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PHOENICIAN/PUNIC LOANS IN BERBER LANGUAGES AND THEIR THEIR ROLE IN CHRONOLOGY OF BERBER

Abstract. In the article the question of traces of Phoenician/Punic influence in lexicon of Berber languages is solved in perspective of chronology of disintegration of the Berber dialect continuum. It is possible to conclude that the oldest layer of Canaanite loans is also attested in the West Berber branch. It means the beginning of this influence preceded the disintegration of the attested Berber languages.

Keywords: Phoenician/Punic, Berber, lexical borrowing, disintegration.

The purpose of the present study is to summarize the most probable loans from Phoenician or Punic in Berber languages and to analyze them in perspective of their distribution in the Berber dialect continuum. These results are extraordinarily important for discussion about the chronology of disintegration of the Berber languages. The main sources of the Phoenician/Punic-Berber comparisons are two articles by Werner Vycichl (1951; 2005) devoted to this specific relation, plus the classic article by Otto Rössler about Berber-Semitic lexical comparison, interpreted by him in the genetic sense.

A. Berber forms of Phoenician/Punic origin with the epigraphic or literary documentation of sources

1. Berber: **ā-b[i]zālīm* (Prasse 1974, 299 derives the pattern *āBāCīd*, pl. *iBāCīDān* < **ā-BāCīD*, pl. **ī-BāCīD-an*; Kossmann 1999, 112, #242; 133, #297)

North: Shilha of Tazerwalt *ažālīm* coll. „Zwiebel / onion“ (Stumme 1899, 33, 170; he mentioned the correspondence to the Hebrew plural in *-īm*), Ntifa *azalim* „oignon“, Illaln *ažalim*, Zemmur *tazalimt* (Dray 1998, 342), Central Morocco *ažalim* coll. „oignons“ (Taifi 1991, 825), Mzabi *žalim* „oignon“

(Delheure 1984, 251), Wargla *ṣalim* „oignon“ (Delheure 1987, 390), Jebel Nefusa *zalim*, pl. *izalimen* „oignon“ (Motylinski 1898, 142; Beguinot 1942, 224 knew only the Arabic loan *bṣāl* coll. „cipolla“), Kabyle *ezlim*, pl. *izlimin* (Brosselard apud Newman 1882, 105) = *iṣlem* „onion“, while *lebṣel* coll., *tibṣelt* „an onion“ (Dallet 1982, 54) is apparently borrowed from Arabic; Ghadames *tabazzult* „ail sauvage“ (Lanfry 1973, 35). Vychichl 1951, 199 also added Sened *tibṣlim* „oignon“ (Provotelle 1911, 127; he also quotes *abzel* id., apparently of Arabic origin), but later (2005, 3) he preferred to see here a mistaken record of the plural **tibṣlin* to the unattested sg. **tibṣelt*, representing also the Arabic loan.

East: Augila coll. *bṣālīm* „cipolla / onion“, nom. unit. *tebṣālīmt*, pl. *tebṣālīmīn* (Paradisi 1960, 162).

?South: Awlemmiden *emṣalli*, pl. *imṣallitān*, Ayr *amṣalli*, pl. *amṣallitān* „oignon (cultivé)“ (Alojaly 1980, 136) < **ē-maṣallīH*, pl. **ī-maṣallītan* (cf. Prasse 1974, 207), Tamasheq of Mali *tamṣalellit*, pl. *timṣalellit(it)* (Heath), Tamasheq of Udalan *tamṣalellit* „wild onion“ vs. *ālbṣāl* & *albṣāl* „onion“ (Sudlow 2009, 145, 302), borrowed from Arabic, similarly as Ahaggar *elbeẓar*, pl. *elbeẓaren* „oignons séchés et salés“ (Foucauld III, 994) or Zenaga *elbaṣol* „onion“ (Basset 1909, 150) or Figig *lebṣel* coll. „onion“ (Kossmann 1997, 400).

Neo-Punic *bṣl* „onions“ (K 123) - Hebrew *bāṣāl*, pl./coll. *bṣālīm* „onion“, Jewish Aramaic *buṣlā*, Syriac *beṣlā*, Arabic *baṣal*, Sabaic *bṣl*, Soqotri *biṣle*, Mehri *beṣalôt*, cf. also Akkadian *bisru* & *bišru* „leek“, Arabic > Geez *baṣal* & *boṣal*, Tigre *bāsāl* „onion, garlic“ (Leslau 1938, 93; 1987, 111; DRS 77; HAL 147; CDA 46).

Vycichl 1951, 199; 2005, 3.

2. Berber: **ā-gādīr*, pl. **ī-gūdār* (Prasse 1974, 299; Kossmann 1999, 139, #306; DRB 734-35)

North: Shilha *agadir*, pl. *igudar* & *igidar* „fortified granary, storage, enclosure wall“ (Jordan), Tazerwalt *agadir*, pl. *igudār* „Kastell, Schloss, befestigte Stadt/fort, chateau, fortified town“ (Stumme 1899, 158), Sus *agadir* „fortin, maison fortifiée“ (Destaing), Ntifa *agadir*, pl. *igudar* „mur; mur épais bâti en pierres sèches soutenant les terres des pentes déclives des collines; court et épais pilier en pisé (au bord du puits)“ (Dray 1998, 328), Central Morocco *agadir* „mur, muraille, rempart, enceinte, talus“ (Taifi 1991, 147); Kabyle *agadir*, pl. *igudar* „inaccessible steep crag / talus; terrain en forte déclivité; escarpement; monticule“ (Dallet 1982, 251), cf. *agadir* „fortification“ (Newman 1882, 87); Ghadames *uḡadir* „bench-like extension inside on the garden wall for its support / banquette (élargissement à la base du mur de clôture du jardin, à l’intérieur, pour l’étayer)“ (Lanfry 1973, 109).

East: Siwa *gādīr*, pl. *iḡūdār* „wall from lumps of earth / mur, cloison de terre“ (Laoust 1931, 264), Sokna *ḡadīr*, pl. *iḡudār* „muro“ (Sarnelli 1924-25, 21), Foqaha *ḡādīr*, pl. *ḡūdār* „muro“ (Paradisi 1963, 115).

South: Ahaggar *ağâdir*, pl. *iğûdār* „mur“ (Foucauld I, 400), Ghat *adağir*, pl. *iduğar* „mur“ (Nehilil 1909, 180), Awlemmiden *āgadir*, pl. *igudar*, Ayr *āgédir* „clôture en banco, ciment; mur; cimetière“.

West: Zenaga *agədri* „sol, parquet“ (Nicolas 1953, 304), besides *tigidith* & *tigid'ith* „wall“ (Basset 1909, 146, 232), Kwarandzyey *agaḍa* „wall“ (Souag 2010, 179).

Neo-Punic *gdr* „wall“ (K 137) - Hebrew *gādēr* „dry-stone wall“, Samaritanian *gēdar*, Ugaritic *gdrt* „hedge, fence“, Christian-Palestinian Aramaic *gdr* „tas de pierre“, Talmudic *g'dērā*, *gādērā* „clôture séparation“ Nabatean *gdr*, Arabic *ğadr*, pl. *ğudr* „wall of stones, enclosure“ & *ğadīrat* „walled place, enclosure of stones“, Minean *gdr* „wall“, Arabic > Tigrinya *gidar* „sorte de hangar pour les animaux“ (DRS 102; DUL 295; HAL 181; Steingass 1988, 222-24).

Vycichl 1951, 199; 2005, 3.

3. Berber: imperative **agliH* : perf. **yuglaH* (Prasse 1973, 109; DRB 767-78)

North: Shilha *gl* „prendre par la même occasion, faire venir avec“, Central Atlas *gulu* „arriver, parvenir à, atteindre“, *gal* „arriver à“ (Taifi 1991, 451); Kabyle *glu* „aller; prendre par la même occasion“ (Dallet 1982, 254).

South: Ahaggar *əğlāt* „to move, to camp on another campground“, *əğəl* „fortziehen / move away / partir“ (Foucauld I, 421), Awlemmiden *āglu*, Ayr *eglu* „partir; passer; continuer son chemin; disparaître“, Tamasheq of Udalan *əgəl* „to leave, go away“, *gālāt* „to move house or camp“ (Sudlow 2009, 56-57), Tamasheq of Mali *-əjla-* „to go away, depart, leave“ (Heath).

Phoenician *ḡl-l-y* „to move, remove“ (K 140) - Hebrew *gālā* „to emigrate, uncover“, Ugaritic *gly* „to present oneself, make one's way, go“, Aramaic-Syriac *gālā* „to depart, uncover“, Mandaic *gla* „to exile, uncover“, Arabic *ḡalā* „to emigrate, make clear, unveil, uncover“, Geez *galaya* „to cut away, separate, divide“, Aramaic > Akkadian *galū* „to be deported“ (Leslau 1987, 193; DUL 299; DRS 120-21; HAL 191; CDA 88).

Vycichl 1951, 201.

4. Berber: **ē-niHir*, pl. **ī-niHir-an* (cf. Prasse 1974, 125-26, §F.I.A.2.b)

North: Mzabi *nnir*, pl. *innarən* „lampe (surtout à huile)“ (Delheure 1984, 139), Wargla *nir*, pl. *innarən* „petite lampe à huile, à pétrole“, Djerba *ennir*, pl. *ināren* „Öl-Lampe / oil lamp“, Sened *nir* „petite lampe à huile“ (Provotelle 1911, 120), Jebel Nefusa *iunir*, pl. *inaren* „lampe“ (Motylinski 1898, 137), *iunir* „lamp“ (Beguinet), Ghadames *īnīr*, pl. *īnīriwen* „lampe de terre cuite en une ou deux pièces; la lampe des fêtes, scellée dans le mur du vestibule“ (Lanfry 1973, 245).

East: Sokna *nīr*, pl. *ināren* „lampado“ (Sarnelli 1924-25, 20), Siwa *inir* „lampe“ (Laoust 1931, 251).

South: Ahaggar *enir*, pl. *inîren* „lamp / lampe“ (Foucauld III, 1399), Ghat *inir*, pl. *iniren* „lampe“ (Nehilil 1909, 172), while Tamasheq of Mali *ənnur/ənnor* „light, illumination, bright color“ < Arabic (Heath).

Phoenician *nr* „lamp, candelbrum“ (K 336) - Hebrew *nēr* „light, small clay lamp filled with oil“, Akkadian *nūru(m)* „light“, Eblaite *nu-ru₁₂-um /nūrum/* „light“, Ugaritic *nr* „sheen, gleam; lamp“, *nrt* „lantern, lamp“, Samaritanian *nor*, pl. *nīrot*, Arabic *nūr* „light“, besides *nūr*, pl. *ʿanyār* „luminary“, *nayyir* „shining, bright, light“ (DUL 642-43; HAL I, 723; CDA 258; Steingass 1988, 1155, 1158).

Vycichl 1951, 200; 2005, 6.

5. Berber: ?**ā-niHās* or ?**ā-naHās* (cf. Prasse 1974, 184, § F.VII.A.3; 227, § F.X.A.3)

North: Shilha of Tazerwalt *anas* „Kupfer / copper“ (Stumme 1899, 165), Ntifa *anas* „cuivre“ (Dray 1998, 142), Tarudant *anas* „cuivre“, Ghadames *unas* „cuivre“ (Basset 1895, 69; he added Gurara *amennas* id. and Awlemmiden *temannas* „une tasse en cuivre“), while Central Morocco *ennhas* „cuivre“ (Taifi 1991, 483), Jebel Nefusa *nehas* (Motylinski 1898, 129), Siwa *ənnəhās* „cuivre“ (Laoust 1931, 222) or Zenaga *nhas* „copper“ < Arabic (Basset 1909, 100).

East: Sokna *nās* „rame“ = „copper“ (Sarnelli 1924-25, 24).

Phoenician *nḥšt* „bronze“ (K 327) - Hebrew *nəḥōšet* „copper, brass“, *nəḥūšā* „copper, brass, bronze“, adj. *nāḥūš* „brazen“, Samaritanian *nāšša & nāššət*, Aramaic-Syriac *nəḥāšā*, Old Canaanite *nuḥuštum*, glossed *erū*; Aramaic > Arabic *nuḥās* „brass“ > Geez *nəḥās/nahās/nāhs* „copper, brass“ (Klein 1987, 411-12; HAL 685-86, 691; Leslau 1987, 395; Steingass 1988, 1105).

Vycichl 1951, 200.

6. Berber: **ā-γānīm*, pl. **ī-γūnām* (cf. Prasse 1974, 299, § F.XVIII.A.1b2)

North: Shilha of Tazerwalt sg. & coll. *ayanim*, pl. *iγānimin* „Rohr“ (Stumme 1899, 160), Ntifa *ayanim* „roseau“ (Dray 1998, 432), Central Morocco *ayanim*, pl. *iγanimn* „roseau, flûte, chalumeau“ (Taifi 1991, 196), B. Iznacen, Matmata *γānīm*, pl. *iγunām* (Destaing 1914, 312), Figig *γanim*, pl. *iγanimen* „roseau“ (Kossmann 1997, 470), Wargla *γanim*, pl. *iγanimən* „roseau“ (Delheure 1987, 241), Kabyle sg. & coll. *ayanim*, pl. *iγunam* „Rohr, roseau, canon de fusil, grande flûte de roseau“ (Dallet 1982, 619), Sened *γanim*, pl. *iγunam* „roseau“ (Provotelle 1911, 136), Nefusa *γanim*, pl. *iγunam* „roseau“ (Motylinski 1898, 148) = *γānīm*, pl. *iγunām* „canna“ (Beguinit 1942, 297); Ghadames *γanim*, pl. *γanimen* „palm stick without leaves which is used for splitting of the threads on the loom / tige de palme effeuillée servant de séparateur des fils de chaîne“, *taγnimt*, pl. *taγnimēn* „Schreibrohr / writing tube / calame du scribe“ (Lanfry 1973, 262).

East: Siwa *təγanəmt*, pl. *tγanîmin* „roseau“ (Laoust 1931, 289).

West: Zenaga *taɣnāmt*, pl. *tuɣnāmən* „natte pour entourer le porte-bagages ou pour fermer la tente“ (Taine Cheikh 2008, 243), ?Kwarandzyey *aɣaləm* „reed(s) (Souag p.c., Aug 2011).

Punic *qn* „reeds“ (K 427) - Hebrew *qānā* „reed, stalk“, pl. *qānīm*, Samaritanian *qāni*, Akkadian *qanû(m)* „reed, cane“, Eblaite *ga-nu-wu /qan(u) wum/*, Ugaritic *qn*, pl. *qnm* „cane, windpipe, arrow“, Official Aramaic *qn*, Syriac *qanyō*, Mandaic *qaina*, Arabic *qanā(n)*, *qanāt* (DUL 704; HAL 1113; CDA 284). Vycichl 1951, 200; 2005, 7.

7. Berber: imperative **ayriH* : perf. **yuyraH* (Prasse 1973, 109)

North: Shilha of Tazerwalt *ɣər* „lesen, rufen / to read, call“ (Stumme 1899, 182), Ntifa *ɣər* „lire“ (Dray 1998, 293), Central Morocco *ɣer* „appeler, inviter, convoquer, invoquer, faire appel“ (Taifi 1991, 197), B. Iznacen, B. Menacer *eyr*, Snus *yər*, Zkara, Matmata, B. Salah *yer* „lire“, Figig *yer* „lire, étudier“ (Kossmann 1997, 471), Wargla *ɣər* „appeler, être appelé; lancer un appel, être lancé (appel)“ (Delheure 1987, 243), Kabyle *ɣer* „lesen, sagen / to read, tell / lire, étudier“ (Dallet 1982, 621), Nefusi of Fassato *áɣar* „leggere, insegnare, studiare“, 3 sg. m. perf. *yeyrū* (Beguinit 1942, 239, 269), Ghadames *taɣrīt* „cri de joie“ (Lanfry 1973, 263).

East: Siwa *ɣər* „lire“ (Laoust 1931, 253), Augila *aɣār* „leggere“ (Paradisi 1960, 168), Foqaha *áɣār* „leggere“ (Paradisi 1963, 112).

South: Ahaggar *əɣər* „to call / appeler“ (Foucauld IV, 1761), Ghat *eɣer* „appeler“ (Nehilil 1909, 128), Awlemmiden, Ayr *əɣru* „appeler, mentionner, nommer, invoquer; lire; étudier“ (Alojaly 1980, 70), Tamasheq of Udalan *əɣār & əɣru* „to read, call out“ (Sudlow 2009, 75), Tamasheq of Mali -*əɣra-* „to read, study, go to school; call, summon“ (Heath).

West: Zenaga *a’ri* „appeler; avorter“ (Taine Cheikh 2008, 45), Tetserret *aɣa* „appeler“ (Lux 2011, 522), besides Zenaga *ayri* „être instruit; étudier; lire“ (Taine Cheikh 2008, 244), Tetserret *ɣarr* „étudier“ (Lux 2011, 516) < Arabic.

Neo-Punic *√q-r-’* „to read“ (K 431) - Hebrew *qāra’* „to call, read, recite, invite“, Akkadian *qerû(m)*, Old Assyrian *qarā’u* „to call, invite“, Eblaite *ga-la/ra-um /qarā’um/*, *ga-ru₁₂-um /qarûm/*, Ugaritic *qr’* „to call, shout, invite; invoke, conjure up, proclaim“, Arabic *qara’a* „to call, read, recite; present in the name of another; receive instructions“, Soqotri *qāre*, Mehri *qarú* „to read“ (Leslau 1938, 385; 1987, 443; DUL 708; HAL 1128; CDA 288; Steingass 1988, 826).

Vycichl 1951, 199; 2005, 7; Rössler 1952, 139, #54: Berber+Semitic; Kossmann 2005, 73-74 excludes a borrowing from Arabic and prefers the Hebrew origin.

8. Berber: **yarat* (cf. Prasse 1973, 167)

South: Ahaggar *ȳārāt* „to be polite and educated, to be excellent / être comme il faut, être poli, bien élevé et distingué de manières“ (Foucauld IV, 1764).

Phoenician *qrt*, pl. *qrht* „city“ (K 433) - Hebrew *qeret* „city“, Ugaritic *qrt*, du. *qr̥tm*, pl. *qrht* „city“, Aramaic *qrt*, Syriac *qrītā* (Leslau 1938, 385; DUL 712; HAL 1149).

Vycichl 1951, 200; 2005, 8.

9. Berber: **ā-γ[i]ssīm*, pl. **ī-γ[i]ssīm-an*, coll. **ā-γ[i]ssā'īm* (Prasse 1974, 199 derived the pattern *eBāCDiF* from **ē-BaCDiF*, pl. **ī-BaCDiF-an* or **ī-BuCDāF* - it is not the present case, the attested forms better agree with the pattern *aBCid* < **ā-BiCīD* by Prasse 167; Kossmann 1999, 239, #727 about *γs* > *xs*)

North: Central Morocco *ayessim* „melon vert, concombre“ (Taifi 1991, 208), Boussemghoun *ayessim* „concombre“ (A. Basset apud Kossmann 1999, 239), Mzabi *ayessim* „fruits de certains arbustes“ (Delheure 1984, 155), Wargla *tayəssimt* „concombre, sorte de courgette“ (Delheure 1987, 247).

East: Siwa coll. *aḥassim*, pl. *iḥəssīmən*, nom. unit. *taḥəssimt* (Laoust 1931, 217), Sokna coll. *aḥəssim*, pl. *iḥəssīmən*, nom. unit. *taḥəssimt* „cetriolo“ = „cucumber“ (Sarnelli 1924-25, 14), Foqaha *ḥessim* & *ḥeṣṣim* „cetriolo“ (Paradisi 1963, 104), Augila coll. *kšāim* „cocomero / Gurken“, nom. unit. *tekšāimt*, pl. *tekšāimîn* (Paradisi 1960, 162).

South: Ahaggar *tayəssimt*, pl. *tiyessimîn* „concombre“ (Foucauld IV, 1789); Ghat *taksaimt*, pl. *čikswiam* „melon encore vert“ (Nehlil 1909, 177).

West: Kwarandzyey *axsim/aysim/ayssim* „cucumber, small melon“ (Souag p.c., Aug 2011).

Note: Interesting are Mzabi *tamisa* „melon“ (Laoust 1931, 217) = *tamisa* „courage“ (Delheure 1984, 123), Sened *tameksa*, pl. *timeksiwin* „concombre, courage“ (Provotelle 1911, 107, but p. 132 *tameqsa*), Ghadames *tameksa*, pl. *taməksiwin* „melon“ (Lanfry 1973, 167) in perspective of Hebrew *miqšā*, pl. *miqšā'ōt* „field of cucumbers“, cf. also Jewish Aramaic *mēqašyā*, Arabic *maqta'at* „field of cucumbers“ (HAL 629).

Punic **qš'* „cucumber“, reconstructed after the gloss of Dioscurides κισσου μέζρα = Appuleius *cissu mezra* (K 435) - Post-Biblical Hebrew *qiššū'ā*, pl. *qiššū'im* „musk melon“, Samaritanian *qāšuwwəm*, Akkadian *qiššū(m)*, pl. *qiššāte* „cucumber, melon, gourd“, Aramaic *qaṭṭayyā*, Syriac *qaṭṭūtā*, pl. *qaṭṭayyā*, Arabic *quttā* & *qittā*, Geez *q'əsāy* & *q'asyā*, Amhara *q'asa* (Leslau 1987, 447; HAL 1151; Klein 1987, 597; CDA 289).

Vycichl 1951 200; 2005, 9.

10. Berber: **ā-sāyīd*, pl. **ī-sāyīd-an* (cf. Prasse 1974, 299: § F.XVIII.A.1b1)

North: Ghadames *ašašid*, pl. *šašiden* „almond/amandier, amande“; the palatalization of the expected **y* also appears in *tašarḍemt* „scorpion“ (Lanfry 1973, 38, 42).

?West: Zenaga *täyššaq* „arbre Balanites aegyptiaca ... dont les fruits *tūgga'n* s'appellent dattes du désert ..“ (Taine-Cheikh 2008, 592: √*y-š-d*; the loss of velar is regular, cf. *täyšbət* „fait de grandir“ vs. *akkušbih* „être grand“) = *taišad* „sorte de noyer“ (Basset 1909, 148, 254) = *tāišaq*, pl. *tiššēd'an* „Balanites aegyptiaca“, cf. Hassaniya *tāišta* id. (Nicolas 1953, 378).

Phoenician *šqdm* pl. „almonds“ (K 479) - Hebrew *šāqēd* „almond“, Akkadian *šiqdu(m)*, *šuqdu*, *siqdu*, Neo-Assyrian *duqdu*, Ugaritic *tqd*, Jewish Aramaic *šigdā*, Syriac *š'egedā*, pl. *šegdē*, Mandaic *šigda*, Geez *səgd* „almond tree, nut tree“ (HAL 1638; DUL 927-28; Leslau 1987, 491).

Vycichl 2005, 10.

11. Berber: **ā-zātīm*, pl. **ī-zūtām* (Prasse 1974, 299)

South: Ghat *azāčim* „huile“ (Nehlil 1909, 168) = *azatim* id. (A. Basset apud Prasse 1969, 70, #418), Ahaggar *ahâtīm*, pl. *ihûtâm* „olive“, *tehâtimt*, pl. *tihûtam* „olivier“ (Foucauld II, 679-680), while Tamasheq of Udalán *āzzāyt*, of Mali *əzzāyt* „olive“ (Sudlow) are borrowed from Arabic *az-zayt* id., similarly as Mzabi *əzzitunat* „olivier, olive“ (Delheure 1984, 255 did not indicate the Arabic source) etc.

Phoenician *zt* „olive“ (K 174) - Hebrew *zayit*, pl. *zētīm* „olive, olive tree“, Ugaritic *zt*, pl. *ztm* „olive, olive tree, olive grove“, Official Aramaic *zyt*, Syriac *zaytā*, Mandaic *zaita*; Aramaic > Arabic *zayt* „olive oil“ > Soqotri *zeyt* id., Geez *zayt* „olive, olive tree, olive oil“ (Leslau 1938, 152; 1987, 647; DUL 1001; DRS 728; HAL 268-69).

Vycichl 1951, 200; 2005, 11-12.

B. Berber forms of probable Phoenician/Punic origin without the direct epigraphic documentation of sources, but with evidence in other Canaanite languages

12. Berber: **ā-gūsīm* (cf. Prasse 1974, 278)

North: Kabyle *agusim* „écorce de racine de noyer utilisée par les femmes pour l'entretien des dents et des gencives ou comme produit de beauté“ (Dallet 1982, 279), *tagusimt* „noix“, East Kabyle *agusim* „noix, noyer“, *tagusimt* „une noix, un noyer“ (DRB 906).

Hebrew *'ēgōz*, pl. *'ēgōzīm* „walnut, nut tree“, Jewish Aramaic *'ēgōzā*, *'amgōzā*, West Syriac *gawzō*, Arabic *ġawz*, Geez *gawz* (DRS 106; HAL 10; Dolgopolsky 1999, 133).

Vycichl 1951, 199; 2005, 2.

13. Berber: **ā-galzīm*, pl. **ī-gulzām* (Prasse 1974, 199; DRB 792-93; Kossmann 1999, 158, #408; 169, #465; 170, #470: **agālzim*)

North: Shilha of Tazerwalt *agelzim*, pl. *igulzām* & *igelzīmēn* „Hacke / pioche; hoyau; hachette; mors de cheval“ (Stumme 1899, 159), Ntifa *agelzim*, pl. *igelzam* „pioche à pic, hoyau“ (Dray 1998, 372), Central Morocco *agelzim* „pioche à pic; hache, herminette, hoyau; mors de bride“ (Taifi 1991, 155), Iznacen *ayzzim* „houe, bêche, pioche“, Senhaja *ayelzim* id., Rif *agarzim* & *agalzim* „houe, bêche, pioche“, B. Messaud, B. Salah *ağēlzīm*, pl. *iğēlzam*, Matmata *ağēlzīm*, pl. *iğēlzām* „pioche“ (Destaing 1914, 275-76), Figig *ayelzim*, pl. *iyelzam* „pioche“ (Kossmann 1997, 522), Shenwa *agelzim*, pl. *igelzam* „pioche“ (Laoust 1912, 144), Shawiya *agelzim*, pl. *igelzam* „bêche, pic, pioche, hoyau“ (A. Basset); Kabyle *agelzim* „hache; pioche; pièce de fer qui cale l’axe moteur de la roue à aube sur la meule volante“ (Dallet 1982, 259); Jebel Nefusa *agelzim*, pl. *igelzimen* „pioche à pic, hoyau“ (Motylinski 1898, 144); Ghadames *ağēlzim* & *ağērzim*, pl. *ğēlzam* & *ğērzam* „outil à deux tranchants perpendiculaires l’un à l’autre“; f. „cheville métallique qui cale la meule volante sur son axe (moulin à main)“ (Lanfry 1973, 111).

East: Foqaha *želzīm*, pl. *izelzīmān* „ascia, accetta“ (Paradisi 1963, 101).

South: Ahaggar *ağēlhīm*, pl. *iğēlhām* „houe“ (Foucauld I, 430).

West: Kwarandzyey *ağērzām* „pick-axe“ (Souag 2010, 180).

Hebrew *garzen* „axe, pick-axe“, Arabic *karzan/m* & *kirzīm* „large hatched, axe“ (HAL 202; DRS 184; Steingass 1988, 881). The final *-en* in Hebrew instead of expected **-īm* may be a Moabite or Aramaic dialectism.

Vycichl 1951, 200.

14. Berber: imperative **almid* : perf. **yulmad* (Prasse 1973, 86)

North: Shilha of Tazerwalt *lāmd* „lernen, erlernen / study, learn“ (Stumme 1899, 203), Ntifa *lēm* „étudier“ (Dray 1998, 197), Central Morocco *lmed* „s’habituer; prendre une habitude; s’accoutumer“ (Taifi 1991, 379), Figig *lmed* „apprendre“ (Kossmann 1997, 444), Mzabi & Wargla *alməd* „apprendre, étudier; être instruit“ (Delheure 1984, 106; 1987, 169), Kabyle *elmed* „s’habituer, prendre pour habitude“ (Dallet 1982, 455), Djerba *elmed* „to practice, to be used to something“, Jebel Nefusa *elmed* „apprendre“ (Motylinski 1898, 122), Ghadames *elməd* „être habitué à, apprendre“ (Lanfry 1973, 182).

East: Siwa *alməd* „apprendre“ (Laoust 1931, 196), Sokna *ellēmed* „imparare“ = „to learn“ (Sarnelli 1924-25, 19), Foqaha *elmed* „imparare“ (Paradisi 1963, 111), Augila *elməd* „imparare“ (Paradisi 1960, 167).

South: Ahaggar *alməd* „to learn, study, understand, find out / apprendre, être instruit“ (Foucauld III, 1077), Ghat *elmed* „apprendre“ (Nehilil 1909, 128), Awlemmiden, Ayr *alməd* „apprendre, étudier, savoir; s’habituer à s’entraîner à“ (Alojaly 1980, 116), Tamasheq of Udalan *alməd* „to learn“ (Sudlow 2009, 121), Tamasheq of Mali *-alməd-* „to learn, understand, know (trade)“ (Heath).

Hebrew *lāmad* „to learn (to); become tamed, teachable“, Akkadian *lamādu(m)* „to learn“, Ugaritic *lmd* „to teach, train; give an instruction; pupil, apprentice“, Geez *lamada* „to be accustomed, be familiar with, be used to, be trained, learn“ (HAL 531; DUL 499-500; CDA 176; Leslau 1987, 315). In Arabic the verb *lamada* means „to submit to, be obsequious“ (Steingass 1988, 927) and so it cannot be a source of the Berber forms.

Vycichl 1951, 199; 2005, 3-4; Rössler 1952, 135, #30: Berber+Semitic.

15. Berber: **ā-māHdār*, pl. **ī-mūHdār* (cf. Prasse 1974, 202)

North: Shilha *amadir*, pl. *imidar* „houe / Haue, Hacke; Stangengebiss des Pferdes“ (Cid Kaoui 1907, 126), Ntifa *amadir*, pl. *imudar* „pioche, houe“ (Dray 1998, 372); Wargla *amdir*, pl. *imidar* „sorte de houe, de sape“ (Delheure 1987, 185); Ghadames *umadir*, pl. *midar* „wide hoe with short handle; shoulder blade / omoplate, houe large à manche court qui forme avec le plan de l’outil un très fermé“ (Lanfry 1973, 206).

Hebrew *ma^Cdēr* „hoe, mattock“ [Is. 7.25], derived from *ā^Cdar* „to hoe“, Arabic *ma^Cdūr* „Spitzhacke / pickaxe“ (HAL 793; Klein 1987, 365).

Vycichl 1951, 200; 2005, 4.

16. Berber: **ā-mindām* (cf. Prasse 1974, 187)

South: Ahaggar *amāndam* „something like that / telle chose“, *māndam* „so und so, un tel“ (Foucauld III, 1208), Awlemmiden, Ayr *māndam* „un tel. tel homme“, *amāndam* „telle chose“ (Alojaly 1980, 130), Tamasheq of Udalan *māndam* „so and so“ (Sudlow 2009, 137), Tamasheq of Mali *māndan* „so-and-so“ (Heath).

Post-Biblical Hebrew *mindā^Cam* & *middā^Cam* „something“, derivable from *maddā^C* „knowledge, science“, plus *-mā* „irgend / any“, Syriac *meddem*, Nabatean *mnd^Cm* „irgendetwas / anything“, Amhara *myndym* „what“, lit. „das Bewusste / the conscious“, from *w-d^C*.

Vycichl 1951, 200; 2005, 5-6.

17. Berber: **ā-γurūm*, pl. **ī-γurūm-an* (cf. Prasse 1974, 175)

North: Shilha of Tazerwalt coll. *ayrum* „Brot / bread“, Ntifa *ayrum* „pain avec levain“ (Dray 1998, 352), Central Morocco *ayrum*, pl. *iyrumn* „pain“ (Taifi 1991, 203), Beni Snus, B. Iznacen, Zkara, Zeggu, B. Salah, B. Messaud, Matmata *ayrūm*, B. Rašed *ayrum* „pain“ (Destaing 1914, 259-60), Figig *ayrum* „pain“ (Kossmann 1997, 470), Mzabi *ayrum* „pain“ (Delheure 1984, 154), Wargla *ayrum* „pain“ (Delheure 1987, 246), Kabyle coll. *ayrum* „Brot / croûte de pain, morceau de pain“ (Dallet 1982, 626), Sened *ayrum* „pain“ (Provotelle 1911, 129), Jebel Nefusa *ayerum* „pain“ (Motylinski 1898, 143)

South: Ahaggar *ayrum*, pl. *iyrūmen* „Brotkruste / bread crust / croûte de pain“ (Foucauld IV, 1758), Awlemmiden, Ayr *təyorəmit*, pl. *tiyorəmiten* „croûte“ (Alojaly 1980, 72), Tamasheq of Udalan *təyorəmit* „crust“ (Sudlow 2009, 77).

West: Kwarandzyey *aɣəm* „bread“ (Souag 2010, 182).

Hebrew *qərūm* „crust, membrane, skin“, from *qāram* „to overlay, cover with crust, incrust“, Aramaic-Syriac *qərāmā* „covering, membrane“, Arabic coll. *quram* „Durra-Brot“, *qurāmat* „Brotrest im Backofen / rest of bread in the oven“ (Klein 1987, 592, 594).

Vycichl 1951, 200; 2005, 8; Rössler 1952, 139, #56: Berber+Semitic.

18. Berber: imperative **argim*, perf. **yurgam* (cf. Prasse 1974, 86)

North: Shilha of Tazerwalt *rgəm* „schmähen, lächerlich machen / to vilify, to mock“ (Stumme 1899, 215), Ntifa *rgem* „injurier“ (Dray 1998, 268), Central Morocco *rgem* „maudire, prononcer une malédiction contre qqn., insulter, injurier qqn.“ (Taifi 1991, 572), Kabyle *erğem* „injurier, insulter“ (Dallet 1982, 714).

South: Ahaggar *ərgəm* „to mock (in a poem) / faire une épigramme contre“ (Foucauld IV, 1603), Awlemmiden, Ayr *ərgəm* „faire une épigramme contre, critiquer, blâmer“ (Alojaly 1980, 159), Tamasheq of Udalan („š“) *ərğəm* & („z“) *ərgəm* „to blame, criticize“ (Sudlow 2009, 164), Tamasheq of Mali -*ərjæm*- „to slander“ (Heath).

West: Zenaga *tirəgmi* „malédiction“ (Basset 1909, 138: Arabic lw.).

Hebrew *rāgam* „to stone, imprecate, cover with a heap of stones“, Akkadian *ragāmu(m)* „to shout; prosecute, raise claim“, Ugaritic *rgm* „to say, report, speak“, Syriac *rəgam* „to stone“, Mandaic *rgm* „to stone; make lame, immobilise, paralyse“, Arabic *rağama* „to heap up stones; make nasty remarks about, curse, abuse“, Geez *ragama* „to cast a spell on, curse, insult, excommunicate“ (HAL 1187; CDA 295; Leslau 1987, 465).

Vycichl 1951, 201; he explained that the Ahaggar word could not be of Arabic origin; in this case it should look **ərham*, cf. *əlhin* „Gespenst“ < North African Arabic *el-žinn*; *təlhamust* “Buffelkuh” < North African Arabic *el-žāmūsa*. Rössler (1952, 140, #61) differentiated between Kabyle *erğem* „injurier“ and *eržem* „lapider“ < Arabic.

19. Berber: *?*ā-rumūn*, pl. **ī-rumūn-an* (cf. Prasse 1974, 175)

North: Izayan *tarmunt*, pl. *tirmm'in* „pommette; saillie de la joue“ (Taifi 1991, 583), Mzabi *armun*, pl. *irmunən* „grenade (fruit)“, *tarmunt*, pl. *tirmunin* „grenadier (arbre)“ (Delheure 1984, 173-74), Wargla *armun*, pl. *irumunən* „grenade (fruit)“, *tarmunt*, pl. *tirmunin* „grenadier (arbre)“ (Delheure 1987, 276), Jebel Nefusa *armun* pomegranate“, *tarmunt* „grenadier“, while the nomen unitatis *tarummant* represents an Arabic loan (Motylinski 1898, 134), similarly Ahaggar *errummân* „grenade (fruit)“ (Foucauld IV, 1640) or Shilha

of Tazerwalt *rrummân* „Paradiesäpfel / grenades“ (Stumme 1899, 216), Ntifa *rrman* „grenade“, *rroman* „grenadier“ (Dray 1998, 248), Central Morocco *errman* „grenades (fruit), grenadiers“ (Taifi 1991, 583), Matmata coll. *ṛṛumān* „grenade“ (Destaing 1914, 158), Figig *rremanet* id. (Kossmann 1997, 485), Kabyle *eṛṛeman* coll. „grenade (fruit), grenadier“ (Dallet 1982, 727); Ghadames *armun*, pl. *and-armunen* „grenade (fruit), grenadier“, *tarmunt*, pl. *tarmunīn* „boîte de bois en forme de grenade (fruit), à couvercle à vis, pour conserver le santal“ (Lanfry 1973, 317).

East: Siwa *armūn*, pl. *armūnən* „grenades douces“ (Laoust 1931, 245; Basset: < Arabic; Colin: < Hebrew).

South: Ghat *armun*, pl. *armunen* “grenade”, *tarmunt*, pl. *tarmunin* “grenadier” (Nehlil 1909, 168; < Arabic).

West: Kwarandzyey *arəmmʷən* „pomegranate“ (Souag p.c., Aug 2011).

Hebrew *rimmōn* „pomegranate / Punica granatum“, Samaritanian *rimmon*, Akkadian *nurmū* & *lurmūm*, *lurimtu(m)* id., ?Ugaritic *lrnm*, Official Aramaic *rmn*, Syriac *rummānā*, Mandaic *rumana* „pomegranate“, Aramaic > Arabic *rummān* > Geez *romān*, Tigre, Amhara *roman* id. (HAL 1241-42; DUL 504; Leslau 1987, 471).

Vycichl 1951, 201; 2005, 10.

20. Berber: **ā-zārīf*, pl. *ī-zūrāf* (Prasse 1974, 299)

North: Shilha *aẓarīf* (Cid Kaoui 1907, 30), Central Morocco *aẓarīf* (Taifi 1991, 827), Wargla *ẓarīf* (Delheure 1987, 397), Kabyle *aẓarīf* (Dallet 1982, 957), Ghadames *aẓarīf* „alum“ (Lanfry 1973, 433).

South: Ghat *aẓarīf* „alum“ (Nehlil 1909, 126), Ahaggar *aẓārīf*, pl. *izūrāf* „alum“ (Foucauld IV, 1990), Awlemmiden, Ayr *āẓarīf*, pl. *izuraf* „alum“ (Alojaly 1980, 223; cf. Taine Cheikh 2008, 640, fn. 1162).

Post-Biblical Hebrew *šārīp* „alum“, Aramaic *šʿrīpā*, Syriac *šʿrāpā* (Klein 1987, 556).

Vycichl 1958, 149; 2005, 10.

21. Berber: ?**ā-tagḡār* (cf. Prasse 1974, 231)

North: Shilha of Sus *tategḡārt* „sale certificate / acte de vente“ (Destaing 1920, 7), implying **ategḡār* „merchant“, while the word *tāẓer* „Kaufmann“ (Stumme 1899, 233) represents a recent loan of North African Arabic *tāẓir* „Kaufmann“, similarly Central Morocco *ttaẓr*, pl. *tuẓar* „riche“ (Taifi 1991, 722), Beni Snus *atāẓer* „marchand“ (Destaing 1914, 211), Wargla *yəttərẓim* „traduire; interpréter“ (Delheure 1987, 338), Kabyle *ttaẓer*, pl. *teẓẓar* „marchand, commerçant“ (Dallet 1982, 822); Ghadames *ateḡḡer*, pl. *teḡḡaren* „riche, pris substantivement“ (Lanfry 1973, 370).

Post-Biblical Hebrew *tagḡār* „merchant, dealer, trader“, Aramaic *tagḡār*, Syriac *tagḡārā*, Arabic *tāḡīr*, pl. *tiḡār/tuḡār*, *taḡr/tuḡr* „merchant“, all from

Akkadian *damk/gāru(m)* & *tamkāru(m)* „merchant, businessman“, derived from the verb *makāru* „to do business, use for commerce“ (Klein 1987, 691; CDA 397). Vycichl 2005, 11.

22. Berber: **(t)ā-daffūH(t)*, pl. **(t)ī-duffāH* (cf. Prasse 1974, 219)

North: Kabyle *tadfuýt* „white figues“, Shawiya *adfu* „apple“, Djerba coll. *adfu* „apple“, n. unit. *tadfuýt* „an apple“ (all after Vycichl 2005, 11), Nefusa coll. *deffu*, pl. *ideffa* „pomme“, nomen unitatis *tadeffuyt* „pommier“ (Motylinski 1898, 145), while the coll. *etteffāh* „apple“ is a recent Arabic loan, similarly Ntifa *ttefa* & *tateffaht* „pomme (fruit)“ (Dray 1998, 385), Beni Snus *téffāh* „pomme“ (Destaing 1914, 283), Wargla *tadaffaht*, pl. *tidaffahin* „pomme (fruit)“ (Delheure 1987, 74 did not indicate the Arabic loan), Kabyle *tadeffaht*, pl. *tideffahin* „pomme, pommier“ (Dallet 1982, 131: < Colloquial Arabic *teffaḥ*).

Hebrew *tappūh* „apple“, Jewish Aramaic *tappūhā*, Ugaritic *tpḥ*, Arabic *tuffāh* „apple“ > Geez *taffuh*, *taffah* „apple, potato“, Tigre *tofah*, Amhara *tufa* (HAL 1773-74; Leslau 1987, 571).

Vycichl 1951, 201; 2005, 11.

Conclusion

The Berber populations were in direct contact with speakers of two Semitic languages, namely Phoenician/Punic from c. 800 BCE (Lancel 1995, 21-31: the foundation of Carthage between 846-813 BCE; Pichler 2007, 28-30: the adaptation of the Phoenician script in the area of northern Morocco) till the 5th cent. CE (cf. the witness of Saint Augustine from *Epistula ad Romanos expositio inchoata* 13 [394-395 CE] about peasants in the neighborhood of the city of Hippo-Regius on the east coast of modern Algeria: *Unde interrogati rustici nostri quid sint, Punice respondentes Chanani* „Being asked who they were, replied *Chanani* in Punic“), and Arabic from the end of the 7th cent. CE. The hypothetical third one, Hebrew, is questionable in the case of terms with religious semantics, viz. ##7, 14, 16. In the present contribution 22 more or less probable Phoenician & Punic (or Hebrew) loans in Berber languages were analyzed. The Phoenician or Punic material is directly attested in 11 items, and the existence of the Phoenician/Punic counterparts is deduced from their Hebrew equivalents and hypothetical Berber borrowings in the remaining 11 items. Although Arabic cognates appear in 18 items out of 22 (exceptions are ##8, 10, 16, 20), the adoption of the Arabic words is improbable or less probable than the Phoenician/Punic origin for reasons of semantics (e.g. #14: Shilha *lemd* and Hebrew *lāmad* „to learn“ vs. Arabic *lamada* „to submit to, be obsequious“), phonetics (e.g. #18: Tamazight *rgem* and Hebrew *rāgam* vs. Kabyle *eržem* and North African Arabic *ražama*) or morphology (e.g. the Northwest Semitic plurals in **-īm*, e.g. Punic *ilim* = Hebrew *’elīm* „gods“ [K 52; HAL 49] unknown in

Arabic, preserved in such Berber forms as **ā-b[i]zālīm*, **ā-γānīm*, **ā-γ[i]ssīm* & **ā-γ[i]ssā'īm*, **ā-zātīm*, **ā-gūsīm*) or their combination. Most interesting is the distribution of the Phoenician/Punic loans within the Berber dialect continuum. It is important that they appear in all branches, but are dispersed unevenly:

North: Σ19; Shilha 13, Ghadames 12-13, Central Morocco 12, Kabyle 12, Wargla 9, Nefusa 8, Mzabi 7, Figig 5, Sened 4-5;

South: Σ15-17; Ahaggar 13, Awlemmiden 8-10, Ayr 8-9, Ghat 8, Tamasheq 6-7;

East: Σ9; Siwa 7, Foqaha 5, Sokna 4, Augila 4;

West: Σ8-9; Zenaga 4-5, Kwarandzyey 5, Tetserret 1.

How to explain this disproportion? We must apparently take into account at least three factors: (i) Length of contact; (ii) Completeness of lexicon; (iii) Density of loans from Arabic and other languages.

Ad (i): Early Berber dialects, which were in contact with Phoenician/Punic for longer time, had occasion to adopt more loans than the dialects which interrupted their contact earlier.

Ad (ii): It is probable that languages with detailed dictionaries have preserved archaic loans better than languages whose lexicons were described only in the form of wordlists.

Ad (iii): A greater density of recent loans implies a lower probability of preservation of inherited lexicon or early borrowings.

With these three factors it is possible to explain the main disproportions between all four branches and between individual languages:

The ancestors of Shilha, Tamazight of Central Morocco, Kabyle, or Ghadames, were in direct contact with Phoenician/Punic for a longer time than Zenaga.

The summary of lexicological descriptions of Shilha (Dray, before the expected monumental work of Harry Stroemer), Tamazight of Central Morocco (Taifi), Kabyle (Dallet), Ghadames (Lanfry) or the most detailed lexicological description of any Berber language, the four-volume dictionary of Ahaggar by Foucauld, offers significantly more complete information about their lexicons than brief wordlists representing e.g. lexicons of East Berber languages, Sened or Figig. If there are languages with a lower share of early Phoenician/Punic loans, although their relatively rich dictionaries are at our disposal, it could be ascribed to more recent influences, besides a universal Arabic as in the case of Mzabi, it is possible to mention e.g. Wolof in the case of Zenaga or Songhay in the case of South Tuareg idioms.

In any case, in Berber branches there are early Phoenician/Punic loans - at least 6(?) in the West, and as many as 19 in the northern branches, indicating that the first contact preceded the disintegration of the Berber dialect continuum. This agrees with the absolute chronology: the first contact could be extrapolated

on the basis of adoption of the Phoenician script and after the foundation of Carthage to c. 800 BCE, while the disintegration of the historically attested Berber languages is dated between 680 and 460 BCE, if so-called ‘recalibrated’ glottochronology is applied (Blažek 2010). On the other hand, the estimates by G. Starostin (p.c.; see Appendix 2) and A. Ajxenal’d & A. Militarev (1991, 154), dating the disintegration of Berber to 1480 BCE and c. 1300 BCE respectively, are too early with regard to dispersion of the Phoenician/Punic loans. The semantic classification of the analyzed set of loans is remarkable:

Urban & commercial civilization: #2) “wall”, #8) “be courteous”, #21) “merchant”; ‘Modern’ technical materials and tools: #4) “oil lamp”, #5) “copper”, #13) “axe”, #15) “hoe”, #20) „alum“; Cultural plants, fruits, products: #1) “onion”, #6) “reed”, #9a) “cucumber”, #9b) “field of cucumbers”, #10) “almond”, #11) “olive”, #12) “nut”, #19) “pomegranate”, #22) “apple” & #17) “(crust of) bread”; Sacral speech: #7) “to read/call”, #14) “to learn”, #16) “so-and-so”, #18) “to blame/abuse”. The item #3) “to move” cannot be classified and may be inherited.

The present data may be summarized in the following table:

Nr.	Source	Common Berber	North	East	South	West
1.	^{Pu} <i>b l</i> , ^{Hb} <i>b^e ālīm</i> _{pl.}	* <i>ā-b[i]zālīm</i> onion	Sh/CM/Mz/Wa/Ne/?Se/Kb	Au	?Aw/?Ay/?Tq	
2.	^{Pu} <i>gdr</i> , ^{Hb} <i>gādēr</i>	* <i>ā-gādīr</i> wall	Sh/CM/Kb/Gd	Si/So/Fo	Ah/Gt/Aw/Ay	Zc/Kw
3.	^{Pu} <i>√g-l-y</i> , ^{Hb} <i>gālā</i>	<i>√g-l-H</i> to move	Sh/CM/Kb		Ah/Aw/Ay/Tq	
4.	^{Ph} <i>nr</i> , ^{Hb} <i>nēr</i>	* <i>ē-nīHir</i> lamp	Mz/Wa/Se/Dj/Ne/Gd	Si/So	Ah/Gt	
5.	^{Ph} <i>nhšt</i> , ^{Hb} <i>n^ehūsā</i>	* <i>ā-ni/aHās</i> copper	Sh/Gd		?Aw	
6.	^{Ph} <i>qn</i> , ^{Hb} <i>qānīm</i> _{pl.}	* <i>ā-γānīm</i> reed	Sh/CM/Fi/Wa/Se/Ne/Kb/Gd	Si		Zc/?Kw
7.	^{Pu} <i>√q-r-</i> , ^{Hb} <i>qāra</i>	<i>√γ-r-H</i> to read; call	Sh/CM/Fi/Wa/Ne/Kb/Gd	Si/Fo/Au	Ah/Gt/Aw/Ay/Tq	Zc/Tt
8.	^{Pu} <i>qrt</i> , ^{Hb} <i>qeret</i> city	* <i>γarat</i> to be courteous			Ah	
9a.	^{Pu} <i>*qš</i> , ^{Hb} <i>qiššū^a</i>	* <i>ā-γ[i]ssīm</i> cucumber	CM/Mz/Wa	Si/So/Fo	Ah	Kw
9b.	^{Hb} <i>qiššū^aīm</i> _{pl.}	* <i>ā-γ[i]ssā^aīm</i> id.		Au	Gt	
9c.	^{Hb} <i>miqšā</i>	* <i>tā-miksā</i> field of cucumbers	Mz/Se/Gd			
10.	^{Ph} <i>šqdm</i> , ^{Hb} <i>šāqēd</i>	* <i>ā-sāyīd</i> almond	Gd			?Zc
11.	^{Ph} <i>zt</i> , ^{Hb} <i>zētīm</i> _{pl.}	* <i>ā-zātīm</i> olive			Ah/Gt	
12.	^{Hb} <i>*gōzīm</i> _{pl.}	* <i>ā-gūsīm</i> nut	Kb			
13.	^{Hb} <i>garzen</i>	* <i>ā-galzīm</i> axe	Sh/CM/Fi/Sw/Ne/Kb/Gd	Fo	Ah	Kw
14.	^{Hb} <i>lāmad</i>	<i>√l-m-d</i> to learn	Sh/CM/Fi/Mz/Wa/Dj/Kb/Gd	Si/So/Fo/Au	Ah/Gt/Aw/Ay/Tq	
15.	^{Hb} <i>ma^cdēr</i>	* <i>ā-māHdīr</i> hoc	Sh/Wa/Gd			
16.	^{Hb} <i>mindā^cam</i>	* <i>mindām</i> so-and-so			Ah/Aw/Ay/Tq	
17.	^{Hb} <i>q^arīm</i>	* <i>ā-γurīm</i> (crust of) bread	Sh/CM/Fi/Mz/Wa/Se/Ne/Kb		Ah/Aw/Ay/Tq	Kw
18.	^{Hb} <i>rāgam</i>	<i>√r-g-m</i> to blame/abuse	Sh/CM/Kb		Ah/Aw/Ay/Tq	Zc
19.	^{Hb} <i>rīmōn</i>	* <i>ā-rumūn</i> pomegranate	MC/Mz/Wa/Ne/Gd	Si	Gt	Kw
20.	^{Hb} <i>šārīp</i>	* <i>ā-zārīf</i> alum	Sh/CM/Wa/Kb/Gd		Ah/Gt/Aw/Ay	
21.	^{Hb} <i>taggār</i>	* <i>ā-taggār</i> merchant	Sh/?Gd			
22.	^{Hb} <i>tappū^ah</i>	* <i>ā-daffūH</i> apple	Sw/Dj/Ne/Kb			

Abbreviations: Ah Ahaggar, Au Augila, Aw Awlemmiden, Ay Ayr, CM Central Morocco, Dj Djerba, Fi Figig, Fo Foqaha, Gd Ghadames, Gt Ghat, Hb Hebrew, Kb Kabyle, Kw Kwarandzeye, Mz Mzabi, Ne Nefusa, Ph Phoenician, pl. plural, Pu Punic, Se Sened, Sh Shilha, Si Siwa, So Sokna, Sw Shawiya, Tq Tamasheq, Tt Tetseret, Wa Wargla, Ze Zenaga.

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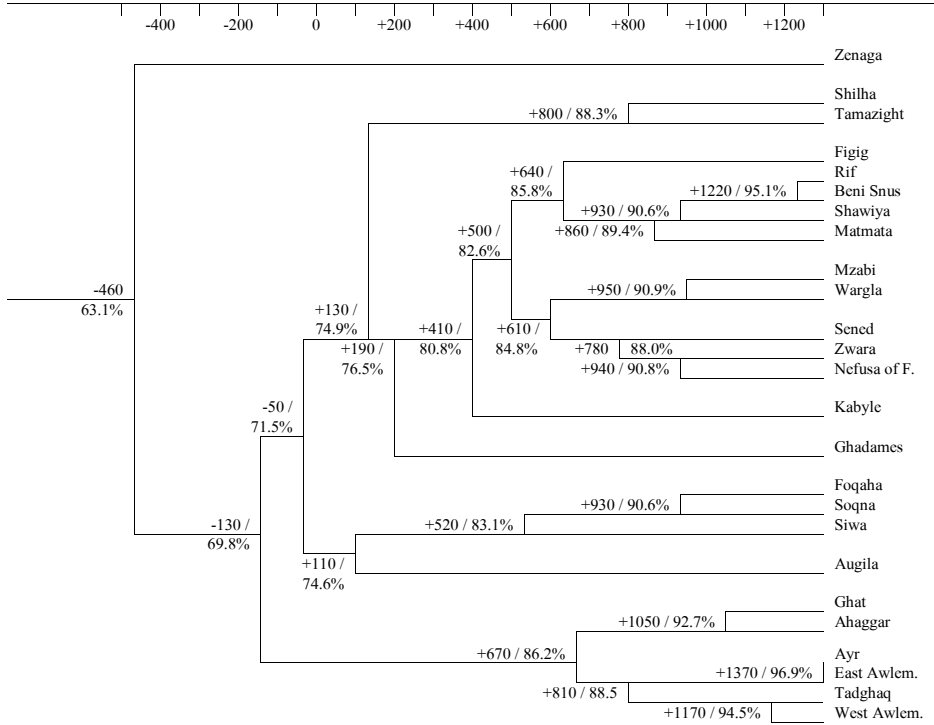
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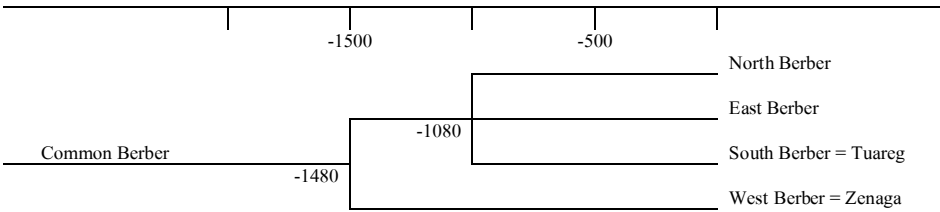
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Appendix 1: Glottochronological classification of Berber languages (Blažek 2010)

(a) Tree-diagram depicting the Berber dialect continuum based on average values in the glottochronological test.



Appendix 2: One of the most recent models of classification of the Berber languages was prepared by George Starostin (p.c., Aug 2010). Using the wordlist radically reduced to 50 lexemes and not taking in account synonyms, he dates the first disintegration between Zenaga and remaining mainstream to the 15th cent. BCE and the second disintegration into North, South and East Berber branches to the 11th cent. This chronology of both disintegrations is too early to explain the presence of the Phoenician & Punic words which could penetrate into Berber at the earliest around 800 BCE:



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