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Cushitic numerals

Dedicated to the memory of Andrzej Zaborski (1942–2014)

Abstract

More than 30 years ago Andrzej Zaborski (1983; 1987 {1983}) collected and analyzed all Cushitic and Omotic numerals, which were described in his time, and tried to analyze their internal structure. His two pioneering studies stimulated the present attempt to collect all available relevant data about Cushitic numerals and to analyze them in both genetic (Afroasiatic) and areal (Omotic, Ethio-Semitic and Nilo-Saharan) perspectives, all at the contemporary level of our knowledge. With respect to the long mutual interference between various groups of Cushitic and Omotic languages, it is necessary to study the numerals in both the language families together. The presented material is organized in agreement with the genetic classification of these languages. On the basis of concrete forms in individual languages the protoforms in partial groups are reconstructed, if it is possible, and these partial protoforms of numerals in the daughter protolanguages are finally compared to determine the inherited forms. The common cognates are finally compared with parallels in other Afroasiatic branches, if they exist, or with counterparts in Ethio-Semitic or Nilo-Saharan languages, if they could be borrowed from or adapted into the Cushitic or Omotic languages.

Keywords

Cushitic, Omotic, Ethio-Semitic, Afroasiatic, Nilo-Saharan, etymology, borrowing.

I. North Cushitic = Beja

source	1	2	3	4	5	6	7	8	9	10
Seetzen	<i>nkál</i>	<i>mallóba</i>	<i>mahhéiwa</i>	<i>phadégga</i>	<i>eiwa</i>	<i>aszagúra</i>	<i>aszéramá</i>	<i>ezsimhaij</i>	<i>ešadiga</i>	<i>tamina</i>
Salt	<i>engat</i>	<i>máloob</i>	<i>mih</i>	<i>addig</i>	<i>ib</i>	<i>saggoor</i>	<i>seramáh</i>	<i>samhai</i>	<i>šedig</i>	<i>tammán</i>

source	1	2	3	4	5	6	7	8	9	10
Burckh.	<i>engaro</i>	<i>molobo</i>	<i>mehay</i>	<i>fadyg</i>	<i>ey-yb</i>	<i>essagour</i>	<i>essarama</i>	<i>essamhay</i>	<i>ogamhay</i>	<i>togaserama</i>
Kremer	<i>nga(t)</i>	<i>maló</i>	<i>mhai</i>	<i>faðdeg</i>	<i>aji(b)</i>	<i>assogr</i>	<i>assarama(b)</i>	<i>assemhai</i>	<i>ašoddeg</i>	<i>tamen</i>
Munzinger	<i>engar/l</i> m. <i>engat</i> f.	<i>meló(b)</i>	<i>mehéi</i>	<i>fédig</i>	<i>ei(b)</i>	<i>esógur</i>	<i>esérema</i>	<i>esimhei</i>	<i>šedük</i>	<i>temen</i>
Krockow	<i>gaht</i>	<i>mallo</i>	<i>meih</i>	<i>fardik</i>	<i>ayi</i>	<i>assaujed</i>	<i>sarama</i>	<i>assamhei</i>	<i>šerik</i>	<i>tammen</i>
Lucas	<i>gal</i>	<i>maloo</i>	<i>maiee</i>	<i>ferdik</i>	<i>ai</i>	<i>sarger</i>	<i>saram</i>	<i>sermai</i>	<i>zerdik</i>	<i>tarme</i>
Almkvist	<i>(én)gāl</i> m. <i>(én)gāt</i> f.	<i>málo</i>	<i>máhi</i> <i>mēhéi</i> <i>mēháj</i>	<i>fāðig</i> <i>fédig</i>	<i>ej(-b)</i> <i>aj</i>	<i>ásagur</i>	<i>ásaramā</i>	<i>ásimhei</i>	<i>ášedük</i>	<i>támen</i>
Watson	<i>kal</i>	<i>maluba</i>	<i>mahib</i>	<i>fadik</i>	<i>aibe</i>	<i>assakor</i>	<i>assarmab</i>	<i>asemhéi</i>	<i>ašadük</i>	<i>temin</i>
Reinisch	<i>gāl/r</i> , <i>ngāl</i> <i>enġal/r</i>	<i>málo</i> ; cf. <i>málho</i> <i>Zweitheit</i>	<i>maháy</i> <i>meháy</i> <i>emháy</i>	<i>faðig</i> BA <i>farig</i>	<i>ay, äy</i>	<i>asagūr</i> <i>asagüer</i>	<i>asarāma</i>	<i>asemháy</i> <i>asumháy</i>	<i>aššaðig</i> <i>ašoddeg</i>	<i>támin</i> <i>tamún</i>
Roper	<i>gāl</i> m. <i>gāt</i> f.	<i>mále</i> <i>málo-b,-t</i>	<i>māhéi</i> <i>-b,-t</i>	<i>fāðig</i> , <i>-t</i>	<i>ei</i> <i>-b,-t</i>	<i>aságwir</i> , <i>-t</i> <i>asagur,-t</i>	<i>asarāma</i> <i>-b,-t</i>	<i>asimhéi</i> <i>-b,-t</i>	<i>aššaðig</i> , <i>-t</i>	<i>támin</i> , <i>-t</i>
Hudson	<i>ngaāl</i>	<i>mhaloo-</i> <i>-b</i>	<i>mhay</i>	<i>faðig</i>	<i>ʔáy</i>	<i>ʔasagwir</i>	<i>ʔasaramaa-</i> <i>-b</i>	<i>ʔasamháy</i>	<i>ʔaššaðig</i>	<i>tamín</i>
Thelwall	<i>gaali</i>	<i>malooba</i>	<i>mhaiba</i>	<i>faðiga</i>	<i>aiba</i>	<i>asagwira</i>	<i>asaramaaba</i>	<i>assumhaiba</i>	<i>aššaðiga</i>	<i>tamina</i>
Wedekind	<i>gáal</i> <i>gáat</i>	<i>máloob</i> <i>máloot</i>	<i>mháý</i> <i>mháýt</i>	<i>faðig</i> <i>faðigt</i>	<i>áy</i> <i>áyt</i>	<i>aságwir</i> <i>asagwitt</i>	<i>asarāmaab</i> <i>asarāmaat</i>	<i>asúmhay</i> <i>asúmhayt</i>	<i>aššaðig</i> <i>aššaðigt</i>	<i>támin</i> <i>támint</i>
Vanhove	<i>ga:l</i>	<i>'male</i>	<i>mhe:j</i>	<i>faðig</i>	<i>e:j</i>	<i>a'sag"ir</i>	<i>asa:'rama</i>	<i>asi'mhe:j</i>	<i>aš'šadig</i>	<i>'tamin</i>

source	20	30	40	50	60	70	80	90	100	1000
Kremer	<i>tagu</i>	<i>mhai</i> <i>tamu</i>	<i>faðdeg</i> <i>tamu</i>	<i>ajib</i> <i>tamu</i>	<i>assogr</i> <i>tamu</i>	<i>assarāma</i> <i>tamu</i>	<i>assemhai</i> <i>tamu</i>	<i>ašoddeg</i> <i>tamu</i>	<i>šeb</i>	<i>liff</i>
Lucas	<i>targou</i>	<i>maitoun</i>	<i>ferdiktoun</i>	<i>aitoun</i>	<i>saijertoun</i>				<i>šilo</i>	<i>taminah</i>
Almkvist	<i>tagúg</i>	<i>mehéi-</i> <i>tamún</i>	<i>fāðig-</i> <i>tamún</i>	<i>éj-</i> <i>tamún</i>	<i>ásagur-</i> <i>tamún</i>	<i>asáramā-</i> <i>tamún</i>	<i>ásimhei-</i> <i>tamún</i>	<i>ášedük-</i> <i>tamún</i>	<i>še (šēb,</i> <i>šēwo)</i>	<i>liff</i>
Watson	<i>tekuk</i>			<i>eitamun</i>					<i>šēb</i>	
Reinisch	<i>t/dagúg</i>	<i>meháy</i> <i>tamún</i>	<i>faðig</i> <i>tamún</i>	<i>ay</i> <i>tamún</i>	<i>ásá-gúř</i> <i>tamún</i>	<i>ása-rāma</i> <i>tamún</i>	<i>as-umháy</i> <i>tamún</i>	<i>aš-šadig</i> <i>tamún</i>	<i>šē</i>	<i>tamún še</i> or <i>(e)lif</i>

source	20	30	40	50	60	70	80	90	100	1000
Roper	<i>tágug</i> ,- <i>taggw</i>	<i>məhéi</i> - <i>tamun</i> ,- <i>t</i>	<i>fádig</i> - <i>tamun</i> ,- <i>t</i>	<i>éi</i> - <i>tamun</i> ,- <i>t</i>	<i>aságwir</i> - <i>tamun</i> ,- <i>t</i>	<i>asaráma</i> - <i>tamun</i> ,- <i>t</i>	<i>asimhéi</i> - <i>tamun</i> ,- <i>t</i>	<i>aššádig</i> - <i>tamun</i> ,- <i>t</i>	<i>šé</i>	<i>támin šé</i> or (<i>á</i>) <i>lif</i>
Hudson ^B	<i>tagūg</i>		<i>fadig</i> <i>tamūn</i>		<i>asagwir</i> <i>tamun</i>			<i>ašadig</i> <i>tamun</i>	<i>šeb</i>	
Thelwall	<i>taguuga</i>	<i>mhai</i> <i>tamuuni</i>	<i>fadik</i> <i>tamuuni</i>	<i>ai</i> <i>tamuuni</i>	<i>asagwir</i> <i>tamuun</i>	<i>asarama</i> <i>tamuun</i>	<i>asumhai</i> <i>tamuun</i>	<i>aššadig</i> <i>tamuun</i>	<i>šeebi</i>	<i>alif</i>
Wede-kind	<i>tagwúugw</i> <i>tagwúugwt</i>	<i>mháy</i> <i>támun</i> /t	<i>fadig</i> <i>támún</i> /t	<i>áy</i> <i>támún</i> /t	<i>asagwír</i> <i>támun</i> /t	<i>asaramá</i> <i>támun</i> /t	<i>asumháy</i> <i>támun</i> /t	<i>aššadig</i> <i>támún</i> /t	<i>šéeb</i>	<i>álif</i>
Vanhove	<i>tagug</i>	<i>'mhe</i> :j- <i>tamun</i>	<i>'fadig</i> - <i>tamun</i>	<i>'e</i> :j- <i>tamun</i>	<i>a</i> 'sag ^w ir- <i>tamun</i>	<i>asa</i> : 'rama- <i>tamun</i>	<i>asi</i> 'mhe:j- <i>tamun</i>	<i>af</i> 'fadig- <i>tamun</i>	<i>fe</i> :	<i>'alif</i> < Arabic

Note: BA Beni Amer.

II. Central Cushitic = Agaw

source	1	2	3	4	5	6	7	8	9	10
Bilin ₁	<i>lax^w</i> / <i>lari</i>	<i>ləŋa</i>	<i>səx^wa</i>	<i>sədʒa</i>	<i>ʔank^wa</i>	<i>wəлта</i>	<i>ləŋəta</i>	<i>səx^wəta</i>	<i>səssa</i>	<i>ʃika</i>
Bilin ₂	<i>lah</i>	<i>lenga</i>	<i>segua</i>	<i>segia</i>	<i>amkua</i>	<i>walta</i>	<i>lengat</i>	<i>seguata</i>	<i>zissa</i>	<i>šika</i>
Xamtanga	<i>lāw</i> / <i>lay</i>	<i>liŋa</i>	<i>ʃáq^wa</i>	<i>síza</i>	<i>ák^wa</i>	<i>wáлта</i>	<i>láŋta</i>	<i>səwta</i>	<i>s'ájɿʔa</i>	<i>s'ík'a</i>
Xamta	<i>lowā</i>	<i>linā</i>	<i>šoqa</i>	<i>sizā</i>	<i>akuā</i>	<i>waltā</i>	<i>lantā</i>	<i>šowtā</i>	<i>šayčya</i>	<i>šeqa</i>
Qimant	<i>laya</i> / <i>lāy</i>	<i>liŋa</i>	<i>siy^wa</i>	<i>sədʒa</i> <i>sājjja</i> ^{Sasse}	<i>ank^wa</i>	<i>wəлта</i>	<i>ləŋəta</i>	<i>səy^wəta</i>	<i>səssa</i>	<i>šika</i>
Kariliŋa	<i>lewa</i>	<i>liŋa</i>	<i>šek^wa</i>	<i>sāza</i>	<i>a(n)k^wa</i>	<i>walt'a</i>	<i>lāŋāt'a</i>	<i>soqāt'a</i>	<i>s'ayč'a</i>	<i>s'ək'a</i>
Qwara	<i>lawā</i>	<i>liŋa</i>	<i>sih^wa</i> /siwa	<i>zāja</i>	<i>ank^wa</i>	<i>wáлта</i>	<i>lāŋata</i>	<i>sāy^wāta</i> <i>sāwāta</i>	<i>sāssa</i>	<i>šəka</i>
Falaša ₁	<i>lāwa</i>	<i>lēgna</i>	<i>sēwa</i>	<i>sātsha</i>	<i>anqua</i>	<i>wolta</i>	<i>langeta</i>	<i>sorota</i>	<i>sesa</i>	<i>šeka</i>
Falaša ₂	<i>leog</i> (kawinto first)	<i>liŋa</i>	<i>šokwa</i>	<i>sedza</i>	<i>a(n)kwa</i>	<i>walta</i>	<i>liŋata</i>	<i>šokwata</i>	<i>sessa</i>	<i>tšika</i>
Awngi	<i>lácú</i> <i>impil</i>	<i>lāŋa</i>	<i>ʃúga</i>	<i>sedza</i>	<i>áp^wk^wa</i>	<i>wilta</i>	<i>lāŋéta</i>	<i>sógéta</i>	<i>sésta</i>	<i>tsikka</i>
Awiya of Danghela	<i>lāgú</i> <i>empèl</i>	<i>lanā</i>	<i>šó'a</i>			<i>wāltā</i>	<i>lanātā</i>	<i>so'atā</i>		<i>šeqa</i>
Kunfāl	<i>law, lahu</i>	<i>lama</i>	<i>šāwa</i>	<i>séza</i>	<i>ank^wa</i>	<i>walta</i>	<i>lanata</i>	<i>sāwata</i>	<i>sésta</i>	<i>teka</i>
p-Agaw	<i>*la-y^w</i> m. <i>*la-ti</i> f.	<i>*lāŋa</i> / <i>*laŋa</i>	<i>*səy^wa</i> / <i>*səy^wa</i>	<i>*sāʒ(ʒ)a</i>	<i>*ʔank^wa</i>	<i>*wāлта</i>	<i>*lāŋā-/</i> <i>*laŋā-ta</i>	<i>*sāy^wātta</i>	<i>*sāʒta</i> > <i>*sācta</i>	<i>*cəka</i>

source	20	30	40	50	60	70	80	90	100	1000
Bilin ₁	<i>ləŋərəŋjin</i>	<i>sax^wə-rəŋjin</i>	<i>sədʒə-rəŋjin</i>	<i>ʔank^wi-rəŋjin</i>	<i>wəlti-rəŋjin</i>	<i>ləŋət-rəŋjin</i>	<i>sax^wət-rəŋjin</i>	<i>səssi-rəŋjin</i>	<i>lix</i>	<i>ḥih</i> < Amh.
Bilin ₂	<i>lenga-rengen</i>	<i>segua-rengen</i>							<i>lih</i>	
Xamtanga	<i>lārɪj / lārɪn</i>	<i>səwi-rɪjɪn</i>	<i>árba</i> < Arab.	<i>ák^wi-rɪjɪn</i>	<i>waltə-rɪjɪn</i>	<i>laytə-rɪjɪn</i>	<i>səwtə-rɪjɪn</i>	<i>s'ajɪf'ə-rɪjɪn</i>	<i>la</i>	<i>ḥix</i> < Amh.
Qimant	<i>ləŋəjɪj</i>	<i>səy^wəjɪj</i>	<i>arba</i> < Arab.	<i>ank^wɪj</i>	<i>wəɫɪj</i>	<i>ləŋətɪj</i>	<i>səy^wətɪj</i>	<i>səssɪj</i>	<i>liy</i>	<i>ḥi</i> < Amh.
Kaĩliĩna										
Falaša ₂	<i>liĩn</i>	<i>šokwin</i>	<i>sedziĩ</i>	<i>ankwiĩ</i>	<i>waltiĩ</i>	<i>liĩnatiĩ</i>	<i>šokwatiĩ</i>	<i>sessiĩ</i>	<i>tšikiĩ</i>	<i>ših</i>
Awngi	<i>laŋárŋa</i>	<i>fúçátská</i>	<i>sedzítská</i>	<i>əŋk^wátská</i>	<i>wiltítská</i>	<i>laŋítítská</i>	<i>sógítítská</i>	<i>sístítská</i>	<i>leg</i>	<i>ḥáj</i> < Amh.
Kunfāl	<i>laŋarej</i>	<i>šewateka</i>	<i>sajátuka</i>	<i>ang^wašāka</i>	<i>waltétseka</i>	<i>laytašeka</i>	<i>sāwatéšeka</i>	<i>séstéšeka</i>	<i>liŋ</i>	
p-Agaw North South	<i>*ləŋǣ- -tāŋən</i>	<i>*sǣy^wa ~ -tāŋən / *sǣy^wa- -cəka</i>	<i>*sǣzǣ- -tāŋən / -cəka</i>	<i>*ʔank^wə- -tāŋən / -cəka</i>	<i>*wǣltV- -tāŋən / -cəka</i>	<i>*ləŋǣttə- ~ *ləŋǣttə- -tāŋən / -cəka</i>	<i>*sǣy^wättV ~ *sǣy^wättV- -tāŋən / -cəka</i>	<i>*sǣctə- -tāŋən / -cəka</i>	<i>*liy ~ *lay</i>	<i>*sax-i</i>

III. East Cushitic

1. Afar-Saho

source	1	2	3	4	5	6	7	8	9	10
Afar	<i>enēki / iniki</i>	<i>nammäya</i>	<i>sidōhu / sidōhoōyu</i>	<i>ferēyi / fereēyi</i>	<i>konōyu / konoōyu</i>	<i>leḥēyi / leḥeēyi</i>	<i>malhiini</i>	<i>bahaàra</i>	<i>sagaàla</i>	<i>tàbana</i>
Saho	<i>inik</i>	<i>lam:a</i>	<i>adoḥ</i>	<i>aŋar</i>	<i>ko:n</i>	<i>lih</i>	<i>malhin</i>	<i>bahar</i>	<i>sagal</i>	<i>taman</i>

source	20	30	40	50	60	70	80	90	100	1000
Afar	<i>labaatànna</i>	<i>soddòmu / sidiḥà-tabana</i>	<i>morootòmu / affarà-tabana</i>	<i>kontòmu / koonà-tabana</i>	<i>laḥtàma / liḥà-tabana</i>	<i>malḥinà-tabana</i>	<i>bahrà-tabana</i>	<i>saglà-tabana</i>	<i>bòolu</i>	<i>ǎḥi</i> < Sem.
Saho	<i>lama:tan:a</i>	<i>sod:om / sa:am</i>	<i>maro:tom</i>	<i>kontom</i>	<i>laḥtam</i>	<i>malhintomon</i>	<i>boḥortomon</i>	<i>sagala taman / bo:l sagal</i>	<i>bo:l</i>	<i>ṣi:ḥ</i> < Amh.

2. Somaloid

source	1	2	3	4	5	6	7	8	9	10
Somali	<i>ków</i>	<i>labá</i>	<i>sáddeh</i>	<i>áfár</i>	<i>śán</i>	<i>lih</i>	<i>toddobá</i>	<i>siddèed</i>	<i>sagaal</i>	<i>toban</i>
Tunni	<i>ków</i>	<i>lámma</i>	<i>siddi?</i>	<i>áfár</i>	<i>śán</i>	<i>li?</i>	<i>toddóbo</i>	<i>siyyéed</i>	<i>sagáal</i>	<i>tómon</i>
Garre	<i>kow</i>	<i>lamma</i>	<i>siddeh</i>	<i>afar</i>	<i>śan</i>	<i>li?</i>	<i>toddobe</i>	<i>siyeed</i>	<i>sagaal</i>	<i>tommon</i>
Boni	<i>kóów</i> <i>hál-ó/-só</i>	<i>lába</i>	<i>siddéh</i>	<i>áfár</i>	<i>śan</i>	<i>lih</i>	<i>toddóu</i>	<i>siyyéed</i>	<i>saagal</i>	<i>tammán</i>
Jiddu ₁	<i>kow/koo</i>	<i>lámma</i>	<i>siddi'</i> ⁹	<i>áfár</i>	<i>śar</i>	<i>lih/li'</i>	<i>tódoba</i> <i>saybe</i> ^F	<i>si'éd</i>	<i>sagáál</i>	<i>tumón</i>
Jiddu ₂	<i>kóow</i> <i>mé'e/</i> <i>méđi</i> <i>halliin</i>	<i>lammi</i>	<i>seyi</i>	<i>afár</i>	<i>śán</i>	<i>li'</i>	<i>saaybi</i>	<i>siyliid</i>	<i>sagáal</i>	<i>tamán</i>
Rendille	<i>kô:w</i>	<i>lám:a</i>	<i>séj:aḥ</i>	<i>áf:ar</i>	<i>tśán</i>	<i>lih</i>	<i>te:bá</i>	<i>sij:ê:t</i>	<i>sa:gá:l</i>	<i>tomón</i>
Bayso	<i>koo m.</i> <i>too f.</i>	<i>láama</i>	<i>sédi</i>	<i>áfár</i>	<i>ken</i>	<i>le</i>	<i>todobá</i>	<i>siddéd</i>	<i>sáagaal</i>	<i>tómon</i>
p-Sam	<i>*ków</i>	<i>*lámma</i>	<i>*sizzàh</i>	<i>*áfār</i>	<i>*can</i>	<i>*lih</i>	<i>*tVzzoba</i>	<i>*sizy'èèt</i>	<i>*saagal</i>	<i>*tomm'an</i>

source	20	30	40	50	60	70	80	90	100	1000
Somali	<i>labaatan</i>	<i>sóddon</i>	<i>áfartan</i>	<i>kónton</i>	<i>lihdan</i>	<i>toddobáatan</i>	<i>siddéetan</i>	<i>sagáaśan</i>	<i>boqol</i>	<i>kún</i>
Tunni	<i>labaatón</i>	<i>sóddon</i>	<i>áfartón</i>	<i>kóntón</i>	<i>lihdon</i>	<i>toddobáatan</i>	<i>siyyéetan</i>	<i>sagáaśan</i>	<i>boqol</i>	<i>kún</i>
Garre	<i>labaatan</i>	<i>soddon</i>	<i>afartan</i>	<i>xonton</i>	<i>lihdin</i>	<i>toddobatan</i>	<i>siyyeetan</i>	<i>sagaaśan</i>	<i>boqol</i>	<i>kun</i>
Boni	<i>labaatán</i>	<i>sóddon</i>	<i>afártan</i>	<i>kónton</i>	<i>lihidan</i>	<i>toddobáatan</i>	<i>siddéetan</i>	<i>saagáaśan</i>	<i>bog'ól</i>	<i>bog'ól</i> <i>iyo</i> <i>tamman</i>
Jiddu ₂	<i>lawaatim</i>	<i>soddóm</i>	<i>afartém</i>	<i>kontóm</i>	<i>lihdím</i>	<i>todowaatím</i> <i>saaybín</i>	<i>siyiitím</i>	<i>sagaasím</i>	<i>ba'al</i>	<i>kún</i>
Rendille	<i>tomón</i> <i>lám:a</i>	<i>tomón</i> <i>séj:aḥ</i>	<i>tomón</i> <i>áf:ar</i>	<i>tomón</i> <i>tśán</i>	<i>tomón</i> <i>lih</i>	<i>tomón te:bá</i> <i>sij:ê:t</i>	<i>tomón</i> <i>sa:gá:l</i>	<i>tomón</i> <i>sa:gá:l</i>	<i>kúđ /</i> <i>kúqó:</i>	<i>élif /</i> <i>élifó:</i> < Sw.
Bayso	<i>lamaatán</i>	<i>sóndom</i>	<i>afártam</i>	<i>kóntom</i>	<i>lóotom</i>	<i>todobáatan</i>	<i>siddóotam</i>	<i>saagáaltam</i>	<i>bool</i>	<i>kúma</i>
p-Sam (Heine)	<i>*lámma-</i> <i>tom</i>	<i>*sózzom</i> < <i>*sizzom</i>	<i>*ḡáfár-</i> <i>tom</i>	<i>*kón-</i> <i>tom</i>	<i>*lih-tom</i>	<i>*tVzzoba-</i> <i>tom</i>	<i>*sizy'èet-</i> <i>tom</i>	<i>*saagal-</i> <i>tom</i>	<i>*boqol</i>	

3. Galaboid

source	1	2	3	4	5	6	7	8	9	10
Arbore ₁	<i>tokkó</i> m. <i>takká</i> f.	<i>laamá</i>	<i>sezzé</i>	<i>ʔafūr</i>	<i>tjěnn</i>	<i>dziḥ</i>	<i>tuzba</i> <i>'tu:zba^W</i>	<i>suyé</i>	<i>saagald</i> <i>'sagal^W</i>	<i>tommɔɲd</i> <i>'tɔm:ɔn^W</i>
Arbore ₂	<i>tokodu</i>	<i>sada</i>	<i>seseda</i>	<i>afura</i>	<i>šenne</i>	<i>ghee</i>	<i>tazbudda</i>	<i>sužda</i>	<i>saqal</i>	<i>tomon</i>
Elmolo	<i>t'óko</i> / <i>t'áka</i>	<i>l'áama</i>	<i>séépe</i> <i>séébe^{AHeine}</i>	<i>áfur</i>	<i>kên, cên</i>	<i>yii</i>	<i>tíipa</i> , <i>s'ápa</i>	<i>fúe</i>	<i>s'ákal</i>	<i>t'ómon</i>
Dasaneč ₁	<i>tìgìdì</i> adj. <i>tàqàč</i> crd. <i>ʔèr</i> ord.	<i>nà:mà</i>	<i>sèḡè</i>	<i>ʔàfūr</i>	<i>tjěṇ</i>	<i>li^h</i>	<i>ṭi:jə</i>	<i>siiṭ⁷</i>	<i>sà:l</i>	<i>ṭòmòn</i>
Dasaneč ₂	<i>tikillé</i>	<i>namà</i>	<i>seddi</i>	<i>afūr</i>	<i>čen</i>	<i>lè</i>	<i>tihià</i>	<i>sièt</i>	<i>sall</i>	<i>tommòn</i>

source	20	30	40	50	60	70	80	90	100	1000
Arbore ₁	<i>tommóm</i> <i>laama</i>	<i>tommóm</i> <i>sezze</i>	<i>tommóm</i> <i>ʔafur</i>	<i>tommóm</i> <i>tje(n)</i>	<i>tommóm</i> <i>dziḥ</i>	<i>tommóm</i> <i>tuzba</i>	<i>tommóm</i> <i>suyé</i>	<i>tommóm</i> <i>saagal(?)</i>	<i>ḡibbá</i> / <i>ḡi'b:a^W</i>	
Elmolo	<i>t'ómon</i> <i>l'áama</i>	<i>t'ómon</i> <i>séépe</i>	<i>t'ómon</i> <i>'áfur</i>	<i>kên / cên</i> <i>t'ómon</i>	<i>yii</i> <i>t'ómon</i>	<i>tíipa</i> / <i>s'ápa</i> <i>t'ómon</i>	<i>fúe</i> <i>t'ómon</i>	<i>s'ákal</i> <i>t'ómon</i>		
Dasaneč ₁	<i>ṭòmònà:m</i> <i>nà:mà</i>	<i>ṭòmònà:m</i> <i>sèḡè</i>	<i>ṭòmònà:m</i> <i>ʔàfūr</i>	<i>ṭòmònà:m</i> <i>tjěṇ</i>	<i>ṭòmònà:m</i> <i>li^h</i>	<i>ṭòmònà:m</i> <i>ṭi:jə</i>	<i>ṭòmònà:m</i> <i>siiṭ⁷</i>	<i>ṭòmònà:m</i> <i>sà:l</i>	<i>kó-t</i> <i>tigìdì</i>	<i>fi:</i> <i>tigìdì <</i> <i>Amh.</i>

4. Oromoid

source	1	2	3	4	5	6	7	8	9	10
WCOromo	<i>tokko</i>	<i>lama</i>	<i>sadii</i>	<i>afur</i>	<i>fani</i>	<i>jaha</i>	<i>tolba</i>	<i>saddet</i>	<i>sagal</i>	<i>kuḍan</i>
Orma	<i>tokkō</i>	<i>lamā</i>	<i>sadi</i>	<i>afurī</i>	<i>fanī</i>	<i>ja</i>	<i>tolbā</i>	<i>saddeetī</i>	<i>sagalī</i>	<i>kuḍenī</i>
D'irayta ₁ m. f.	<i>fokko(ha)</i> <i>fakka(ha)</i>	<i>lakki</i>	<i>halpatta</i>	<i>afur</i>	<i>hen</i>	<i>lehi</i>	<i>tappa</i>	<i>lakkušeti</i>	<i><u>tsinqoota</u></i>	<i>hunda</i>
D'irayta ₂	<i>šokoa</i>	<i>lakke</i>	<i>halbatta</i>	<i>afure</i>	<i>hene</i>	<i>lehe</i>	<i>tappa</i>	<i>lakkusedda</i> = 'second 3'?	<i><u>zinkota</u></i>	<i>hunda</i>
Muussiye	<i>šukkuha</i>	<i>taammu</i>	<i>halpatta</i>	<i>afurii</i>	<i>henii</i>	<i>lehi</i>	<i>seppa</i>	<i>saatteti</i>	<i><u>šinkoca</u></i>	<i>hunḍa</i>
Konso	<i>takka</i>	<i>lakki</i>	<i><u>sessā</u></i>	<i>afur</i>	<i>ken</i>	<i>lehi</i>	<i>tappa</i>	<i>sette</i>	<i>sagal</i>	<i>kuḍan</i>

source	20	30	40	50	60	70	80	90	100	1000
WCOromo	<i>digdama</i>	<i>soddoma</i>	<i>afurtama</i>	<i>fantama</i>	<i>jahatama</i>	<i>tolbatama</i>	<i>saddetama</i>	<i>sagaltama</i>	<i>ḍibba tokko</i>	<i>kuma</i>
Orma	<i>illamaanī</i>	<i>soddomā</i>	<i>afurtamā</i>	<i>fantamā</i>	<i>jaatamā</i>	<i>tolbaatamā</i>	<i>saddeetamā</i>	<i>sagaltamā</i>	<i>ḍibbā tokkō</i>	<i>alfu tokkō</i> < Sw.
D'irayta ₁	<i>hunda lakki</i>	<i>hunda halpatta</i>	<i>hunda afur</i>	<i>hunda hen</i>	<i>hunda lehi</i>	<i>hunda tappa</i>	<i>hunda lakkuṣeti</i>	<i>hunda tsingooṭa</i>	<i>tseeta</i>	<i>kuma</i> < Or.
D'irayta ₂	<i>hunda lakke</i>	<i>hunda halbatta</i>							<i>theeta /ṭēta/</i>	
Konso	<i>kuḍan lakki</i>	<i>kuṇḍa sessa</i>	<i>kuṇḍa afur</i>	<i>kuṇḍa ken</i>	<i>kuṇḍa lehi</i>	<i>kuṇḍa tappa</i>	<i>kuṇḍa sette</i>	<i>kuṇḍa sagal</i>	<i>ḍippa (takka)</i>	<i>kuma</i>

5. Dullay

source	1	2	3	4	5	6	7	8	9	10
Tsamai	<i>do:k:o</i>	<i>la:k:i</i>	<i>ze:h</i>	<i>salaḥ</i>	<i>χobin</i>	<i>tab:en</i>	<i>tah:an</i>	<i>sez:en</i>	<i>gol:an</i>	<i>kupko</i>
Dume	<i>dōōko</i>	<i>lahke</i>	<i>iza</i>	<i>salla</i>	<i>koubin</i>	<i>tabbe</i>	<i>tomme</i>	<i>doddin</i>	<i>gollan</i>	<i>kungo</i>
Kule	<i>doko</i>	<i>laki</i>	<i>sekh</i>	<i>salakh</i>	<i>hobin</i>	<i>tebbi</i>	<i>tahàn</i>	<i>sezze</i>	<i>golàn</i>	<i>konko</i>
Harso	<i>tóʔo</i>	<i>lakki, lam(m)e, lamay</i>	<i>ezzaḥ, siséḥ</i>	<i>salaḥ</i>	<i>xúpin</i>	<i>cappi</i>	<i>caḥḥan</i>	<i>sásse / sésse</i>	<i>kollan</i>	<i>húdd'an</i>
Dobase	<i>tóʔo</i>	<i>lakki ~ lam(m)e</i>	<i>siseḥ</i>	<i>salaḥ</i>	<i>xupin</i>	<i>cappi</i>	<i>caḥḥan</i>	<i>sásse</i>	<i>kollan</i>	<i>húddán</i>
Gowaze	<i>toon</i>	<i>lammai</i>	<i>sisé</i>	<i>sala</i>	<i>koubin</i>	<i>čepi</i>	<i>čahanne</i>	<i>sesse</i>	<i>kollan</i>	<i>kuddan</i>
Gawwada	<i>tóʔon</i>	<i>lákke</i>	<i>izzaḥ</i>	<i>sálaḥ</i>	<i>xúpin</i>	<i>tappi</i>	<i>táʔan</i>	<i>sétten</i>	<i>kóllan</i>	<i>húddan</i>
Gollango	<i>tóʔo</i>	<i>lakki</i>	<i>izzéḥ</i>	<i>salaḥ</i>	<i>hupin</i>	<i>tappi</i>	<i>taḥḥa</i>	<i>sétte</i>	<i>kolla</i>	<i>húdda</i>

source	20	30	40	50	60	70	80	90	100	1000
Tsamai	<i>q'awko mume = man -entire</i>	<i>q'awko mume ba bago kunjo (bago = mouth)</i>	<i>q'awko lak:i / gore lak:i (gore = people)</i>	<i>q'awko lak:i ba bago kunjo</i>	<i>q'awko ze:h / gore ze:h</i>	<i>q'awko ze:h ba bago kunjo</i>	<i>q'awko salaḥ / gore salaḥ</i>	<i>q'awko salaḥ ba bago kunjo</i>	<i>q'awko χobin / gore χobin</i>	<i>ḥi do:t:e ḥi < Amharic</i>
Harso - Dobase	<i>húḍanko lákki</i>	<i>húḍanko ezzaḥ</i>	<i>húḍanko salaḥ</i>	<i>húḍanko xúpin</i>	<i>húḍanko cappi</i>	<i>húḍanko caḥḥan</i>	<i>húḍanko sásse</i>	<i>húḍanko kollan</i>	<i>ḍippá</i>	<i>ḥaa</i>
Gawwada	<i>húḍanko lákke</i>	<i>húḍanko izzaḥ</i>	<i>húḍanko sálaḥ</i>	<i>húḍanko xúpin</i>	<i>húḍanko tappi</i>	<i>húḍanko táʔan</i>	<i>húḍanko sétten</i>	<i>húḍanko kóllan</i>	<i>ḍippa</i>	<i>kúma</i>
Gollango	<i>húḍanko lákki</i>								<i>ḍippá</i>	<i>kúma</i>

[illegible]

7. Yaaku

source	1	2	3	4	5	6	7	8	9	10
Heine	<i>wɛhɛ(t)</i>	<i>c'ɛ</i>	<i>xaat</i>	<i>ɕwen</i>	<i>xoopi</i>	<i>ilɛ́</i>	<i>tisíbo'</i>	<i>siite'</i>	<i>saakal</i>	<i>qapon</i>
Hobley	<i>wēhet</i>	<i>chei</i>	<i>hāāt</i>	<i>shuen</i>	<i>hobi</i>					<i>(k)apūn</i>

source	20	30	40	50	60	70	80	90	100	1000
Heine	<i>te'ta'</i>									
Hobley									<i>teta</i>	

ΣIIIa. East Cushitic numerals: survey of the first decade

	Afar-Saho	Somaloid	Galaboid	Oromoid	Dullay	HEC	Yaaku
1a		So <i>mid</i>		Or <i>matummanu</i> totally		* <i>matto</i> / * <i>mitto</i>	
1b		* <i>koow</i>		* <i>kaww</i> - alone			
1c			* <i>tokko</i> m. * <i>takka</i> f.	* <i>tokko</i> m. * <i>takka</i> f.	* <i>toʔakko</i> m. * <i>toʔatte</i> f. Ts <i>dookko</i> / <i>dootte</i>		
1d	* <i>ʔiniki</i>					Bu * <i>do-ʔinki</i>	
1e							<i>weheto</i>
2a	* <i>lamm-ay</i>	* <i>lamma</i>	* <i>laama</i>	Or <i>lama</i> , Ko-Ḑi * <i>lamki</i> ; Mu <i>ta:m:u</i>	Do <i>lammay</i> * <i>lakk</i> i	* <i>lamo</i>	
2b							<i>ɕɛ</i>
3a	* <i>sizahu</i> / * <i>ʔaszaḥu</i>	* <i>sizzah</i>	* <i>seezzee</i>	* <i>ʂezziya</i>	* <i>ʔiszaḥ</i> , Do <i>siseḥ</i>	* <i>sadziya</i>	
3b				* <i>kalabatta</i>			
3c							<i>xaat</i>
4a	* <i>ʔaffara</i> * <i>far-ey</i>	* <i>ʔafar</i>	* <i>ʔafi(f)ur</i>	* <i>ʔafur</i>			
4b					* <i>salaḥ</i>	* <i>ʂoole</i>	<i>ɕwen</i>
5a	* <i>koon(-oy)</i>	* <i>kani</i> > * <i>can</i>	* <i>ken</i> > * <i>cen</i>	* <i>kani</i>			
5b					* <i>xubin</i>		<i>xoopi</i>
5c						* <i>ʔomute</i>	

	Afar-Saho	Somaloid	Galaboid	Oromoid	Dullay	HEC	Yaaku
6a	*li ^h (-ey)	*li ^h	*li ^h	*le ^{hi}		*(ʔe)liho Bu _{CR} eliyà	ilé
6b					*tabbi[n]		
7a	*mal(V)- hiin				*ta[m]han	*lamala	
7b		*tizzoba	*tizb[ud]a	*tozba			tisibo'
8a	*bahaar						
8b		*sizyeet	*sizeet/*suzzet	*sezzeeti	*sezzen	*sazzeento / *hiszeento	siite'
8c				Di _J lakkusedda = 'second three'?			
9a	*sagaal	*saagal	*saagal	*sagali		Ge *saglane	saakal
9b					*gollan		
9c						*honso	
10a	*taman	*tomman	*tommon	Or -tama		*tomne	
10b		(Re kú ^d 100)	(= Ds kó ^r i ⁷ tigi ^d i)	*kuḍan/*kurn-	*kuḍḍan		
10c							qapon

ΣIIIb. East Cushitic numerals: survey of tens, "100", "1000"

20	*lamaa- -ta[m]na	*lamma-tom		ʔOrma illamaanī < *-lama-tamaan-		
				*dige-tama		
				*kuḍan-lamki	*kuḍan-ko lamki	
30a	*sod-tomu	*soz-tom		*sod-tama		
30b				*kuḍna-kalbatta *kuḍna-	*kuḍan-ko ʔiszaḥ	
40a	*maroo-tomu					
40b		*ʔafar-tom		*ʔafur-tama		
40c				*kuḍna-ʔafur	*kuḍan-ko salaḥ	
50a	*kon-tomu	*kon-tom		*ken-tama		
50b				*kuḍna-ken	*kuḍan-ko xubin	

60a	*lah-tama	*lih-tam		*leha-tama		
60b				*kuḍna-lehi	*kuḍan-ko tabbi	
70a	*malhin-tomon					
70b		*tozzoba-tam		*tozba-tama		
70c				*kuḍna-tazba	*kuḍan-ko taḥḥan	
80a	*baḥar-tomon					
80b		*sizzeet-tam		*saddee[ta]-tama		
80c				*kuḍna-sedde	*kuḍan-ko sezze	
90a	*sagala-taman	*saagal-tam		*sagal-tama		
90b				*kuḍna-sagal	*kuḍan-ko gollan	
100a	*boolu	*boqol				
100b		Re kúḍ / kúḍó:	Ds kór-ī tigiḍi			
100c				*ḍibba	*ḍibba	*ḍibba
1000		*kum		*kuma		*kuma

Abbreviations: Arb Arbore, Bu Burji, CR Conti Rossini, Do Dobase, Ds Dasaneč, Ḍi Ḍirayta, Ge Gedeo, J Jensen apud Moreno, Ko Konso, Mu Muussiye, Or Oromo, Re Rendille, So Somali, Ts Tsamay.

IV. Dahalo

source	1	2	3	4	5	6	7	8	9	10
Tosco	vattúk ^{we} m. vatték ^{we} f.	liima	ḵaba	saśála	dáwátte	<u>ṣita</u> < Sw.	<u>saba</u> < Sw.	<u>nane</u> < Sw.	<u>kenda</u> / <u>tis(i)a</u> < Sw.	<u>kumi</u> < Sw.

source	20	30	40	50	60	70	80	90	100	1000
Tosco	<u>ishirini</u>	<u>thelathini</u>	<u>arobaini</u>	<u>hamsini</u>	<u>sitini</u>	<u>ṣabini</u>	<u>themaini</u>	<u>tisini</u>	<u>mia</u>	<u>elfu</u>

V. South Cushitic

source	1	2	3	4	5	6	7	8	9	10
Iraqw ₁	wák	tsár	tám	tsiyáḥ	kooán	laḥoó?	faanyw	dakaát	gwaleél	mibaanyw
Iraqw ₂	wāk	ts'ār	tām	ts'ia	ko'an	laχɔ	fānku	dakāt	gwēlél	miba

source	1	2	3	4	5	6	7	8	9	10
Gorowa	wak	ts'ar	tám	ts'iyáh	kooʔán	lahóoʔ	fāanq'w	dakáat	gwaléel / gweléel	mibaangw
Alagwa	wák	ndʒad	tam	ts'igah	kooʔan	lahooʔ	faanq'w	dakat	gwelen	mibi
Burunge ₁	leyin / leē	tʃ'ada	tami	tʃ'igaħa	koʔani	laħaʔu	fanq'u	dagati	gweleli	mibi
Burunge ₂	(ɛ)leñ	tjǎdǎ	tǎmĩ	tjigah	kʒ'ani	lahu				mĩpi
Kw'adza ₁	beʔa		tami	haka	koʔana	tisilimba		meliko	gweli	mibi
Kw'adza ₂	itǎme	mbaéa	tami	haka	kóǎně	típa	tipafǎnku	lakádu	wéle	mĩpi
Asa	<u>kinde</u>	<u>hlam</u>	<u>samak</u>	<u>hak</u>	<u>mut</u>					
Ma'a ₁	we	nnu	xai	hai	kooi	matisu				ixadu
Ma'a ₂	-wẽ	nũ -nu	χāi	hāi -hahi	kōi	tisa matizũ	<u>mfun̄gate</u> < Bantu	<u>nane</u> < Sw.	<u>kenda</u> < Sw.	χad̥ʒ

Cf. Central Bantu: Lower Pokomo (Kenya)

1	2	3	4	5	6	7	8	9	10
modza	mbii	ntahu	nee	nsano	ntandahu	nfungahe	nane	kenda	kumi

Source: Jon Hampshire 1993 <<http://lingweb.eva.mpg.de/numeral/>>

Cf. Mbugwe (Tanzania)

1	2	3	4	5	6	7	8	9	10
montí	(i)veré	sató	inja	(i)sánɔ	ánsáto	fúnkáté	náná	kɛ:ndá	(i)kómi

Source: Vera Wilhelmsen 2012 <<http://lingweb.eva.mpg.de/numeral/>>

source	20	30	40	50	60	70	80	90	100	1000
Iraqw ₁	mibeeri tsár	mibeeri tám	mibeeri tsiyáh	mibeeri kooán	mibeeri lahóoʔ	mibeeri faanw	mibeeri dakaát	mibeeri gwaleél	tsiiru / tsiruu wák	kumu / kumuu wák
Iraqw ₂	mbits'ar								ts'iru	kuma
Gorowa	mibeeri? ts'ár	mibeeri? tám	mibeeri? tsiyáh	mibeeri? kooán	mibeeri? lahóoʔ	mibeeri? faanw	mibeeri? dakaát	mibeeri? gwaleél	ts'iiru	kumu / ts'iirrér mibaangw
Alagwa	mibeeri ndʒad	mibeeri tam	mibeeri ts'igah	mibeeri kooʔan	mibeeri lahooʔ	mibeeri faanq'w	mibeeri dakat	mibeeri gwelen	mibeeri mib'	mibeeri mib' ʔawaa mib'

source	20	30	40	50	60	70	80	90	100	1000
Burunge	<i>mibe:ri</i> <i>tʃ'ada</i>	<i>mibe:ri</i> <i>tami</i>	<i>mibe:ri</i> <i>tʃ'igaħa</i>	<i>mibe:ri</i> <i>ko:ʔani</i>	<i>mibe:ri</i> <i>laħaʔu</i>	<i>mibe:ri</i> <i>fanq'u</i>	<i>mibe:ri</i> <i>dagati</i>	<i>mibe:ri</i> <i>gweleli</i>	<i>mibe:ri</i> <i>mibi</i> / <i>mīya:</i> < Sw.	<i>ʔeli:fu leē</i> < Sw.
Kw'adza ₂	<i>mípi</i> <i>ráligo</i> <i>mbaéa</i>	<i>mípi</i> <i>ráligo</i> <i>támi</i>						<i>mípi</i> <i>ráligo</i> <i>wéle</i>		
Ma'a ₂	<i>mīxadu</i> / <i>mīxadema</i> <i>minu</i>	<i>mīxadu</i> / <i>mīxadema</i> <i>mīxai</i>	<i>mīxadu</i> <i>mīhai</i>	<i>mīxadu</i> <i>mīkšī</i>	<i>mīxadu</i> / <i>mīxadema</i> <i>matīzu</i>	<i>mīxadu</i> <i>mīfūngate</i>	<i>mīxadu</i> <i>mnane</i>	<i>mīxadu</i> <i>kēnda</i>	<i>mīxadu</i> <i>gānā</i>	

ΣA. Survey of Cushitic numerals

	Beja	Agaw	East Cushitic	Dahalo	Iraqwoid	K'wadza	Asa	Ma'a
1a	<i>*(un-)gaaL</i>							
1b		<i>*la-y^w</i> m. <i>*la-ti</i> f.						
1c			<i>*mat-/mit-</i>					
1d	<i>kwo</i> unit	<i>*kaw-</i> be first	<i>*kaww-</i>					
1e			<i>*hal-</i>					
1f			<i>*tak-kaw/-ta(y)</i>					
1g			<i>*ʔiniki</i>					
1h			Yaaku <i>weheto</i>	<i>vattúk^{we}</i> m. <i>vatték^{we}</i> f.	<i>*wakV</i>			<i>we</i>
2a	<i>*mhaloo-/</i> <i>*malho</i>	<i>*lāŋa</i> / <i>*laŋa</i>	<i>*lamma(y)</i> Muussiye <i>taammu</i> < <i>*tl-ʔ</i>	<i>līima</i>			<i>hlam</i>	
2b			Arb ^{CR} <i>sada</i> Yaaku <i>çε</i>		<i>*tsada</i>			
3a	<i>*mhay</i>							
3b		<i>*säy^wa</i> / <i>*səy^wa</i>	<i>*sizħ-/sazħ-/</i> <i>*šaz(zi)ħ-</i>					
3c			<i>ʔYaaku xaat</i>					<i>xai</i>
3d				<i>k'aba</i>				

	Beja	Agaw	East Cushitic	Dahalo	Iraqwoid	Kʼwadza	Asa	Maʼa
3e					*tami	tami		
4a	*faḍig		*ḥaf(w)ar-/ *ḥafur-					
4b			*šalaḥ-	saṣála				
4c		*säz(ʒ)a < *sägya			*tsigaḥa			
5a	*ḥay							
5b		*ḥankʷa	*kani/*koni		*kooḥani	koḥana		kooi
5c			*xubin-					
5d			*ʾomut-				mut	
5e				dāwätte				
6a	*ḥasa-gwiL							
6b		*wāl-ta 1 +						
6c			*(He)liḥ- < *ḥ/hali-ḥVn- or *-xubin- 1 + 5		*lahooḥu			
6d			*tabbi[n] < *tak-xubin- 1+5			típa		
7a	*ḥasa- Lamaa-	*lāḡā-/ *laḡā-tta 2 +	*mal(V)- /*tlam-ḥVn- 2 + 5					
7b			*tizbuda- < ?Mao *tiyaz- 3 + *(m)beṭṣ- 4					
7c					*faanqu	tipafānku		
8a	*ḥasa- mhay							
8b		*säyʷä-tta 3 +	*šiz[h]ent- < *šizḥ- 3 + *ḥomut- 5					
8c			*baḥaar-					
8d			*lamku-sizzV- 2 nd three			lakádu		
8e					*dakati			

	Beja	Agaw	East Cushitic	Dahalo	Iraqwoid	K'wadza	Asa	Ma'a
9a	<i>*ʔas-fadīg</i>							
9b		<i>*säṣ-ta</i> 4 +						
9c	cf. <i>*-gaaL</i> 1		<i>*saagal(an)-</i> minus 1 ?					
9c/d	cf. <i>*-gaaL</i> 1		<i>*gollan</i>		<i>*gwaleeli</i>	<i>gweli</i>		
10a	<i>*tamin</i>	<i>*-täṃən</i>	<i>*tomman-</i>					
10b		<i>*cəka</i>						
10c			<i>*kuḏḏan-/*kurn-</i>					<i>ixadu</i>
10d			Yaaku <i>qapon</i>					
10e					<i>*mibaangw</i>	<i>mibi</i>		
100a	<i>*šee</i>							
100b		<i>*liy ~ *lay</i>						
100c			<i>*boqol</i>					
100d			<i>*kuḏ-</i>					
100e			<i>*ḏibba</i>					
?100f			Ḑirayta <i>tseeta</i>		<i>*tsiiru</i>			
1000a		<i>*šax-i</i>						
1000b			<i>*kuma</i>		<i>*kuma</i>			

Set of cognates between the Cushitic numerals in Afroasiatic context

“one”

1.1. Beja **gaaL* “1”, **ʔasa-gwiL* “6” = “growing 1” || ECush.: Arbore *gʷalaata* “other” (KS), besides Dullay **gollan-* “9” = “[10] minus 1”; further ECush. **sagal(an)-* “9” || SCush.: Iraqwoid **gwaleeli*, K'wadza *gweli* “9” = “[10] minus 1”. Cf. NOm.: Zayse (Cerulli) *gillo* “alone”, and / or Zayse (Cerulli) *gillaa* “finger” || Ari *gil'a* “finger” (Lamberti 1988, 52) || ECush.: Afar-Saho (Reinisch) *giili* “thumb”.

1.2. Agaw **la-yʷ* m., **la-ti* f. “1” reflect the gender distinctions indicated by **-ku* & **-ti* respectively. The first component **la-* may be related to Khamir (Reinisch) *illaa*, *ellaa*, *iellaa* “only, alone, solitude”, Xamtanga (Appleyard) *-llá* “alone” and perhaps Awngi (Reinisch) *eliwii* m., *eliti* f., (Appleyard) *əlliw* “other” and Burunge (SCush./Iraqwoid) *(ē)lēñ* “1”. The loss of the first syllable can be caused by influence of the following numeral **lāṇa* “2”. Perhaps the same root appears in ECush. **(ʔ/ha)lih-* “6” and SCush. **lahooʔu* “6”. But cf. also NS: Kunama *ella*, Ilit *ella* “1” (Bender) || CSud.: Balese-Obi *eli*, Moru *əlo* etc. “1” || Maban: Maba *illek*, pl. *illi* “that one”.

1.3. ECush. **mat-/mit-* “1”, plus Oromo *mat-ummanu* “totally” || NOM.: Kafa (Cerulli) *mittoo* “sole”; Bench *mat*³, She *mātā* “1”. Further cf. CChad.: Mefe (Colombel) *məṭā* “1” || ?WChad.: Sura *mundo*, *mindon* “1” < **mVntV* < **mVtnV*? Cf. also NS: Gumuz: Sai *metam*, Sese *metá*, Gojjam *metaa(m)*, *mítal*, Kokit *meta* “1”.

1.4. ECush. **kaww-* “1” || Beja (Roper) *kwo* “unit” || Agaw: Qwara *kaw-*, *qaw-*, Khamir *qaw-* “to be in front of, be first” (Reinisch), Falaša *kawinto* “first” || ?NOM.: Dizoid **koy-* “1”. The following forms of pronominal origin are maybe related: Eg. *kjj*, pl. *kwj* “another” || Chad.: (West) Hausa *kowa* “every one, any one” || (Central) Margi *kú* “this one”.

1.5. ECush. **tak-ku* or **-kaw m.*, **tak-ti* or **-tay f.* “1”, Dullay **tabbi[n]* < **tak-xubin-* “1+5”, perhaps also Qwadza (SCush.) *típa* “6”; Agaw **cəka* “10” < **təka-tāṇən* “1 x 10” (see §10.2) || NOM.: Kafa (Cerulli) *tokki/tok* “together with” || Chad.: (West) Hausa *ḡaya tak* “only one” || (Central) Daba *təkan*, Wandala *mtáákwé*, Zeghwana *tekwé*, muktele *tékwálá*, Mofu *ték*, Gidar *taka*, Logone *tekuu* etc. “1”. Also NS: Nera (Reinisch) *toko/doko*; Fur (Meinhof) *tək*; Maba (Barth) *tek*, Kodoi *tek*; WNil.: Dinka (*a*)*tok* “1”.

1.6. ECush. **hal-* “1” || Dahalo *holló* “and, with” || Iraqw *halahali* “sixth finger”; Ma’a *háli* “other” (Ehret 1980, 306). The same root, maybe, formed the numeral “6”: ECush. **(?/hi)lah-/*(?/ha)lih-* “6” and SCush. **lahooḡu* “6” (cf. §1.2.).

1.7. ECush.: Afar-Saho **ḡiniki* “1” is connected with (or borrowed from) Agaw: Bilin, Khamir *inkii* “all, each, unity”. Interesting is Burji (Conti Rossini) *do’inki* “1”.

1.8. Dahalo *vattúk^we m.*, *vatték^we f.* “1” is connected with *vaatte* “other” and Asa *wataka* “all”. Any relation to Yaaku *weheto* “1” is dark (for Zaborski the Yaaku numeral “1” is an adaptation of Arabic *wāḥid*).

1.9. Iraqwoid **wakV* “1”, in Burunge “other”, and Ma’a *wé* “1” resemble Karekare (WChad.) *wáiké* “each, all” and may be of pronominal origin. Alternatively, it is thinkable to connect them with Egyptian *wš(j)-w/-t* “1”, vocalized **wišyaw m.* / **wiši.t f.* (Vycichl) or **wúš(j)uw m.* / **wúšjū(w)^t f.* (Loprieno).

“two”

2.1. Agaw **lāṇa /laṇa* || ECush. **lamma(y)* || Dahalo *liima* || Asa *hlam* “2”, with parallel counterparts in Omotic: Ometo **lamḡa*; Gimira **nam*; Mao **numbo*; cf. Bambassi *kú-lùmbō* “7”; Aroid **lamma* “2”, represent the best preserved numeral common for both Cushitic and Omotic. There is a promising internal Cushitic etymology: (East) Oromo *elema* “index-finger” (da Thiene: “dito indice”) || Agaw: Damot *layeti* “thumb” || Beja *lumi* “thumb”. The semantic difference could be caused by the habit to name the numbers according to spans, here concretely “thumb – index-finger”. But there are several remaining questions: (i) Does Muussiye (Konsoid/ECush.) *taammu* “2” belong here? If it is the case, it implies the initial **il-*, perhaps compatible with Asa *hl-*. This unique example may be supported by Dullay **taḡḡan* ~ **tamman* “7”, if it reflects **tamḡan* < **tlam-han-* “2+5”? (ii) Does Afar-Saho **mal(V)-ḡVn-* “7” represent the same compound with metathesis of the first component **mal(V)* < **lamma(y)* “2”? (iii) Similarly, an analogous metathesis could be realized in Beja Arteiga (Hudson) *mhaloo-* “2”, cf. *málho* “Zweiheit, zwischen” (Reinisch), while the unmetathesized form might be preserved in *?asa-ramaa* “7” (but Reinisch 1894, 9 derived the second component from the Beja verb *raam-* “to follow”, similarly as Latin *secundus* from *sequor*). On the other hand, the sequence *m...l* is also more widely attested: Qwadza *meliko* “8”, Asa *milek* “day after tomorrow”, Iraqw *male*, *maleḡale* “again” (Ehret 1980, 343).

2.2. Iraqwoid **tsada* “2” looks as isolated within Cushitic, perhaps with exception of two no less isolated ECush. forms, namely Yaaku *çe* “2” and Arbore (Conti Rossini) *sada* “2”. Related may be the most wide-spread Chadic form for the numeral “2”, reconstructible as **ciru*.

“three”

3.1. Beja **mhay* “3” is compatible with Egyptian *hmt(w)* m., *hmtt* f. “3”, vocalized as **hamtaw* & **hamtat* (Vycichl) or **hámṭ’w* & **hámṭ’i* (Schenkel), besides *hmnw* m., *hmnt* f. “8”, vocalized as **ḫamánaw*, **únaw* (Loprieno), and perhaps Guanche of Tenerife *amiat*, *amiet* “3”, *amiago* “30”, if the Beja numeral originated from a metathetical form **hmay* (details see Blažek 1999b, 229–30, 234–35). If the cluster **mh-* was original in Beja, it would be tempting to speculate about connection with Yaaku *xaat* “3” and Ma’a *xai* “3”, where the initial cluster would be simplified, or, in the case of its prefixal origin in Beja, *m-* did not appear at all.

3.2. Agaw **säy^wa* / **səy^wa* “3” and **säy^wä-tta* “8”, originally “3 plus”, stand isolated within Cushitic and Afroasiatic at all. Perhaps a NS source is thinkable, although not from historical neighbors, e.g. p-Kanuri **ʔasuku* “3” and **wusuku* “8” (Blažek 1999, 5, 8) or p-Nubian **təssik* “3” (Blažek 1999, 17), if the first syllable was reduced into **tsik*.

3.3. ECush. **šazḥ-/*šizḥ-/*šaz(z)ih-* “3” (Sasse 1976, 138) and **šiz[h]ent-* “8” < **šizḥ-* “3” + **(ʔo)mut-* “5” correspond maybe with Mao (NOM.) **(t)siyaz-* “3”, if it is not an ECush. loan. In Semitic, there is a promising cognate in the Akkadian length-unit *šizum*, *šizû* “Drittel-Elle” < **šiHz/d-* or **šiz/dH-*, and maybe also **šidṭ-* “6”, derivable from **šid-šid-* “3+3” (cf. Ugaritic *lṯt w lṯt* “6” = “3 + 3”) or from **šid-ṯin-* “3x2” (Blažek 2001, 23).

3.4. Dahalo *ḵaba* (Tosco) = *ḵāḇa* (Ehret) “3” is perhaps connected with ECush. **ḵub-* “finger” (Sasse 1982, 128–29) and WChad. **ḵUban-* “finger, fingernail” (Stolbova 1987, 211), cf. a use of this form in Sumray (EChad.) *kubi* “6” and *dēnaa gūbii* “8” (Lukas).

3.5. Iraqwoid & Qwadza **tami* “3” is probably related to Dahalo *ʔiṯṯaanjóóni* “3rd day after tomorrow” (Ehret 1980, 290). It is tempting to add Muusyiye (Konsoid/ECush.) *taammu* “2”, but the semantic difference is surmountable only in the case of original finger-names and various strategies of counting on fingers, e.g. if this numeral was based on the middle-finger, counting from the thumb leads to “3”, but counting from the “index-finger” indicates “2”.

“four”

4.1. Beja *faḍig* “4”, with regard to older records as *phadégga* (Seetzen), *faḍdeg* (Kremer), *fardik* (Krockow) and Beni Amer *farig* (Reinisch), is derivable from **fardiga* or **fardiga*, where *-g(a)* is the plural ending (Roper 1928, 183). Only the starting-point with **-r-* is compatible with ECush. **ʔafur-* / **ʔaffar-* < **ʔafwar-* “4”, without **ʔa-* Afar *fareyi* ||| Om. **ʔawurd-* “4” ||| Chadic **firadu* or **faridu* “4” ||| Egyptian *fd-w/-t* “4”, *ifd.t* “Vierheit”, Coptic f. *ϣϣ* < **fd^ww^ṯ.t* < **fd^w3w^ṯ.t* (Vycichl 1940, 83) < **fida3wat* < **fidarwat* (Blažek 1999, 32–33). Etymology may be sought in Somaloid (ECush.) **far-* “finger” (Lamberti 1986, 244, 362): fingers of one hand (without thumb) = four fingers.

4.2. Agaw **sä3(3)a* “4” (Appleyard) probably originated from **sägya* (cf. Reinisch 1887, 298: von alten Leuten und Weibern noch öfters *sägyá*, *sägyá* gesprochen; Munzinger had recorded *segia* “4”). The corresponding archaized form **säxyata* of the numeral “9” was borrowed into Ethio-Semitic: Harari *zəḥṯāñ*, Argobba *zāḥṯāñ*, Amhara *zāṯāñ* “9” which were a source of borrowing for this numeral in Dīrayta (Konsoid/ECush.) *tsinqoota* and Zayse (Ometo/NOM.) *tsingō*. The more archaic Agaw protoform **sägya* “4” is compatible with Iraqwoid **sigaha* “4”.

4.3. ECush. **šalah-* “4” is compatible with Dahalo *saḥála* “4” via metathesis of the liquid and laryngeal in one of these two forms. Yaaku *ḥwen* (Heine) = *shuen* (Hobley) “4” may be related, although *n* instead of expected *l* is unclear. On the other hand, there is an attractive NS parallel in Nera *šoona* “4”. The NS parallels also exist to ECush. **šalah-* & Dahalo *saḥála* “4”, namely in Kunama *salle* “4” and Mabang *asali*, Kodoi *asal*, Maba *asaal* “4”.

“five”

5.1. Agaw **ʔankʷa* || ECush. **kani/*koni* || SCush.: Iraqwoid **kooʔani*, Qwadza *koʔana*; Ma'a *kooi* “5” are derivable from a common protoform **kʷani*. In the numerals “6”, “7” maybe appears in the form **hVn-* or only **-h-*, if it is not a continuant of the Dullay-Yaaku isogloss **xubin*. It seems, within Cushitic and AA there are no cognates or relatives of **kʷani* (the isolated form as WChad./Sbauchi: Guruntum *kyoon* “5” cannot be taken in account). On the other hand, the NS counterparts are more promising: Ilit *kona*, Kunama *koona* “hand” vs. *kussuume* “5”; Nilotic: (West) Lango *kañ* “5” vs. Dinka *kon* “arm”; (East) Teso *-káñi*, Turkana *ḡa-kàni*, Karimojong *-qan*, Bari (*mo-*)*kánat* etc. “5” vs. **-k₃am-* “arm, hand”.

5.2. Dullay **xubin* “5” and Yaaku *xoopi* “5” are probably connected with ECush. **hub[i]n-* > Somali *hubin* “limb”, Oromo *humnaa* “muscle, power”, Konso *hupna* “power, strength, energy” (Sasse 1979, 15) and further with Semitic **hupn-/ʔhapn-* “hollow of the hand, handful, fist” (SED I, 113–14, #125).

5.3. HECush. **ʔomute* “5” and Asa *mut* “5” are probably of NS origin, cf. South Nilotic **mut* “5” (Rottland 1982, 304); East Nilotic **-miet-* “5” (Vossen 1982, 367) and North Koma *miit* “hand” (Bender).

5.4. Dahalo *dáwàtte* “5” is probably contracted from **daba-watte* “hand x 1”, cf. Dahalo *dába* “hand” & *vattúkʷe* m., *vattékʷe* f. “1”, further Iraqwoid **daba* “hand, arm” (Ehret 1980, 162; Kießling & Mous 2003, 78), Yaaku *dab* “palm of the hand” (Hobley) = *dap* “foot” (Heine).

5.5. Beja **ʔay* “5” transparently corresponds to **ʔay* “hand, arm”. There are promising cognates in SCush.: Iraqwoid **yaaʔee* “leg, foot”, Qwadza *yaʔo* id., Asa *yaʔata* “sandal” : Iraqw *yaʔati* id. (Ehret 1980, 384; Kießling & Mous 2003, 328) on the basis of the semantic correspondence “palm of hand” ~ “sole of foot”.

“six”

6.1. Beja **ʔasa-gwiL* “6” = “growing of 1” (see §1.1.).

6.2. Agaw **wāl-ta* “6” = “1 plus”, cf. ECush. **wal-/ʔwil-* “union, together, each other” > Saho *wili*, Afar *uli* “one”, Somali *wal* “all”, Elmolo *wol* “together”, Oromo *wol(-i)* “together, with”, Sidamo *wole* “other”, Burji *wólli* “each other” etc. (Sasse 1982, 188–89).

6.3. ECush. **(ʔha)liḥ-* “6” and SCush. **lahooʔu* “6” = “1+5” or “other 5”: **(Ha)liḥ-* < **ʔhali-hVn-* or **-xubin-* “1 + 5” – see §1.2.

6.3. Dullay **tabbi[n]* < **tak-xubin-* “1+5”, perhaps also Qwadza (SCush.) *típa* “6” (Claus) – see §1.3.

“seven”

7.1. Agaw **lāḡā-/ʔlaḡā-tta* and HECush. **lamala* “7” are transparent derivatives of the numeral “2”, expressing “2 plus”. It is natural to expect analogous structures in other forms of this numeral:

7.2. Beja **ʔasa-Lamaa* “7” probably expresses “growing of 2” – see §2.1.

7.3. Afar-Saho **mal(V)-hVn-* “7” – see §2.1.

7.4. Dullay **taḡḡan* ~ **tamman* “7”, if it reflects **tamḡan* < **tlam-ḡan-* or **xubin-* – see §2.1.

7.5. The most enigmatic form of the numeral “7” remains LECush. **tizzuba-* “7”. With respect to Arbore *tazbudda* “7” mediated by Conti Rossini it is possible to derive **tizzuba-* from **tizduba-* < **tizbu(d)da-*. None of these protoforms are analyzable within Cushitic, but **tizbu(d)da-* at least resembles a compound of the numerals “3” + “4” in the Mao branch of North Omotic: **t/siyazi* “3” + **(m)beṣi* “4”, or Gonga **ʔawudda* “4”, continuing from Omotic **ʔawurda* “4” which corresponds to Beja **fardig* and ECush. **ʔafwar-/ʔafur-* “4” (see §4.1.). The internal structure “7” = “3+4” or “4+3” is unknown in Cushitic and Omotic, but well-attested in Chadic: (West) Gerka *praukum* “7” = *prau* “4” + *kun* “3”; Polči *woosər-myeen* “7” = *woosə* “4” + *myeen* “3”

|| (East) Kujarke (Doornbos) *aṅgofadagɔbo* ~ *gafadagubo* “7” = *fada* “4” + *ubo* “3”; Ndam (Decorse) *wo subo* “7” = *woro* “4” + *supu* “3”. In NS e.g. in the West Nilotic language Jumjum: *ngūnguk* “7” = *ngūn* “4” + *dūk* “3”.

7.6. Iraqwoid **faanqu* and Qwadza (Claus) *tipafānku* “7” (where *tīpa* = “6”) are probably of Bantu origin, where the forms as Šambala *mufungate*, Tabwa, Konde *fungate* “7” are explainable as **funga* & **ntatu* “bound 3 {fingers}” (Schmidl 1915, 172). There are remarkable parallels in CChad.: Fali Wuba *birfuŋ*, Fali Gili *mburufuŋ*, Fali Jilbu *mburfij* “7” (Kraft) etc., perhaps also of Bantu/Bantoid origin.

“eight”

8.1. Beja **ʔasa-mhay* and Agaw **säy’ä-tta* “8” are transparent formations expressing “growing of 3” and “3 over {5}” respectively, differing only in the order of their components.

8.2. ECush. **šiz[h]ent-* “8” probably follows the same pattern, if it is analyzable as ECush. **šizh-* “3” (§3.3.) + HECush. **ʔomut-* “5” (§5.3), cf. Haberland & Lamberti 1988, 136–37.

8.3. Afar-Saho **bahaar* “8” is probably explainable as a borrowing of Tigrinya *bāhār*, *bāhār* “big, strong”, Tigre *baharat* “sprouting” (LH 267). Bilin *bahaar*, pl. *bahaliil* “big, great” is of the same origin.

8.4. Ɖirayta (Jensen apud Moreno) *lakkusedda* “8” is analyzable as Konsoid **lakki* < **lamki* “2” and Oromo *sadii* or Dasaneč *seddi* “3”, hence “second three”? Could Qwadza *lakādu* “8” be of the same origin?

8.5. Iraqwoid **dakati* “8” resembles the West Nilotic numeral “8”: Šilluk *abi-dek*, Lango *wu-adek*, Nuer *be-dek* “8” vs. Šilluk, Lango *adek*, Dinka *dyak* etc. “3”; the West Nilotic origin of the Bari (East Nilotic) numerals “6” – “9”, including *budök* “8”, is also very probable. Qwadza *lakādu* “8” may, but need not, be of the same origin.

“nine”

9.1. Beja **ʔas-faḍig* “9” is a transparent compound “growing of 4”. Similarly Agaw **säṣ-ta* “9” = “4 over”. Its more archaic form **säxyata* was borrowed into Ethio-Semitic: Harari *zəḥṭāñ*, Argobba *zāḥṭān*, Amhara *zāṭāñ*, Gurage of Silte *ziṭṭāññä*, Inor *ṣiṭṭä* etc. “9” which were probably a source of borrowing for this numeral in Ɖirayta (Konsoid/ECush.) *tsinqoota* and Zayse (Ometo/NOm.) *tsingō* “9” – see §4.2.

9.2. ECush. **sagal(an)-* “9”, besides Dullay **gollan-* “9” || SCush.: Iraqwoid **gwaleeli*, Qwadza *gweli* “9”, probably represent the subtractive formation *[10] minus 1” based on Cush. **gwal-* “1” (see §1.1.).

9.3. HECush. **honso* “9” remains enigmatic, perhaps a compound of **šalah-* “4” + **ʔomut-* “5” > **Hont-* + **-sV* as in Alaba *tənsú* “10”.

“ten”

10.1. Beja **tamin* “10” (by Reinisch also *tamún*) || Agaw **-täṅən* “-ty” (formant of tens) || ECush. **tomman-* “10” || Om.: Ometo **tamma*, but Čara *tansa* | Gimira **tam* | Dizoid **tammu* | Gongga **taNsa* || Aroid **tamma* “10” represent a Cushitic-Omotc isogloss (or a Cushitic loan in Omotic) with suggestive counterparts in NS: Nilotic (South) **taman* | (East) **təməən* (without Bari) | (West) Lango (Conti Rossini) *tomon* “10” (isolated within WNilotic) || SESurma (Haberland): Yidenit *tómmo*, Meqen *tommon*, Bodi *tómmo(na)*, Mursi (*a*)*tómmon* || Kuliak: Ik *tomín*^a || Nubian: Nobiin *dimé*, Kenzi *dimin*, Haraza *timinah*, Birgid *tummun*, Meidob *timizi* || Bertha: Fadashi & Mayu (TB) *ma-ḥuma*, Fazoglo (Tutschek) *ma-doma* || Saharan: Zaghawa (MacMichael) *timm(i)*, all “10”, besides the compounded forms attested in Koman: Fungi (MacMichael) *diman-didin* “9” = “10 – 1”, cf. *didian* “1”, Gule (Seligmann) *dēmadidin* “9” : *dēdín* “1”. The Nilotic, Surmic and

Kuliak forms are probable Cushitic loans with respect to presence of other Cushitic borrowings in these branches, including numerals. Koman and Bertha languages also are in contact with the Cushitic languages. In last two centuries the Nubian languages were at least partially (Nile Nubian) in direct contact with Beja, but earlier probably with other Cushitic branches too (Bechhaus-Gerst). The Nubian forms are derivable from two variants: **timin* & **tummun*, with regard to regressive assimilation **tam(m)in* & **tammun*, both forms attested in Beja dialects. The Zaghawa counterpart *timm(i)* could be mediated by Meidob.

10.2. Agaw **cəka* “10” originated perhaps via palatalization from **təka* with respect to Kunfāl *teka* “10”. This protoform resembles the East Cushitic numeral **tak-* “1” (see §1.5.). In this case it is logical to propose an original syntagm **təka-tāḡən* “1 x 10”, where the second component was eliminated thereafter the first member had lost its independent singular meaning.

10.3. Oromoid **kuḍan/*kurn-* “10”, besides Oromo *kurnaffa* “10th”, Dullay **kuḍḍan* “10” perhaps reflect a hypothetical protoform **kurḍan-*. Forms without final **-an-* are probably related: Ma’a *ixadu* (Ehret / Elderkin) = *ḡadš* (Meinhof) “10”, *miḡadu gānā* “100” and Rendille *kúd / kúḍó:* “100”, Dasaneč *kór t tigidi* “100” (*tigidi* = “1”). Although the internal structure remains dark (singulative or diminutive role of **-an-*?), there are promising parallels in Chadic: (West) Daffo-Butura *hūryè*, Bokkos *hūrè* “10” || (Central) Mofu *kúrāw*, Zulgo *káro*, Gisiga *kúrú*, Baldamu *kúrú*, Muzgum *gúru* “10” || (East) Sumray *koaar*, Tumak *koar*, Ndam *ankwar*, Miltu *kwar*, Nancere *góra*, Mubi *kúrúk*, Kera *hór*, Barain *kur*, Jegu *ḡorək*, Birgid *ḡorok* etc. “10”.

10.3. Yaaku *qapon* “10” is enigmatic.

10.4. Iraqwoid **mibaangw* and Qwadza *mibi* “10” are enigmatic.

“hundred”

100.1. Beja **šee* “100” was borrowed from Coptic Sahidic & Bohairic ⲩⲉ, Fayyumic ⲩⲏ “100” < Egyptian *š(n)t /š(n)u/* (Loprieno).

100.2. Agaw **liy ~ *lay*.

100.3. ECush. (Afar-Saho & Somaloid) **boqol-* id. Borrowed into Om.: Gimira **bal* | Dizoid: Nayi *balla* | Gongga **balla*. It also appears in Ethio-Semitic: Soddo, Zway *bāqəl*, Masqan, Selti, Gogot *bāqqəl*, Chaha, Ezha, Gyeto *bāqər*, Ennemor, Endegeñ *bāḡär*, Harari, Gafat *bāqlä*. Could it be connected with Geez *bāq’älä* “to germinate, flourish”, Arabic *baqala* “to sprout” etc. (Leslau 1979, 147)?

100.4. ECush.: Rendille *kúd / kúḍó:* & Dasaneč *kór t tigidi* “100” (*tigidi* = “1”) may be related with Oromoid **kuḍan/*kurn-* “10”, Dullay **kuḍḍan* “10”. Forms without final **-an-* are probably related: Ma’a *ixadu* (Ehret / Elderkin) = *ḡadš* (Meinhof) “10”, *miḡadu gānā* “100”.

100.5. ECush. (Oromid-Dullay-HECush.) **dibba* “100”.

100.6. Ḍirayta (Mirjami Uusitalo) *tseeta* = (Tanaba, Cheru & Wedekind 1994, 11) *ṭeet*, Muusiye *seeta* “100”. Could it be related to Iraqwoid **tsiiru* “100”?

“thousand”

1000.1. ECush. **kuma* || Iraqwoid **kuma* id. ECush. > Om.: Yemsa *ḡ¹sa¹ k^ho²ma²* “1 x 1000” | Dizoid: Nayi *wuma* | Gongga **kuma*; EthSem.: Wolane *kəm*, Selti *kim*, Chaha, Ezha, Muher *x^wəm*, Gyeto *xūm*, Ennemor *xū*; Harari *kum* id. (Leslau 1979, 343). Reinisch (1902, 243) connected it with Arabic *kūm* “heap”.

1000.2. Agaw **šax-i* with Ethio-Semitic counterparts as Tigrinya *šəh*, OAmh. *ših*, Amh. *ši* “1000” may be connected with Beja *šee* “100” (Appleyard 2006, 137).

East Cushitic influence on the Surmic and Nilotic numerals

Southeast & Southwest Surmic numeral 2 and Southeast Surmic numerals 3, 5–10, plus Kwegu 4, are apparently of East Cushitic origin. In East Cushitic the closest counterparts appear in Galaboid. Heine, Rottland & Vossen (1979, 82) tried to explain the similarities between South Nilotic and East Cushitic numerals 6–10, 30, 40, 50, 100, assuming an absorption of a hypothetical Omo-Tana population by Southern Nilotes. They designated this hypothetical community *Baz* according to the name of the Lake Turkana. The East Nilotic (especially Maa) counterparts should have been transmitted via Southern Nilotic (*ibid.*, p. 85), but the Southeast Surmic mediation is more probable from the point of view of both phonetics and linguistic geography.

	Surma		South Nilotic (Rottland)		East Nilotic	East Cushitic
	Southeast	Southwest	pKalenjin	Datooga	(Vossen)	late Galaboid
2	* <i>ramma</i>	* <i>ramma</i>				* <i>laama</i>
3	* <i>sizzi</i>					* <i>seezzee</i>
4	Kw. <i>ahur</i>					* <i>ʔaf(f)ur</i>
5	*(<i>haa</i>) <i>čaana</i>					* <i>cen</i>
6	* <i>ille</i>		* <i>lo</i>	* <i>la</i>	TeMaa * <i>ille</i>	* <i>lih</i>
7	* <i>tsaba(i)</i>		* <i>tisap</i>	* <i>isub</i>	NMaa <i>sapa</i>	* <i>tizba</i>
8	* <i>isseet</i>		* <i>sisiit</i>	* <i>sisiit</i>	Maa <i>isiet</i>	* <i>sizeet</i>
9	* <i>sakal</i>		* <i>sakaal</i>	* <i>šageeš</i>	Maa <i>sa(a)l</i>	* <i>saagal</i>
10	* <i>tommon</i>		* <i>taman</i>	* <i>taman</i>	* <i>-tomon</i>	* <i>tommon</i>
20	Me'en <i>tidam</i>	Didinga <i>itumwa</i>	* <i>tiptem</i>	* <i>digdam</i>	Maa <i>tikitam</i>	Oromo <i>digdama</i> = (Tutschek) <i>digetam</i>
30			* <i>sosom</i>		Maa <i>ɔsɔm</i>	* <i>sozzom</i>
40			* <i>artam</i>		Maa <i>artam</i>	* <i>ʔafartam</i>
50			* <i>kɔnɔm</i>		Maa <i>ɔnɔm</i>	* <i>kontom</i>
100			* <i>pɔqɔl</i>	* <i>boqal</i>	Maa <i>iip</i>	* <i>boqal</i> * <i>dibb-</i>

East Cushitic influence on the Ongota numerals

The Ongota numerals 2–9 and 100 are apparently of East Cushitic, probably Dullay, origin.

	Ongota (Fl)	Tsamay	other Dullay (AMS)	other parallels
1	<i>akala</i> (<i>á</i>) <i>kalbano</i>	<i>dóoko</i>	Hrs <i>toʔo</i> , Go <i>tóʔo</i>	Aroid: Dime <i>wəkʰal</i> , Kara <i>kallà</i> , Banna <i>kəla</i> NS: WNil.: Shil <i>akʰel</i> , Nu <i>kè:l</i> CSud: Yulu <i>kala</i>
2	<i>lama</i>	<i>lakki</i>	Dob <i>lammay</i> , but Hrs, Go, Ga <i>lákki</i>	Aroid: Hamer, Kara <i>lama</i> , Banna <i>lamma</i> ; NOM.: Male <i>lamʔ</i> , Koyra <i>lam^e</i>
3	<i>zéha</i> / <i>zexa</i>	<i>zeeh</i>	Hrs <i>ezzaḥ</i> , Go <i>izzéḥ</i>	ECu *s/š-z-ḥ- (Sasse 1976, 138f)
4	<i>talaxa</i> / <i>talaha</i>	<i>sála</i>	Hrs, Go <i>sala</i>	HECush.: Si, Gedeo <i>šoole</i> , Kmb <i>šolo</i> Dah <i>sašála</i> NS: Kunama <i>sàllè</i> Maban: Maba <i>asaal</i> ; Kibet <i>àttál</i>
5	<i>hobbe</i> / <i>hoppe</i>	<i>xóobin</i>	Hrs <i>xupin</i> , Go <i>hupin</i>	Yaaku <i>xoopi</i>
6	<i>ts/šanafa</i> < * <i>tsafana</i> ?	<i>tábben</i>	Hrs <i>cappi</i> , Go <i>tappí</i>	
7	<i>taxanke</i>	<i>táhḥan</i>	Hrs <i>caḥḥan</i> , Go <i>tahḥa</i>	
8	<i>ʔiista</i> / <i>ista</i>	<i>sézzen</i>	Go <i>sétte</i> , Hrs <i>sasse</i>	Kmb <i>hezzeto</i> , Burji <i>hiditto</i> < * <i>hiszeet-</i> < * <i>sizḥeet-</i>
9	<i>gólanke</i>	<i>góllan</i>	Hrs <i>kollan</i> , Go <i>kolla</i>	SCush.: Iraqw <i>gʷalel</i> , Qwadza <i>gweli</i> “9”, cf. Beja <i>gaal</i> “1” ECush.: Arb. <i>gʷalaata</i> “other”
10	<i>coma</i>	<i>kúḡkó</i>	Hrs <i>húḡḡan</i> , Ga <i>xúḡḡa</i>	? NS: Gumuz: Sai <i>gicuma</i> “20”
100	<i>ḡiḡa</i>	<i>ḡibabaʼee</i>	Hrs, Go <i>ḡippá</i>	ECu: Or. <i>ḡibba</i> , Ko. <i>ḡippa</i> , Si. <i>ḡibbe</i> , Burji <i>ḡibba</i>

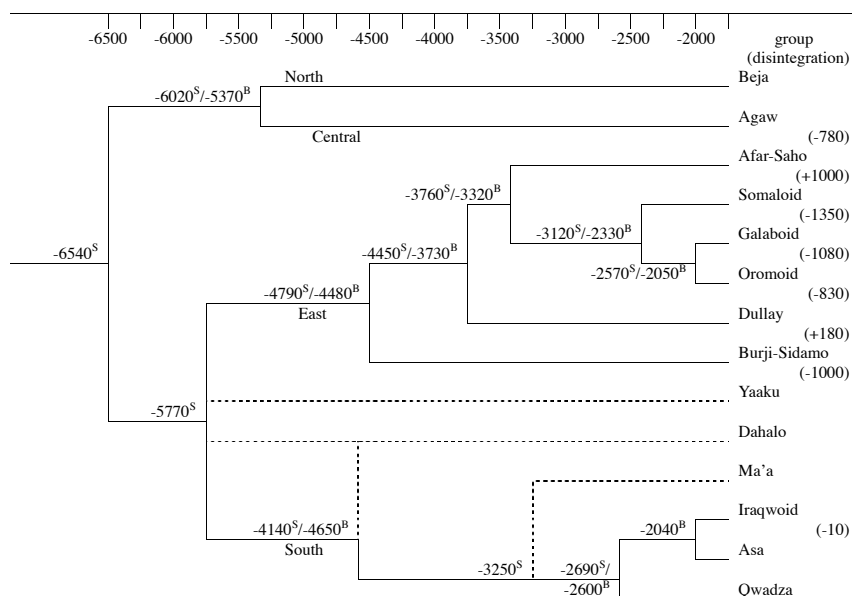
Sources of Cushitic

(* = <<https://mpi-lingweb.shh.mpg.de/numeral/Afro-Asiatic.htm>>)

Afar: Marie-Claude Simeone-Senelle* (2007); **Agaw**: David Appleyard (2006); **Alaba**: Gertrud Schneider-Blum* (2007); **Alagwa**: Roland Kiessling* (1997, 2007); **Arbore**₁: Mauro Tosco* (1997), ^w Klaus Wedekind* (2002); **Arbore**₂: Carlo Conti Rossini (1927); **Asa**: Ehret (1980);

Awngi: Andreas Joswig* (2007); **Bayso:** Mathias Brenzinger* (2007); **Beja:** Martine Vanhove* (2006); **Bilin₁:** David Appleyard* (2007); **Bilin₂:** Munzinger apud Halévy (1873); **Boni:** Mauro Tosco* (1994); **Burji₁:** Grover Hudson* (1993); **Burji₂:** Moreno (1937); **Burji₃** = Bambala: Conti Rossini (1914–15); **Burunge₁:** Roland Kiessling* (1994), Anna Bodman* (2007); **Burunge₂** = **Mbulungwe:** Carl Meinhof (1906); **Dahalo:** Mauro Tosco* (1994); **Dasaneč₁:** James Ness* (2007); **Dasaneč₂:** Carlo Conti Rossini (1927); **Dirayta₁:** Mirjami Uusitalo* (1993); **Dirayta₂:** Jensen apud Moreno (1943); **Dobase:** AMS (1980); **Dume:** Donaldson Smith apud Conti Rosini (1927); **Elmolo:** Bernd Heine* (2010); **Falaša₁:** David Appleyard (1996), M. Flad (1866); **Falaša₂:** Halévy (1873); **Garre (Karre):** Mauro Tosco* (2007); **Gawwada:** Mauro Tosco* (2007); **Gedeo:** Grover Hudson* (1993), Ayele Lola* (1996); **Gollango:** AMS (1980); **Gorowa:** Roland, Kiessling* (2007); **Gowaze:** Monnegat apud Moreno (1943); **Hadiyya:** Grover Hudson* (1993), Daniel Hankore* (1996); **Harso-Bobase** = **Bussa:** Hans-Jürgen Sasse* (2007); **Iraqw₁:** Mauro Tosco* (1994); **Iraqw₂:** Dempwolff (1916–17); **Jiddu₁:** Tilling (1921–22); Harold Fleming (1964); Bernd Heine (1978); **Jiddu₂:** Giorgio Banti & Saalim Aliyow Ibraaw (1996); **Kaĩliña:** David Appleyard (2006); **Kambaata:** Yvonne Treis* (2012); **Konso:** Mirjami Uusitalo* (1993), Maarten Mous* (2007); **Kule:** da Trento (1941); **Kunfāl:** R.W. Cowley (1971); **Kw'adza₁:** Ehret (1980); **Kw'adza₂** = **Wangomwia:** Claus (1910); **Libido:** Joachim Crass* (2007); **Ma'a₁:** Ehret (1980); **Ma'a₂:** Meinhof (1906); **Muusiye:** <<http://www.zompist.com/mide.htm#fro>>; **Orma:** Christa Kendall* (1995); **Oromo – West Central:** Tolemariam Fufa* (2007); **Qimant:** Appleyard* (2007, 2012); **Qwara:** David Appleyard (1996), Leo Reinisch (1885–87); **Rendille:** Steve Pillinger* (1995, 2007); **Saho:** Moreno Vergari* (2007); **Sidamo:** Anbessa Teferra* (2007); **Somali:** Mauro Tosco* (2007); **Tambaro:** Jules Borelli (1890); **Tsamai:** Graziano Savà* (2007); **Tunni:** Mauro Tosco* (2007); **Xamta:** Carlo Conti-Rossini (1904); **Xamtanga:** Appleyard* (2007, 2012); **Yaaku₁:** Bernd Heine (1975); **Yaaku₂** = **Mogogodo:** Hobley (1910), Greenberg (1963).

Cushitic classification



See Václav Blažek, Afroasiatic migrations. In: *The Encyclopedia of Global Human Migration* I, ed. by Immanuel Ness & Peter Bellwood. Oxford: Wiley-Blackwell, 2013, 125–132.

Abbreviations

Akk. Akkadian; Amh. Amhara; Arb. Arbore; Bk. Bako; Bn. Banna; Bu. Burji; C. Central; Chad. Chadic; Cu(sh). Cushitic; D. Dalpena; Dah. Dahalo; Dob. Dobase; E. East; Eg. Egyptian; Eth. Ethio-; Ga. Gawwada; Go. Gollango; Gu. Gumuz; H. Highland; Ha. Hadiyya; Hm. Hamar; Hrs. Harso; J. Jinka; Kal. Kalenjin; Kmb. Kambatta; Ko. Konso; Kr. Karo; Kw. Kwegu; N. North; Nil. Nilotic; NS. Nilo-Saharan; Nu. Nuer; Nub. Nubian; Om. Omotic; Or. Oromo; p-. proto-; S. South; Sem. Semitic; Sh. Saharan; Shil. Shilluk; Si. Sidamo; Som. Somali; Sw. Swahili; Te. Teso; Ts. Tsamay; W. West.

References

- Allan, E.J. 1976. Dizi. In: *The Non-Semitic Languages of Ethiopia*. East Lansing: Michigan State University, 377–392.
- Almkvist, Herman N. 1881–85. *Die Bischari-Sprache (Tu Bedawie) in Nordost-Afrika I–II*. Uppsala: K. Gesellschaft der Wissenschaften.
- AMS = Amborn, H., Minker, G. & Sasse, H.-J. 1980. *Das Dullay*. Berlin: Reimer.
- Appleyard, David L. 1996. ‘Kailiña’ – a ‘new’ Agaw dialect and its implications for Agaw dialectology. In: *Voice and Power. The Culture of Language in North-East Africa. Essays in Honour of B.W. Andrzejewski*, ed. by R.J. Hayward & I.M. Lewis. *African Languages and Cultures*, Suppl. 3, 1–19.
- Appleyard, David L. 2006. *A Comparative Dictionary of the Agaw Languages*. Köln: Köppe Verlag.
- Banti, Giorgio. 1993. Noterelle sui sistemi di numerali nell’ Africa nord-orientale. *Studi italiani di linguistica teoretica e applicata* 22/1, 127–168.
- Banti, Giorgio & Ibraaw, Saalim Aliyow. 1996. *Jiddu: An extended basic word list*. Rome: Ms.
- Bechhaus-Gerst, Marianne. 1984. Sprachliche und historische Rekonstruktionen im Bereich des Nubischen unter besonderer Berücksichtigung des Nilnubisch. *Sprache und Geschichte in Afrika* 6, 7–134.
- Bechhaus-Gerst, Marianne. 1989. Nubier und Kuschiten im Niltal. *Afrikanistische Arbeitspapiere*, Sondernummer 1989.
- Beke, C.T. 1845. On the Languages and Dialects of Abyssinia and the Countries to the South. *Proceedings of the Philological Society*, vol. 2, N. 33: 89–107.
- Bender, M.L. 1971. The Languages of Ethiopia: A New Lexicostatistical Classification and some Problems of Diffusion. *Anthropological Linguistics* 13/5, 165–288.
- Bender, Lionel M. 2003. *Omoti Lexicon and Phonology*. Carbondale: Southern Illinois University.
- Blažek, Václav. 1991. A comparative approach to Afrasian numerals. In: *Proceedings of the Fifth International Hamito-Semitic Congress* (Vienna, Sept–Oct 1987), I (Hamito-Semitic, Berber, Chadic), ed. H.G. Mukarovsky. Wien: Afro-Pub 1991, 29–44.
- Blažek, Václav. 1999. *Numerals. Comparative analyses and their implications*. Brno: Masaryk University.
- Blažek, Václav. 1999b. Egyptian numerals. In: *Afroasiatica Tergestiana. Papers from the 9th Italian Meeting of Afro-Asiatic (Hamito-Semitic) Linguistics* (Trieste, April 23–24, 1998), eds. M. Lamberti & L. Tonelli. Trieste: Unipress, 229–264.
- Blažek, Václav. 2001. Etymologizing the Semitic cardinal numerals of the first decade. In: *New Data and Methods in Afroasiatic Linguistics. Robert Hetzron in Memoriam*, ed. Andrzej Zaborski. Wiesbaden: Harrassowitz, 13–37.
- Borelli, Jules. 1890. *Éthiopie méridionale*. Paris: May Motterot.
- Burckhardt, J.L. 1819. *Travels in Nubia*. London: Murray.

- Cerulli, Enrico. 1929. Note su alcune popolazioni Sidama dell' Abissinia meridionale, II. I Sidama dell'Omo. *Rivista degli studi orientali* 12, 1–70.
- Cerulli, Enrico. *Studi etiopici* I–IV. Roma: Istituto per l'Oriente:
1936. *La lingua e la storia di Harar*.
- 1938a. *La lingua e la storia dei Sidamo*.
- 1938b. *Il linguaggio dei Giangero ed alcune lingue Sidama dell'Omo*.
1951. *La lingua caffina*.
- Claus, ?. 1910. Die Wangomwia. *Zeitschrift für Ethnologie* 42, 489–497.
- Conti Rossini, Carlo. 1904. Appunti sulla lingua khamta dell'Averghellé. *Giornale della Società Asiatica Italiana* 17, 183–242.
- Conti Rossini, Carlo. 1905. Appunti sulla lingua awiya del Danghal. *Giornale della Società Asiatica Italiana* 18, 103–194.
- Conti Rossini, Carlo. 1914–15. Studi su popolazioni dell' Etiopia. *Rivista degli studi orientali* 6, 365–425.
- Conti Rossini, Carlo. 1925. Sui linguaggi dei Naa e dei Ghimira Sce nel' Ethiopia meridionale. *Rendiconti della Reale Accademia dei Lincei, Classe di scienze morali, storiche filologiche*, Ser. VI, vol. 1, 612–636.
- Conti Rossini, Carlo. 1927. Sui linguaggi parlati a nord dei Laghi Rodolfo e Stefania. In: *Festschrift für Carl Meinhof: Sprachwissenschaftliche und andere Studien*, ed. Franz Boas. Hamburg: Friedrichsen, 247–255.
- Cowley, R.W., Tegeba Birru & Zena Adal. 1971. The Kunfāl People and their Language. *Journal of Ethiopian Studies* 9/2, 99–106.
- Dempwolff, Otto. 1916–17. Beiträge zur Kenntnis der Sprachen in Deutsch-Ostafrika: 10. Wörter der Sprache von Iraku. *Zeitschrift für Kolonialsprachen* 7, 309–325.
- Dolgopolsky [Dolgopolskij], A.B. 1973. *Sravnitel'no-istoričeskaja fonetika kušitskix jazykov*. Moskva: Nauka.
- EDE = *Etymological Dictionary of Egyptian*, Vol. I–III, by Gábor Takács. Leiden-Boston: Brill 1999–2008.
- Ehret, Christopher. 1980. *The Historical Reconstruction of Southern Cushitic Phonology and Vocabulary*. Berlin: Reimer.
- Ehret, Christopher. 1995. *Reconstructing Proto-Afroasiatic (Proto-Afrasian). Vowels, Tone, Consonants and Vocabulary*. Berkeley–Los Angeles–London: University of California Press.
- Flad, M. 1866. *A Short Description of the Falasha and Kamants in Abyssinia together with an Outline of the Elements and a Vocabulary of the Falasha Language*. Chrisona: Mission Press.
- Fleming, Harold C. 1971. *Wordlists of Dasenech, Doko, Galila, Ganjule, Gofa, Malo, Oyda, Ubamer* (unpublished field notes kindly offered to the author).
- Fleming, Harold C. 1976. Omotic Overview. In: *Non-Semitic Languages of Ethiopia*, ed. M.L. Bender. East Lansing: Michigan State University, 298–323.
- Greenberg, Joseph H. 1963. The Mogogodo, a forgotten Cushitic people. *Journal of African Languages* 2, 29–43.
- Grottanelli, Vinigi L. 1941. Gli Scinascia del Nilo-azzurro ed alcuni lessici poco noti loro lingua. *Rassegna di studi etiopici* 1, 234–270.
- Haberland, Eike. 1966. Zur Sprache der Bodi, Mursi und Yideniç Südwest-Äthiopien. In: *Neue Afrikanistische Studien*, ed. J. Lukas. Hamburg: Deutsches Institut für Afrika-Forschung, 88–99.
- Haberland, Eike & Lamberti, Marcello. 1988. *Ibaaddo ka-Ba'iso: culture and language of the Ba'iso*. Heidelberg: Winter.
- Halévy, J. 1873. Essai sur la langue Agaou: Le dialecte des Falaschas. *Actes de la Société Philologique* T. III, N° 4, 149–188.

- Hobley, C.W. 1910. *Ethnology of A-kamba and other East African Tribes*. Cambridge: University Press.
- Heine, Bernd. 1975. Notes on the Yaaku Language (Kenya). *Afrika und Übersee* 58, 27–61, 119–38.
- Heine, Bernd. 1978. The Sam languages. A history of Rendille, Boni and Somali. *Afroasiatic Linguistics* 6/2, 23–115.
- Heine, Bernd, Rottland, Franz & Vossen, Rainer. 1979. Proto-Baz: Some aspects of early Nilotic-Cushitic contacts. *Sprache und Geschichte in Afrika* 1, 75–91.
- Hudson, Richard. 1976. Beja. In: *The Non-Semitic Languages of Ethiopia*, ed. by M.Lionel Bender. East Lansing: Michigan State University, 97–131.
- Hudson, Richard. n.d. *Beja Dictionary*. Ms., arranged by Roger Blench 2012. <<http://www.rogerblench.info/Language/Afroasiatic/Cushitic/Beja%20Dictionary.pdf>>
- Jl = Jungraithmayr, H. & Ibrizimow, D. 1994_{1,2}. *Chadic Lexical Roots*, vol. I–II. Berlin: Reimer.
- Kießling, Roland & Mous, Maarten. 2003. *The Lexical Reconstruction of West-Rift Southern Cushitic*. Köln: Köppe.
- Kremer von, Alfred. 1863. *Aegypten*, I. Leipzig: Brockhaus.
- Krockow von Wickerode, Carl. 1867. *Reisen und Jagden in Nordost-Afrika*, II. Berlin: Duncker.
- KS = Kusia, Dinote, & Siebert, Ralph. 1994. Wordlists of Arbore (Irbore), Birayle (Ongota), Tsamay (Tsamaho). *Survey of Little-known Languages of Ethiopia* 20: 1–12.
- Lamberti, Marcello. 1986. *Die Somali-Dialekte: Eine vergleichende Untersuchung*. Hamburg: Buske.
- Lamberti, Marcello. 1988. *Kuliak and Cushitic. A comparative study*. Heidelberg: Winter.
- Lamberti, Marcello. 1993. *Die Shinassha-Sprache: Materialien zum Boro*. Heidelberg: Winter.
- Leslau, Wolf. 1959. *A Dictionary of Moča (Southwestern Ethiopia)*. Berkeley–Los Angeles: University of California Press, Publications in Linguistics, Vol. 18.
- Leslau, Wolf. 1963. *Etymological Dictionary of Harari*. Berkeley–Los Angeles: University of California Press.
- Leslau, Wolf. 1979. *Etymological Dictionary of Gurage (Ethiopic)*, vol. III. Wiesbaden: Harrassowitz.
- LH = Littmann, E. & Höfner, M. 1962. *Wörterbuch der Tigre-Sprache*. Wiesbaden: Steiner.
- Loprieno, Antonio. 1986. Zahlwort. In: *Lexikon der Ägyptologie*, Bd. VI, eds. W. Helck & W. Westendorf. Wiesbaden: Harrassowitz, cc. 1306–19.
- Loprieno, Antonio. 1995. *Ancient Egyptian. A linguistic introduction*. Cambridge: University Press.
- Lucas, Louis. 1876. On natives of Suakin and Bishareen vocabulary. *The Journal of the Anthropological Institute of Great Britain and Ireland* 6/II: 191–194. <<https://archive.org/stream/journalanthropo01irelgoog#page/n228/mode/2up>>
- Lukas, Johann. 1937. *Zentralsudanische Studien*. Hamburg: *Abhandlungen aus dem Gebiet der Auslandskunde*, Hansische Universität, Reihe B, Bd. 45/24.
- MacMichael, H.A. 1912. Notes on Zagháwa and the people of Gebel Mídob, Anglo-Egyptian Sudan. *Journal of the Royal Anthropological Institute* 42, 288–344.
- MacMichael, H.A. 1920. Darfur Linguistics. *Sudan Notes and Records* 3, 197–216.
- Meinhof, Carl. 1906a. Linguistische Studien in Ostafrika, 10. Mbugu. *Mitteilungen des Seminars für Orientalische Sprachen* 9/3, 294–323.
- Meinhof, Carl. 1906b. Linguistische Studien in Ostafrika, 11. Mbulunge. *Mitteilungen des Seminars für Orientalische Sprachen* 9/3, 324–333.
- Moreno, M.M. 1937. Note di lingua burgì. *Rivista degli studi orientali* 17, 350–398.
- Moreno, M.M. 1943. Notizie sul Ghidole e sul Gowazè. *Annali dell Istituto Universitario Orientale di Napoli*, Nuova Serie Vol. II, 233–237.

- Munzinger, Werner. 1864. *Ostafrikanische Studien*. Schaffhausen: Hurter.
- OLS = *Omotic Language Studies*, ed. R.J. Hayward. London: SOAS 1990.
- Reinisch, Leo. 1885–87. Die Qwarasprache in Abessinien. *Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften, Philol.-hist. Classe*, 106.2, 108.1, 109.2.
- Reinisch, Leo. 1887. *Wörterbuch der Bilin Sprache*. Wien: Hölder.
- Reinisch, Leo. 1893–94. Die Bedaue-Sprache in Nordost-Afrika, III. *Sitzungsberichte der Akademie der Wissenschaften, Philol.-hist. Classe*, 130/VII.
- Roper, E.-M. 1928. *Tü Beḍawie: An Elementary Handbook for the use of Sudan Government Officials*. Hertford: Stephen Austin and sons. <https://ia902304.us.archive.org/27/items/rosettaproject_bej_morsyn-2/rosettaproject_bej_morsyn-2.pdf>
- Rottland, Franz. 1982. *Die Südnilotischen Sprachen*. Berlin: Reimer.
- Salt, Henry. 1816. *Voyage en Abyssinie*. Paris: Imprimerie de Demonville.
- Sasse, Hans-Jürgen. 1975. Galla /š/, /s/ und /f/. *Afrika und Übersee* 58, 244–263.
- Sasse, Hans-Jürgen. 1976. Weiteres zu den ostkuschitischen Sibilanten. *Afrika und Übersee* 59, 125–142.
- Sasse, Hans-Jürgen. 1979. The consonant phonemes of Proto-East-Cushitic (PEC): A first approximation. *Afroasiatic Linguistics* 7/1, 1–67.
- Sasse, Hans-Jürgen. 1982. *An Etymological Dictionary of Burji*. Hamburg: Buske.
- SED = Militarev, Alexander & Kogan, Leonid. 2000–2005. *Semitic Etymological Dictionary*, Vol. I: *Anatomy of Man and Animals*; Vol. II: *Animal Names*. Münster: Ugarit-Verlag.
- Seetzen U.J. apud Vater J.S. 1816. *Proben Deutscher Volks-Mundarten*. Dr. Seetzen's linguistischer Nachlass und andere Sprachforschungen und Sammlungen, besonders über Ostudien, Herausgegeben. Leipzig: Fleischer.
- Siebert, Ralph. 1994. Languages of the Abbaya / Chamo Area - Report Part I. *Survey of the Little known Languages of Ethiopia* 21, 2–24.
- Takács, Gábor. 1996. Egyptian lexics in an Afrasian perspective: New etymologies. *Studia Etymologica Cracoviensia* 1, 125–180.
- Tanaba, Wolde-Gebriel, Cheru, Zewde & Wedekind, Klaus. 1994 On the wordlists of Diraasha (Gidole) and Muusiye (Bussa). *Survey of the Little known Languages of Ethiopia* 19, 3–17.
- Thelwall, Robin E.W. 1970. *Beja Vocabulary Questionnaire List for Linguistic Investigations in the Sudan*. Khartoum University: Ms.
- da Thiene, Gaetano. 1939. *Dizionario della lingua galla con brevi nozioni grammaticali*. Harar: Vicariato apostolico.
- von Tiling, Maria. 1921–22. Die Sprache der Jabarti, mit besonderer Berücksichtigung der Verwandtschaft von Jabarti und Somali. *Zeitschrift für Eingeborenen Sprachen* 12, 17–52, 97–162.
- Tosco, Mauro. 1991. *A Grammatical Sketch of Dahalo*. Hamburg: Buske.
- Tosco, Mauro. 2001. *The Dhaasanac Language*. Köln: Köppe.
- da Trento, padre Gabriele. 1941. Vocaboli in lingue dell'Etiopia meridionale. *Rassegna di studi etiopici* 1, 203–207.
- Vossen, Rainer. 1982. *The Eastern Nilotes. Linguistic and historical reconstruction*. Berlin: Reimer.
- Vycichl, Werner. 1940. Ägyptische Ortsnamen in der Bibel. *Zeitschrift für ägyptische Sprache und Altertumskunde* 76, 79–93.
- Vycichl, Werner. 1983. *Dictionnaire étymologique de la langue copte*. Leuven-Paris: Peeters.
- Watson, C.M. 1888. *Languages spoken at Suakin*. London: Society for promoting Christian knowledge.
- Wb. = *Wörterbuch der ägyptischen Sprache*, by Adolf Erman & Hermann Grapow. Berlin: Akademie-Verlag 1971.

- Wedekind, Klaus & Charlotte. 2007. *A Learner's Grammar of Beja (East Sudan). Grammar, Texts and Vocabulary (Beja-English and English-Beja)*. Köln: Köppe.
- Zaborski, Andrzej. 1983. Basic Numerals in the Omotic Languages. In: *Ethiopian Studies Dedicated to Wolf Leslau*, eds. S. Segert, A. J. Bodrogligeti, Wiesbaden: Harrassowitz, 375–390.
- Zaborski, Andrzej. 1987. Basic Numerals in Cushitic. In: *Proceedings of the Fourth International Hamito-Semitic Congress* (Marburg, 20–22 September 1983), eds. Jungraithmayr, H. & Müller, W.W. Amsterdam–Philadelphia: Benjamins (Amsterdam Studies in the Theory and History of Linguistics Science Series IV: Current Issues in Linguistics Theory 44), 317–347.

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