الالباب 269
The consonants

The representation of the following consonants poses no problems:

<table>
<thead>
<tr>
<th>Arabic</th>
<th>Arabic</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>ب b</td>
<td>ايباون</td>
<td>ibawen</td>
</tr>
<tr>
<td>ت t</td>
<td>تيببتست</td>
<td>tibitast</td>
</tr>
<tr>
<td>خ x</td>
<td>تيزخت</td>
<td>tizext</td>
</tr>
<tr>
<td>د d</td>
<td>امراد</td>
<td>amrad</td>
</tr>
<tr>
<td>ر r</td>
<td>ارماس</td>
<td>armas</td>
</tr>
<tr>
<td>ز z</td>
<td>ازنزوا</td>
<td>azenzu</td>
</tr>
<tr>
<td>س s</td>
<td>اساسنا</td>
<td>asasnu</td>
</tr>
<tr>
<td>ش š</td>
<td>تاشنتيت</td>
<td>tašentit</td>
</tr>
<tr>
<td>غ g</td>
<td>تاغيغيت</td>
<td>tāgaygīyt</td>
</tr>
<tr>
<td>ف f</td>
<td>تييفاف</td>
<td>tīfāf</td>
</tr>
<tr>
<td>ك k</td>
<td>ايكيكر</td>
<td>ikiker</td>
</tr>
<tr>
<td>ل l</td>
<td>اليلي</td>
<td>alīli</td>
</tr>
<tr>
<td>م m</td>
<td>ادمام</td>
<td>admam</td>
</tr>
<tr>
<td>ن n</td>
<td>اتلي</td>
<td>antī</td>
</tr>
<tr>
<td>ه h</td>
<td>ترهلا</td>
<td>terrehla</td>
</tr>
<tr>
<td>و w</td>
<td>وامسا</td>
<td>wamsa</td>
</tr>
<tr>
<td>ي y</td>
<td>تاريال</td>
<td>taryal</td>
</tr>
</tbody>
</table>

{p. 363} The spelling of the consonants d, z, g and š is more complicated. Before looking at how these consonants are written, it is useful to take a brief look at the way in which a borrowed script is adjusted to represent consonants that are not present in the language for which the script was originally designed. An almost universally applied method of adaptation is to write a consonant for which the borrowed script has no separate letter with the letter that represents its nearest equivalent in the perception of the native speaker. This is usually its voiced or voiceless counterpart. For example, in early Persian orthography, the consonant g was written with the letter kāf, which also represented Persian k. In the same manner, the Persian consonant č was written with the letter ġīm, which also repres-
Medieval Berber orthography

ent Persan ḡ. This method was also applied in the representation of Berber consonants for which the Arabic script has no separate letter.

Thus, the consonant ḍ is written with ṭā’ (voiceless counterpart):

\[
\begin{align*}
\text{انكلوطة} & \quad \text{anelkuṭ} \quad \text{‘borage’} \\
\text{تيكيدا} & \quad \text{tikida} \quad \text{‘carobs’}
\end{align*}
\]

Note that at the time when the Berber orthography was devised, the letter ض, which in modern transcription systems is usually transcribed as ḍ, probably did not represent a dental stop ḍ but rather an interdental or lateral fricative. In any case, Arabic ṭ was apparently perceived as the nearest equivalent to Berber ḍ and hence the letter ṭā’ was chosen to represent ḍ. Note also that Arabic ṭ is replaced with ḍ in loanwords, e.g. Arabic ṭabīb ‘doctor’ becomes adībīb in Berber. It is also possible, though not probable, that medieval Berber had ṭ instead of ḍ (voiceless ṭ is still found in some dialects, e.g. in Jabal Nafusa and the Middle Atlas).

The letter ṭā’ also represents ṭṭ (tense counterpart of ḍ):

\[
\begin{align*}
\text{اكطم} & \quad \text{agetum} \quad \text{‘twig’}
\end{align*}
\]

The consonant ẓ is written either with ḡāy (non-pharyngealized counterpart) or with ẓād (voiceless counterpart):

\[
\begin{align*}
\text{تافرزيت} & \quad \text{taferziṭ} \quad \text{‘colocynth’} \\
\text{اصوكا} & \quad \text{azuka} \quad \text{‘thuya’}
\end{align*}
\]

The sources contain an explicit statement that the letter ẓād represents ẓ: Ibn al-Ḥashšā’ mentions the name الفصص ‘Daphne gnidium’ and indicates its pronunciation by adding the phrase بآين اس-ظاد وا-ز-ظ، ‘between ẓ and ẓ’, i.e. a consonant which is pharyngealized like ẓ and voiced like ẓ. ¹⁰

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9. At a later stage, the two values of each letter were differentiated by forming the separate letters ẓīm and ẓaf by means of the addition of three diacritical points to ẓīm and kaf.

Ibn Tunart consistently uses ṣād to write ẓ. In the other sources there seems to be free variation between ẓāy and ṣād.

In a few rare cases, the letter ṣād represents ẓ:

- tibinṣert  ‘marsh mallow’
- ḥṣyer  ‘wood, bush’

In the case of the well-attested plant name tibinṣert, the ẓ can be explained etymologically, as this name appears to be a contraction of ʿṭībi ʿan ʿaṣṣir tibi en Meṣer ‘mallow of Egypt’ (original form mentioned by Ibn Tunart). In the case of ḥṣyer, the spelling represents the form [ḥṣyer] (the emphatic r is never distinguished from ṣ in the spelling) which is a variant of ḫṣir ḥṣyer (also attested).

The consonant ṣ is written either with ḍīm, kāf or qāf:

- idgel  ‘cedar’
- angaref  ‘chaste tree’
- amezgur  ‘sorghum’

One plant name is found in the sources with all three spellings:

- argan  ‘argan’
- id.  ‘id.’
- id.  ‘id.’

Note that the name argan denotes a tree (Argania spinosa) which does not grow in berberophone areas where original ṣ can become ẓ. It is therefore certain that ḍīm represents ṣ, as the form ʿarḍān does not exist.

That ḍīm represented ṣ can also be deduced from the spelling of some Arabic nisbas. For instance, members of the Tashelhit-speaking High Atlas tribe whose modern name is Igdmiwn use the nisba al-Jadmiwī, which is derived

12. The alternative spelling al-Kadmiwī is also found.
Medieval Berber orthography

from the medieval Berber spelling ایجدمیون Igedmiwen.

The letter qāf also represents qq (tense counterpart of γ):

اژقور azeqqur ‘tree-trunk’
تیقی tiqqi ‘juniper’

In most sources the choice between ġim or kāf for g appears to be free. Qāf is consistently used by Ibn ‘Abdūn, but it is rare in the other sources. It is probable that the variation between ġim and kāf is the result of historical developments (see below).

The consonant ǧ is written with ġim or ǧim:

اناژلم anaţel ‘bramble’
تنجیفین tunţifin ‘pearl barley’

{p. 265} Ibn ‘Abdūn of Seville, who mentions the name ایش iżż ‘terebinth’ (a Zenatic form), precisely indicates the pronunciation of ǧim by adding the phrase bayn aš-ǧim wa-z-zāy, ‘between š and z’, i.e. a consonant which is palatal like š and voiced like z (ed. al-Khaṭṭābī, 1996, no 1584).

Note that ġğğ is always written with ġim:

اژجیچ azeğgig ‘flower’
تازجاشش tazeggašti ‘convalescence’

The variation found in the representation of g and ǧ is probably the result of phonological changes that took place in the spoken Arabic of the Maghrib. It is possible to distinguish two basic stages in the development of the Berber orthography, as set out in the table below.
Stage 1          Stage 2

<table>
<thead>
<tr>
<th>letter</th>
<th>Arabic</th>
<th>Berber</th>
<th>Arabic</th>
<th>Berber</th>
</tr>
</thead>
<tbody>
<tr>
<td>ح</td>
<td>g</td>
<td>g</td>
<td>ُغ</td>
<td>ُظ</td>
</tr>
<tr>
<td>ش</td>
<td>š</td>
<td>š + ُظ</td>
<td>š</td>
<td>š</td>
</tr>
<tr>
<td>ل</td>
<td>k</td>
<td>k</td>
<td>k</td>
<td>k + g</td>
</tr>
</tbody>
</table>

At stage 1, the letter ُغ m was chosen to represent Berber g. At this time, ُغ m must have represented Arabic g, or perhaps ُغ. We have no knowledge of any variety of Arabic spoken in the Maghrib that has or had g or ُغ corresponding to ُغ m. An indication that such a dialect may once have existed is perhaps found in the Berber loanword timezgida ‘mosque’, which corresponds to an Arabic form *mesgida or *mesgida rather than the attested mesjid or mesgīd (standard masjid). In addition, Ibn Tunart mentions a form إنتكرن iteggaren ‘traders’, cf. Arabic tażer (standard tāgîr) ‘trader’.

At stage 1, the letter ُغ m could not be used for Berber ُظ, so that šm (voiceless counterpart) was chosen instead.

At stage 2, Arabic g had changed to ُغ or to ُظ, so that ُغ m became available to write Berber ُظ. Berber g was then written with kāf (voiceless counterpart).

The Leiden fragment is the only source which consistently uses kāf for g, and which can thus be taken as representing stage 2. No source is available at present which represents stage 1. All other sources seem to represent an intermediate, transitional stage in the development of Berber orthography:

{p. 366} Intermediate stage

<table>
<thead>
<tr>
<th>letter</th>
<th>Arabic</th>
<th>Berber</th>
</tr>
</thead>
<tbody>
<tr>
<td>ح</td>
<td>ُغ or ُظ</td>
<td>ُظ + g</td>
</tr>
<tr>
<td>ش</td>
<td>š</td>
<td>š + ُظ</td>
</tr>
<tr>
<td>ل</td>
<td>k</td>
<td>k + g</td>
</tr>
</tbody>
</table>

13. Cf. also Spanish mezquita.
The most illuminating example of this intermediate stage is provided by the Kitāb al-Ansāb, in which g is written with ġīm or kāf and in a few cases with ġīm with a small superscript kāf. In the printed edition, Lévi-Provençal has more or less systematically substituted kāf with three superscript dots (a post-medieval innovation) for ġīm or kāf representing g. The original spelling with ġīm + superscript kāf can be seen in the facsimiles, cf. plate II, line 1, Abu Wezreg and plate IV, line 13, جزولا.  

The retention of ġīm to write g, and of šīn to write ẓ, long after Arabic g/ẓ had changed to ǧ/z, is the result of the inertia that is characteristic of an established orthography.

Labialization

The labialization of velar consonants is indicated in vocalized script with the vowel sign damma, which may be written either on the letter representing the velar itself or on the preceding letter:

- [tāluqīt] talegqīt ‘white broom’
- [ākuṭār] akgūtar ‘yarrow’  
- [tāγundast] tāγendest ‘pellitory’
- [yadduxtan] yeddex’ten ‘mistletoe’

Ibn al-Baiṭār’s spelling of vowels

A divergent system to represent word-initial a- in Berber plant names is encountered in the initial entries in Ibn al-Baiṭār’s Jāmi‘. This system is also found in other sources, but only for initial ă- in the Arabic transcription of Greek plant names.

15. The noun akgūtar, mentioned by al-Kutāmī and Ibn al-Baiṭār, contains what is perhaps the earliest attested example of spirantization. Ibn al-Baiṭār quotes Abū al-‘Abbās an-Nabāṭī saying that this plant is ‘well-known in the eastern part of the ‘Udwa’ (ma‘rūf bi-šārq bilād al-‘udwa).
16. Etymologically yeddex‘he sticks (to)’ (3sgm) + ten ‘them’ (3plm): the sticky seeds of mistletoe cling to the branches of trees where they germinate.
Ibn al-Baitār’s entries nos 2-6 are all Berber plant names. The initial vowel \( a \)- is written with \textit{alif-madda}, followed by a second \textit{alif}:

\[
\begin{align*}
\text{آطريلال} & \quad \text{adereylal} \quad \text{‘false bishop’s weed’} \\
\text{آكتار} & \quad \text{ak*tar} \quad \text{‘yarrow’} \\
\text{آرغيس} & \quad \text{ar*gis} \quad \text{‘barberry’} \\
\text{أمليليس} & \quad \text{ameliles} \quad \text{‘buckthorn’} \\
\text{آشرووا} & \quad \text{age*ru} \quad \text{(unidentified)}
\end{align*}
\]

\{p. 367\} The same spelling is used in entry no 1, which is a Greek name.\(^{17}\)

\[
\begin{align*}
\text{آلسن} & \quad \text{áltusan} \quad \text{‘alyssum’, Gr. \( \alpha \lambdaυσσον \)}
\end{align*}
\]

The logic behind this convention is that in this way all initial vowels are written with \textit{alif} followed by the appropriate \textit{harf al-madd}, i.e. \textit{alif-wāw} for \( u \)-, \textit{alif-ya’} for \( i \)- and \textit{alif-alif} for \( a \)-.

Beginning with entry no 7 (Arabic \textit{abhal} ‘savín’), Ibn al-Baitār has abandoned this cumbersome spelling of initial \( a \)-. In the remaining part of his work, initial \( a \)- is written with single \textit{alif} in Berber as well as in Arabic and Greek names. The other Berber names with initial \( a \)- presented as main entries in the \textit{bāb al-alif} are:

\[
\begin{align*}
\text{اداد} & \quad \text{addad} \quad \text{‘attractylis’} \\
\text{ادرييس} & \quad \text{aderyis} \quad \text{‘thapsia’} \\
\text{ارجان} & \quad \text{argan} \quad \text{‘argan’} \\
\text{ازرود} & \quad \text{azrud} \quad \text{‘melilot’}
\end{align*}
\]

Another practice which Ibn al-Baitār quickly abandoned is the explicit description of the vocalization of a name. This is found in his first five entries, and sporadically in the rest of the book. From these explicit vocalizations it appears that Ibn al-Baitār used \textit{kasra} instead of \textit{fatḥa} to represent \textit{schwa} (explicit vocalization between square brackets):

\[17\text{ Fifteen examples of initial double \textit{alif} representing \textit{a}}} \text{ in Greek names are found in Dietrich’s \textit{Dioscurides triumphans} (see index to the Arabic text).} \]
Medieval Berber orthography

<table>
<thead>
<tr>
<th>جريلحه</th>
<th>[اتيريلال]</th>
<th>adereylal</th>
</tr>
</thead>
<tbody>
<tr>
<td>جمجر</td>
<td>[اکعأر]</td>
<td>ak&quot;тар</td>
</tr>
<tr>
<td>جمجر</td>
<td>[أرغيش]</td>
<td>argyis</td>
</tr>
<tr>
<td>جمجر</td>
<td>[آمليف]</td>
<td>ameliles</td>
</tr>
</tbody>
</table>

In the older spelling of Arabic, the huruf al-madd representing the long vowels ı and ā could be written with or without sukün. Thus, in the spelling of Berber argyis, the vowel i is explicitly written with γayaran maksūra and yā' sākina, i.e. γayaran with kasra and γā' with sukūn. However, since Ibn al-Baṭṭār uses kasra to represent schwa, this spelling may also represent Berber -ey-, as in adereylal, explicitly written with rā' maksūra and yā' sākina.

Arabic loans

Arabic loanwords in medieval Berber largely retain their original spelling. They are borrowed with the Arabic definite article, which is semantically ‘neutralized’. Tā’ marbūṭa is usually replaced with tā’:

{p. 368} الترنج  etteren20 ‘citron’, Ar. at-turunģ
الميمون  elmeymun ‘bryony’, Ar. al-maymun
الفصت  elfesset ‘lucerne’, Ar. al-fissa(t)

In some cases the spelling is changed to reflect Berber pronunciation:

الدونيت  edduneyt ‘world’, Ar. ad-dunyā
الشيشيت  essišeyt ‘bonnet’, Ar. aš-šāšiya(t)

Notes on phonology and morphology

No full survey of Medieval Berber grammar will be attempted here; only some of

18. In modern standard orthography, the huruf al-madd are always written without sukūn.
19. In the spelling of entry no 5, ameliles, Ibn al-Baṭṭār does not indicate whether the yā’ has sukūn. He simply states al-mīn wa-l-lāmin minhu maksūra wa-s-sīn muhmala, ‘the mīn and the two lāms have kasra, the sīn is without diacritical points.’
20. Explicitly Berber, explicitly vocalized bi-fath at-tā’ wa-r-rā’.
the more salient features will be pointed out.

(1) The vowel *a* is sometimes (though not regularly) reduced to *e* before the consonant *r*, e.g.:

<table>
<thead>
<tr>
<th>Medieval</th>
<th>Tashelhit</th>
</tr>
</thead>
<tbody>
<tr>
<td>تازرت</td>
<td>tazart 'figs'</td>
</tr>
<tr>
<td>اسغر</td>
<td>asγar 'wood, bush'</td>
</tr>
<tr>
<td>تامرت</td>
<td>tamart 'beard'</td>
</tr>
</tbody>
</table>

(2) Plurals with nominal prefixes *u*- and *tu*- occur frequently where corresponding forms in the modern Berber languages have *i*- and *ti*:-

<table>
<thead>
<tr>
<th>Medieval</th>
<th>Tashelhit</th>
</tr>
</thead>
<tbody>
<tr>
<td>اوكرموند</td>
<td>ukermuden 'leguminous plants'</td>
</tr>
<tr>
<td>توروفين</td>
<td>turufin 'roasted barley'</td>
</tr>
</tbody>
</table>

Tashelhit is in fact the only Berber language for which comparable forms are attested, e.g. *tumzin* 'barley', *tumγarín* 'women' (*timzin*, *timγarin* in other languages).

(3) The forms of the *état d'annexion* of masculine nouns are as follows:

<table>
<thead>
<tr>
<th>Arabic</th>
<th>French</th>
<th>拼音</th>
</tr>
</thead>
<tbody>
<tr>
<td>اجليد</td>
<td><em>agellid</em> 'king'</td>
<td>état libre</td>
</tr>
<tr>
<td>وجلید</td>
<td><em>wegellid</em></td>
<td>état d'annexion</td>
</tr>
<tr>
<td>اصروا</td>
<td><em>ażru</em> 'stone'</td>
<td>é.l.</td>
</tr>
<tr>
<td>وصروا</td>
<td><em>wežru</em></td>
<td>é.a.</td>
</tr>
<tr>
<td>امان</td>
<td><em>aman</em></td>
<td>ét.</td>
</tr>
</tbody>
</table>

---

21. All three forms are attested in more than one source; it is unlikely that they are misspellings or corruptions.

22. Cf. also the ethnonyms *Uguzulên* and *Uržafên* mentioned above.
Medieval Berber orthography

<table>
<thead>
<tr>
<th>Arabic</th>
<th>Berber</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>وامان</td>
<td>waman</td>
<td>é.a.</td>
</tr>
<tr>
<td>ایغف</td>
<td>iyef</td>
<td>‘head’</td>
</tr>
<tr>
<td>يغف</td>
<td>yeiyef</td>
<td>é.l.</td>
</tr>
<tr>
<td>ايکران</td>
<td>igran</td>
<td>‘fields’</td>
</tr>
<tr>
<td>يکران</td>
<td>yeigran</td>
<td>é.a.</td>
</tr>
<tr>
<td>ایل</td>
<td>ilel</td>
<td>‘sea’</td>
</tr>
<tr>
<td>تیل</td>
<td>yilel</td>
<td>é.a.</td>
</tr>
<tr>
<td>اوشون</td>
<td>uššen</td>
<td>‘jackal’</td>
</tr>
<tr>
<td>ووشن</td>
<td>wussen</td>
<td>é.a.</td>
</tr>
</tbody>
</table>

The construct states with we- and ye- have consistently been transcribed incorrectly in the past, viz. with initial vowels i- or u- (e.g. *ugellid* instead of *wegellid*). The letters yāʾ and wāw in word-initial position always represent the consonants y- and w-. The vowels i- and u- in word-initial position can only be written with alif followed by yāʾ c.q. wāw.

(4) The état d’annexion is found, among others, in possessive constructions:

<table>
<thead>
<tr>
<th>Arabic</th>
<th>Berber</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>تونين ان وجليد</td>
<td>tunin en wegellid</td>
<td>‘wells of the king’</td>
</tr>
<tr>
<td>تسنت ان وصروا</td>
<td>tisent en wegru</td>
<td>‘salt of stone’</td>
</tr>
<tr>
<td>ايديد ان وامان</td>
<td>ayeddid en waman</td>
<td>‘sack of water’</td>
</tr>
<tr>
<td>انكاص ان يغف</td>
<td>angaz en yeiyef</td>
<td>‘pain of the head’</td>
</tr>
<tr>
<td>توطفا ان يکران</td>
<td>tuwedfa en yeigran</td>
<td>‘possession of fields’</td>
</tr>
<tr>
<td>اطوان ان تیل</td>
<td>aedu en yilel</td>
<td>‘wind of the sea’</td>
</tr>
<tr>
<td>اطیل ان ووشن</td>
<td>adil en wussen</td>
<td>‘grape of the jackal’</td>
</tr>
</tbody>
</table>

Other examples include:

<table>
<thead>
<tr>
<th>Arabic</th>
<th>Berber</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>ایکران ان وسنان</td>
<td>iger en wesennan</td>
<td>‘field of thorns’</td>
</tr>
</tbody>
</table>
In many possessive constructions, the preposition en ‘of’ is omitted, while the possessor remains in the état d’annexion:

<table>
<thead>
<tr>
<th>Arabic</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>امان یسیدان</td>
<td>‘water of ostriches’</td>
</tr>
<tr>
<td>اصغر یفیغر</td>
<td>‘shrub of the kid’</td>
</tr>
<tr>
<td>اصغر یفیغر</td>
<td>‘shrub of the serpent’</td>
</tr>
<tr>
<td>تافروت ووشن</td>
<td>‘knife of the jackal’</td>
</tr>
<tr>
<td>تامارت ومسون</td>
<td>‘beard of Amsoum’</td>
</tr>
<tr>
<td>تیلت تفیغرنا</td>
<td>‘herb of the serpent’</td>
</tr>
</tbody>
</table>

The elimination of the nominal prefix leads one step further toward compound nouns:

<table>
<thead>
<tr>
<th>Arabic</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>اطار ایلال</td>
<td>‘false bishop’s weed’</td>
</tr>
</tbody>
</table>

The same name is also attested as a full compound ادیریلال (Ibn al-Baitār, cf. above), with a reduced to e before r.

Some examples of compounds are:

<table>
<thead>
<tr>
<th>Arabic</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ادومازیر</td>
<td>‘figwort’</td>
</tr>
</tbody>
</table>

23. Amsoun or Msoun is the name of a valley located north-west of Taza where the plant which bears this name (a variety of dodder) is said to grow.
Modern Berber orthography

(5) In personal names, Arabic (a)bū ‘father of, he who has’ and ibn ‘son of’ may be followed by a Berber noun in the état d’annexion:

بو وغيول  
ابو ينيكيف

Bū Weyyul  
Abū Yenikef

‘he with the donkey’

‘father of Hedgehog’

بن ولوون
بن ومغار

ibn Welwun
ibn Wemyar

‘son of Ram’

‘son of the Chief’

Arabic ibn is also used in the sense ‘native of’:

بن وجادير
بن وندلوس

ibn Wegadir
ibn Wendelus

‘native of Agadir’

‘native of (al-)Andalus’

Concluding remarks

An important question which has not been addressed thus far is: Which variety of Berber is, or which varieties are recorded in the medieval sources? Some brief remarks may be made here.

The more substantial sources record a variety of Berber which is most closely related to modern Tashelhit, as appears from a comparison of lexicon and morphology. These sources are: Ibn Tunart’s Kitāb al-Asmā’, the Leiden Fragment, the Kitāb al-Ansāb and the memoirs of al-Baidhaq. These sources also share some special features (e.g. reduction of a to e before r, schwa in open syllables, plurals with prefixes u-, tu-) which show that they all record the same variety of Berber. ‘Old Tashelhit’ may be an appropriate name for this language.

The most striking fact concerning the pharmacological manuals is that the majority of them were written in al-Andalus (az-Zahrāwī, Ibn Beklāresh, Ibn ‘Abdūn), or by writers of Andalusian birth working in the Middle East (Maimo-

26. Litt. ‘river tree’: asyər ‘bush, tree’ and asif ‘river’.
28. This point is elaborated in van den Boogert, 1998, p. 12.
nides, Ibn al-Baitar). It is likely that a substantial body of speakers of a variety of Berber akin to Tashelhit lived in al-Andalus, and that al-Andalus is the place where this language was first committed to writing. That there were indeed Berbers in Spain who spoke a Tashelhit-like language is shown by the fact that at the end of the 15th century, as a consequence of the reconquista, a group or groups of berberophones are known to have migrated from Spain to the Sous in southern Morocco, where they became known as the 'people of the ship' (ayt uγrarrub). One of them is Sa'id al-Kurrami (Said Akarramu, d. 882/1477-8), who is reputed to be the last surviving Berber scholar who had received his schooling in Granada. The Andalusian Arabic loanwords which are still found in Tashelhit, such as lmiri 'mirror', likid 'paper', lixrt 'hereafter', ššisiṭ 'bonnet', etc., also point to a connection between Tashelhit and al-Andalus.

It is noteworthy that in the Kitāb al-Ansāḥ and the memoirs of al-Baidhaq, who was certainly born in the South of Morocco, the Berber phrases are repeatedly said to be 'in the language of the Gharb' (lisān al-yarb). The coastal area in Morocco which is known as the West (al-yarb) is now inhabited by arabophones. The berberophone Ghomara, in northern Morocco, may be an isolated remnant of the original Berber language spoken in this area.

The botanist 'Abdallah ibn Šāliḥ al-Kutāmī belonged to the Kutāma or Ik'tamen tribe. Members of this tribe had settled in various parts of North-Africa and al-Andalus. Al-Kutāmī had a druggist's shop in Marrakech. He was one of the teachers of Ibn al-Baitar (cf. Ullmann, 1970, p. 279).

Ibn al-Ḥassāḥ may have spoken a Tashelhit-like Berber language, as he worked in the service of the first sultan of the Ḥafṣid dynasty of Tunisia (cf. Ullmann, 1970, p. 236). The Ḥafṣids were the descendants of Abū Ḥafṣ 'Umar (a.k.a. 'Umar Inti, d. 571/1176), a Berber of the South Moroccan Hantāta tribe and one of the close companions of Ibn Tumert.

31. Standard Arabic ā often changed to ē in Andalusian colloquial Arabic; compare the standard forms al-mirāt(t), al-kā简直, al-āxira(t), aš-šāsiya(t). Pedro de Alcalá actually mentions the forms miri 'mirror' and xixia 'bonnet'. See also van den Boogert, 1998, p. 195.
32. The present-day Ghomara claim that they are related to the Chleuh, the speakers of Tashelhit (cf. Colin, 1929).
33. See ET, 'Kutāma'.
The gradual expulsion of the Muslims from Spain in the course of the 15th century probably put an end to Old Tashelhit as a written language. A century or so later, (pre-)modern Tashelhit emerged as a literary language, in the garb of a different, newly devised orthography.\textsuperscript{34}

There are also medieval sources which record a variety of Berber which is clearly not closely related to Tashelhit. In fact, the oldest examples of Berber in Arabic script known to the present author are the plant names which are found in the Kitāb al-I’timād, a pharmacological manual compiled in the second half of the 10th c. A.D. by Ibn al-Jazzār (d. 369/980 or 395/1004). The names are:

\begin{tabular}{ll}
\texttt{tigirutan} & ‘dittany’ \\
\texttt{(at-) teštīwan} & ‘polypody’ \\
\texttt{(at-) tag’-endest} & ‘pellitory’ \\
\texttt{(at-) takkwēt} & ‘Euphorbia resinifera’ \\
\texttt{(at-) tanēγut} & ‘Euphorbia pithyusa’ \\
\texttt{(at-) tanēγit} & ‘id.’ \\
\texttt{(at-) tafrut} & ‘iris’
\end{tabular}

All of these names except one are written with the Arabic definite article. Note the plural ending -\texttt{an} with feminine nouns, which is only attested in the language of the Ghomara.\textsuperscript{35} Ibn al-Jazzār lived and worked in Kairouan in Tunisia; of his ethnic background nothing is known.

The use at this early date of the letter \texttt{kaf} to represent the Berber consonant \texttt{g} in \texttt{tigirutan} may be an indication that stage 1 in the development of the Berber orthography is to be dated to even earlier time, possibly in the 9th or even 8th century A.D.

Among the sources that were not examined for this article there are some in which eastern varieties of Berber are recorded. These include the Berber passages in

\textsuperscript{34} The oldest preserved text in the ‘new’ orthography is the ‘\texttt{Aqā’id ad-Dīn} by Ibrāhīm ibn ‘Abdallāh as-Ṣanḥājī (a.k.a. Brahim Aznag, d. 1005/1597). See van den Boogert, 1997, chapter 5.

\textsuperscript{35} Cf. also the name of Tétouan, litt. ‘the wells’ (ティطاوين in the memoirs of al-Baidhaq).
Ibadite scriptures (cf. Lewicki, 1934 and Ould-Brahim, 1988), the 'manuscript of Zuwāra' (cf. Motylinski, 1907) and the abundant onomastic materials in the works of Ibn Khaldūn. These eastern materials are written in an orthography which is clearly based on the same principles as the orthography of the far West. Further study of the available materials will be necessary before we can determine where and when the medieval Berber orthography originated.
Alphabetical list of quoted medieval Berber forms

Only the reference to the source from which a particular form is quoted in this list. Many of the plant names are found in more than one source. The letter γ is placed after g in the alphabetical order.

Abdun  Ibn ‘Abdünn, ‘Umdat at-Tabīb, ed. al-Khaṭṭābī, 1996 (Beirut)
Ansab  Anon., Kitāb al-Ansāb, ed. Lévi-Provençal, 1928
Bakri  al-Bakrī, Kitāb al-Mamālik wa-l-Masālik, ed. de Slane, 1857
Baidhaq  al-Baidhaq, memoirs, ed. Lévi-Provençal, 1928
Baitar  Ibn al-Baṭār, al-Jāmi’, tr. Leclerc, 1877-1883
Hassha  Ibn al-Ḥassāḥ, Mufrad al-‘Ulm, ed. Colin & Renaud, 1941
Jazzar  Ibn al-Jazāẓ, Kitāb al-I’timād, facsimile, 1985
Kutami  al-Kutāmī, commentary on Dioscorides, ed. Dietrich, 1988
Maimonides  Maimonides, Sharḥ Asmā’ al-‘Uqqār, ed. Meyerhof, 1940
Tadili  at-Ṭalīf, at-Tashawwuf, ed. Faure, 1958
Tuhfa  Anon., Tuhfat al-Aḥbāb, ed. Renaud & Colin, 1934
Tunart  Ibn Tunart, Kitāb al-Asmā’, Leiden ms. Or. 23.333 (Lq) and Or. 23.348 (La)

Abu Wezreg, Ansab p. 29
Abū Yenikeyf, Tadili p. 218
addad, Baitar no 27
aderyis, Tunart Lq 23°v
admam, Kutami I 62
adrar, Tunart 23°r
aḍar eylal, Tunart La 14°v
adereylal, Baitar no 2
aḍil en wuššen, Tunart La 14°v
aḍu en yilel, Tunart La 15°v
adunazir, Kutami IV 83
afersiw, Tuhfa no 366
agešri̇, Baitar no 6
ageṭṭum, Tunart La 13°v
aɣaz, Tunart Lq 23°r
ak'tar, Baitar no 3 (double initial alif)
ak'tar, Kutami IV 91 (single initial alif)
alezzaz, Hassha no 600
alili, Kutami IV 72
alwun, Tunart La 10°r
aman yesidan, Bakrī p. 156
amekraz, Tunart Lq 20°v
ameliles, Baitar no 5
amezgur, Abdun no 872
amrad, Tuhfa no 204
anaζel, Tunart La 13°r
angaz en yeγef, Tunart Lq 14°r
aneikud, Tunart La 14°v
angaref, Tunart La 13°r
ani, Abdun no 219
armas, Abdun no 1802
argan, Baitar no 56 (with ǧīm)
argan, Baitar no 1145 (with qāf)
argan, Tunart La 13°r (with kāf)
arγis, Baitar no 4
asasnu, Kutami I 98
asyer yeyeżd, Kutami III 91
asyersif, Kutami I 73
asyer yeфрer, Baitar no 1604
aslili, Kutami III 56
awserγint, Kutami IV 7
ayeddīd en waman, Tunart Lq 16v°
ayerni, Kutami II 149
Ayet Wersanen, Ansab p. 44
azeggüg, Tunart Lq 24v°
azenzu, Tuhfa no 206
azeqqur, Tunart La 13v°
azaru, Baitar no 61
açuka, Tunart Lq 23r°
Bā Weyyul, Baidhaq p. 124
edduneyt, Ansab p. 40
efsu, Tunart La 11r°
efesset, Tunart Lq 24v°
elmeymun, Baitar no 1655
enne, Tunart passim
eşšíşeyt, Tunart La 12v°
eterenž, Abdun no 22
Guzila, Ansab p. 43
ibawen, Abdun no 1982
ibn Weggadir, Tadili p. 460
ibn Welwun, Tadili p. 164
ibn Wemyar, Ansab p. 29
ibn Wendelus, Tadili p.348
idgel, Tunart Lq 23r°
Ifestalten, Ansab p. 45
iger en wesennan, Baidhaq p. 78
izrey, Tunart Lq 23v°
ikiker, Tunart La 14r°
im en tegenni, Baidhaq p. 120
irden, Tunart La 6v°
isdan, Tunart Lq 11r°
izrey, Kutami III 24
iżž, Abdun no 1584

tabezzurţi en tili, Kutami II 108
taferziţ, Kutami IV 167
tafret, Jazzar p. 55
tafret wuñšen, Kutami IV 20
tag"enest, Jazzar p. 147
tar"enest, Abdun no 1599
taγγeyt, Maimonides no 24
tarzut en waland, Baidhaq p. 93
takkełt, Jazzar p. 149
talegg"it, Abdun no 939
tamart en tarayți, Kutami IV 134
tamemmašt, Kutami I 58
tamert Wensun, Baitar no 2015
taneγit, Jazzar p. 167
taneγut, Jazzar p. 167
targa en wudi, Bakri p. 59
taryal, Abdun no 2673
tasāf, Kutami I 75
tasliγwa, Maimonides no 392
tasell, Kutami I 45
taşentit, Tunart Lq f.6v°
tayda, Kutami I 33
taşeγşašt, Tunart La 6r°
tazert, Abdun no 327
terelha, Baitar no 413
tesliwan, Jazzar p. 97
tibi, Tunart Lq 24v°
tibi en waman, Abdun no 685
tibi en Meşer, Tunart Lq 24v°
tibinsert, Tuhfa no 413
tibitas, Tunart Lq 15r°
tijaf, Kutami II 113
tigirutan, Jazzar p. 142
tikida, Tunart La 13r°
tiletext en yenerfed, Abdun no 658
tiletext tefγra, Abdun no 635
tilfaw, Tunart Lq 25r°
tiqqi, Tunart La 13r°
tisent en weṣru, Tunart La 7r°
Tittawìn, Baidhaq p. 93
țizext, Tunart Lq 23r°
tizîrîn, Tunart Lq 23r°
tülülît, Kutami II 156
tunin en weğellid, Bakri p. 156
țunţîfîn, Tunart La 6y°
tûrûfîn, Tunart La 15r°
turza, Bakri p. 179
tuwendung en yeğran, Tunart La 25r°
udad, Tuhfa no 17
Uguzulên, Ansab p. 43

Uγzafên, Ansab p. 46
ukermuden, Tunart Lq 25r°
ukkan, Tunart La 14r°
ûmmad, Tunart Lq 23r°
wamsa, Tunart La 14r°
war ellsû, Kutami IV 168
warëllû, Tunart La 14y°
wayelëlu, Tunart La 14r°
xizzu, Tuhfa no 93
yeddexʷten, Kutami IV 168
yelûdi, Tunart La 14r°

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Ed. de Slane. Paris: Challamel. (Arabic text.)
AL-BAIDHAQ see LÉVI-PROVENCAL.
BASSET, René. 1899. 'Les noms berbères des plantes dans le traité des simples d'Ibn el Beïtar.'
Giornale della Società asiatica italiana 12, pp. 53-66.
BELLAKHIDAR, Jamal. 1997. La pharmacopée marocaine traditionnelle. Médecine arabe ancienne
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AL-KUTĀMĪ see DIETRICHI.


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