A Crosslinguistic Lexicon of the Labial Flap

Kenneth S. Olson and John Hajek

SIL International & University of North Dakota, University of Melbourne

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We provide a large sample of the occurrences of the labial flap in the world’s languages, including audio and video data from the Mono dialect of Mid-Southern Banda. This sample provides the evidence for Olson and Hajek’s (2003) crosslinguistic generalizations concerning the articulation, the geographic distribution, the genetic distribution, and the phonological status of the speech sound.

1. Introduction

The labial flap has until recently been poorly documented and consequently poorly understood. Olson and Hajek (2003) provide a crosslinguistic study of the speech sound, discussing its geographic and genetic distributions, and drawing generalizations concerning its articulation and phonological status. The present paper provides most of the data on which Olson and Hajek’s conclusions are drawn. These data represent a large sample of the occurrences of the labial flap in the world’s languages. They come from an extensive survey of the literature as well as previously unpublished data from both our own field work and that of other researchers.

It is, in our view, important to document as fully as possible the existence of the labial flap in the world’s languages for the following reasons:

(1) This demonstrates that the labial flap is not such an unusual sound, a point confirmed by the large number of languages we find it in, which are located across a number of language families and on two different continents.

(2) Previous typological research on African phonology has tended to focus on tone and other prosodic phenomena. The investigation of segmental phenomena has tended to be hampered by a lack of easy access to data. The collation of data for Olson and Hajek (2003) and for this paper has taken considerable time over a number of years, and it seems beneficial to make these data available in one place in order to assist other linguists.

Here is a summary of our findings in Olson and Hajek (2003). First, we find the following generalizations regarding the articulation of the sound. In terms of phonetic articulatory parameters, the labial flap is most commonly produced as a voiced labiodental flap with egressive pulmonic air. A bilabial variant is attested in 13 languages, and in some cases, such as in the Mono dialect of Mid-Southern Banda, this variant is preferred. A secondary articulation of velarization has been observed in Mangbetu and Mono. Following the International Phonetic

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1 We wish to thank everyone who shared data with us (see personal communications within the text). This paper could not have been written without their contributions. Thanks to Bruce Connell for technical assistance in making the audio and video recordings of the Mono data; to Ama Geangozo Mbanza and Kilio Tembenekuzu for providing the Mono language data; and to Mark Karan for helpful comments on the text.

Linguistic Discovery 2.2:21-57
Association’s (IPA 1989: 70) convention, we transcribe the labiodental and bilabial variants as \(<\mathcal{v}>\) and \(<\mathcal{w}>\), respectively. We transcribe the data in this paper using the IPA.

Second, concerning the geographic distribution of the labial flap, it is almost exclusively attested in Africa. We find 67 (possibly 69) languages containing the sound in north central Africa and four (possibly five) languages in southeastern Africa. The present understanding of the expansion of the Bantu-speaking peoples allows for the possibility that the sound spread via contact from north central Africa to the languages presently in southeastern Africa, so we cannot assume that it arose independently in each of these regions. The Austronesian language Sika spoken in Indonesia contains a sound whose articulatory description is identical to that found in Africa, but more research is necessary to verify that this is indeed the same sound. Of all the features that have been proposed in the literature as possibly being uniquely African areal features, the labial flap comes closest to actually being one (see, e.g., Greenberg 1983; Heine 2003).

Third, concerning the genetic distribution of the labial flap, it is found in three of the four major language families in Africa, but only in restricted sets of sub-branches in each family. In Niger-Congo, it is found in 23 (possibly 25) Ubangian languages, twelve Adamawa languages, and eight (possibly nine) Benue-Congo languages. In Nilo-Saharan, it is found in 14 Central Sudanic languages. In Afro-Asiatic, it is found in 14 Chadic languages. As mentioned before, it is possibly attested in one Austronesian language.

Thus, the sound is most widely attested in Adamawa-Ubangi. If the sound had a single source, it was most likely in this sub-group, with subsequent spread via contact into languages of other families in close geographic proximity (see Olson and Hajek 2003 for a further discussion). Whether the sound emerged as a sound-symbolic element or from a regular sound change remains an outstanding question.

Fourth, concerning the phonological status of the labial flap, it clearly can pattern as a phonological unit in language. Olson and Hajek (2003) show that it has been incorporated into the general phonological system of the following number of languages:

<table>
<thead>
<tr>
<th>Language</th>
<th>Definite</th>
<th>Probable</th>
<th>Possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ubangi</td>
<td>9</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Adamawa</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Central Sudanic</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Chadic</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Austronesian</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>13</strong></td>
<td><strong>9</strong></td>
<td><strong>8</strong></td>
</tr>
</tbody>
</table>

Phonological status is evaluated based on the following diagnostics: contrast (minimal or near-minimal pairs), distribution across grammatical categories (taking into account the special status of ideophones, taboo words, and plant and animal names), frequency of occurrence, distribution within the word, core vocabulary, borrowed words, co-occurrence with following vowels, and researchers’ judgments. Because the sound is an active phonological element in such a large number of languages, theories of phonological features or phonetic parameters must take it into account.

Figure 1 maps the African languages in which the labial flap is reported. Chadic languages are marked in grey, Benue-Congo in dark yellow, Adamawa in green, Ubangi in teal, West Central Sudanic in red, and East Central Sudanic in violet. Languages in which the labial flap is
In this paper, we present each language in which we have evidence that the sound is found. This comprehensive language listing not only documents the data upon which our observations are made, it is also intended to serve as a useful time-saving resource for future research on the labial flap—bringing together as it does much published and unpublished data, often extremely difficult to locate.

For each language, we provide the following information: the language name as listed in the Ethnologue (Grimes 2000; each language listed is considered a mutually unintelligible speech variety therein), its Ethnologue code, the language code employed in Figure 1, the name used by a researcher if it differs from the Ethnologue name (indicated in parentheses as alt. “name”), the country or countries in which the language is spoken, the reference that includes the first known mention of the labial flap in the literature for the language, and additional sources which provide significant data. We discuss briefly the articulation of the sound, particularly noting if it is bilabial or labiodental. If the precise place of articulation is not described, we simply refer to it as “labial”. We provide evidence concerning the phonological status of the sound in the language, following the diagnostics mentioned above. Finally, we provide all the words and glosses that we have collected for the language. In the case of Mono, we also provide audio and video recordings.
In Figure 1, data concerning the location of languages is from Grimes (2000) and Moseley and Asher (1994).
2. Chadic

The labial flap is attested in fourteen Chadic languages. No evidence for contrast is given by any of the sources. The sound is found almost exclusively in ideophones, with most additional items being animal names. Several sources report the sound as being rare, and this appears to be the case in most of the languages cited, but an in-depth study of the sound in Kera unearthed over 60 words. It is usually found in intervocalic position in these languages.

2.1 Bana [BCW, c1] (Cameroon)

Hofmann (1990) refers to the sound as “labiodental”, but she notes that the lower lip may strike the upper teeth, the upper lip, or both. It occurs only in intervocalic position. She considers it a marginal phoneme. She attests it in the following items:

Nouns

\[ gòvèg \] ‘fishhook’

Ideophones

\[ bòvòp \sim bòvòk \] ‘of setting off running’

\[ gòvèp \] ‘of falling in the mud’

\[ gòvòm \] ‘of letting something fall in the water’

\[ wòvòm \] ‘of swallowing suddenly’

\[ wòvòp \] ‘on interfering in the affairs of others’

2.2 Daba [DAB, c2] (Cameroon, Nigeria). labiodental

Lienhard and Giger (1975), Tadadjeu and Sadembouo (1979:24), and Hartell (1993:62-3, 70). Tadadjeu and Sadembouo refer to it as a “vibrante labiodentale 1 bat.”

\[ vīvīn \] ‘fish’ (Tadadjeu and Sadembouo)

\[ kīvāt \] ‘to strip’ (Lienhard and Giger)

2.3 Gude [GDE, c3] (Nigeria, Cameroon)

Mo Perrin (p.c.) cites one rare ideophone: \[ vuvò \] ‘hit’.

2.4 Kamwe [HIG, c4] (Nigeria)

Mohrlang (1972:23, 35, 42) reports a labiodental “flapped fricative” in the Nkafa dialect of Kamwe. He includes the sound in his phoneme chart, but he does not provide evidence of contrast. He considers it rare. He attests it in two ideophones:

\[ vàvàvà \] ‘signal of distress’

\[ biwifè \] ‘(ideophone)’
2.5 Marghi Central [MAR, c5] (Nigeria)

Hoffmann (1963) and Ladefoged (1968:18; 1971:52; 1982:154-5). The first two sources explicitly mention a flap against the upper teeth. Ladefoged (1968:18) indicates that the flap is preceded by a stop component in which “the lower lip is tensed against the upper lip and teeth.” Hoffmann attests the flap in the following ideophones:

- bòvù ‘of sudden appearance and flight’
- hàvàwù ‘of escape of an animal’
- kàvàhù ‘of intruding into a place’

2.6 Mofu-Gudur [MIF, c6] (Cameroon). labiodental

Barreteau (1988) considers the sound to be rare. He attests it in the following ideophones:

- pòvàr ‘crack’
- pàvàj ‘of moving on water’
- vàp ~ vèp ‘tumble’
- vàsl ‘fall abruptly’

2.7 Tera [TER] (Nigeria, c7). labiodental

Paul Newman (p.c.) attests the sound in the word hàvàp ‘the sound of a hyena falling down from a palm tree’. He notes that it is found only in onomatopoeic words.

2.8 Gabri [GAB] (Chad, c8)

James Roberts and Kaïndi Etienne (p.c.). The sound is found only in ideophones and exclamations.

- và ‘expressing the force of a blow’
- hiwàdi ‘indication of a wound from a sharp weapon’
- wà ‘very (hard)’
- kìwàj ‘very (long)’
- wèvàb ‘indication of surprise’
- wèvìw ‘yes (response to a call)’

2.9 Kera [KER, c9] (Chad, Cameroon). labiodental

Mary Pearce (p.c.) attests the sound in over 60 lexical items. She does not provide evidence of contrast, but given the large number of lexical items, it is likely that contrastive pairs can be

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2 Barreteau says that these are adjectives or adverbs, but semantically they are clearly ideophonic.
found. However, since most of the lexical items are ideophones, we cannot say definitively that the labial flap has been fully incorporated into the phonological system of Kera.

Nouns

\textit{pəvəh} ‘poor quality soil’ (also an ideophone)
\textit{ajəvəl} ‘oily sauce’

Verbs

\textit{vəkti} ‘make hard (e.g. make the work hard, make your head hard, meaning ’take your time’)’

Ideophones

\textit{həvəw} – \textit{hiw}v\textit{iw} ‘(a) large; (b) too much water; (c) describing the action of piercing something with a spear’
\textit{pəvəw} ‘long’
\textit{pəvəh} ‘hot’ (also a noun)
\textit{gəvəw} ‘(a) gulping down food; (b) way of jumping into water; (c) lots of water’
\textit{vəm} – \textit{vim} ‘(a) blood red; (b) lots of water in a well’
\textit{hiw}b\textit{i} ‘(a) fall like a sack; (b) making lots of work for someone’
\textit{viw} ‘the noise of something thrown’
\textit{vaw} ‘(a) the noise of something thrown (same as \textit{viw}); (b) to lift something easily’
\textit{pəvəb} ‘move in or out of something containing water’
\textit{viw-viwiw} ‘noise of rope or a whip turning in the air’
\textit{həvəbi} ‘exhaustion through tiredness, famine or sickness’
\textit{vin}tim ‘a great explosion (e.g. water)’
\textit{həvəaw} ‘pass easily through something such as water’
\textit{biw}v\textit{iw} ‘lining up people or animals’
\textit{vin}tiw ‘exploding noise, e.g. gun, swarm of insects’
\textit{vəpi} ‘(a) a full container; (b) submerged in water’
\textit{bəvəw} ‘(a) lining up little people; (b) stomach noises’
\textit{vəʔi} ‘step or jump out of line’
\textit{pəvəw} ‘long, the continuation of a time away’
\textit{vəp} – \textit{vəp} ‘small thing’
\textit{biw}v\textit{iw} ‘noise of a flame, an argument that gets noisy, someone moving hurriedly to do something requiring force’
\textit{həvəti} ‘leave entirely’
\textit{hiw}iti ‘(a) leave entirely (same as \textit{həvəti}); (b) with jollity’
\textit{həvəw} – \textit{hevəw} ‘clearing an area (of bushes, etc.) to make a field’

\footnote{This word is inflected in the same way that verbs are, indicating that it is a verb.}
<table>
<thead>
<tr>
<th>Word</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>hiwish</td>
<td>(a) clearing an area (same as ha-veth); (b) the way the skin peels after</td>
</tr>
<tr>
<td></td>
<td>being whipped</td>
</tr>
<tr>
<td>ha-vethi</td>
<td>(a) big (e.g. eye), (b) removing something big</td>
</tr>
<tr>
<td>hi-vithi</td>
<td>'unburying something (an object or a problem)'</td>
</tr>
<tr>
<td>gavat~gavali</td>
<td>'falling on an arm, leg, or neck in a way that breaks it'</td>
</tr>
<tr>
<td>givil</td>
<td>(a) fighting against something (fish in net, animal in trap); (b) death of</td>
</tr>
<tr>
<td></td>
<td>an important person</td>
</tr>
<tr>
<td>vadam</td>
<td>'big (hole) or deep (water)'</td>
</tr>
<tr>
<td>vidhi</td>
<td>'noise when you break a gourd'</td>
</tr>
<tr>
<td>viki</td>
<td>(a) hitting the head with a stick or whip; (b) pulse beat</td>
</tr>
<tr>
<td>viki-viki</td>
<td>'writing rapidly'</td>
</tr>
<tr>
<td>vaq-vay</td>
<td>(a) hard; (b) describing an object that comes out of the fire without</td>
</tr>
<tr>
<td></td>
<td>being destroyed (e.g. a pot)'</td>
</tr>
<tr>
<td>vey-vey</td>
<td>(a) not timid; (b) red (as in ripe fruit, etc.)</td>
</tr>
<tr>
<td>vasati-vasathi</td>
<td>'making a noise like a rooster instead of speaking in normal voice'</td>
</tr>
<tr>
<td>vasati</td>
<td>'push your head out of a hole or out of water'</td>
</tr>
<tr>
<td>vheeti</td>
<td>'way of disappearing or taking your time'</td>
</tr>
<tr>
<td>vadahi</td>
<td>'breaking in two after a fall (e.g. calabash)'</td>
</tr>
<tr>
<td>povath</td>
<td>'soil that gives no produce'</td>
</tr>
<tr>
<td>havati</td>
<td>'peel or slide off easily (e.g. injured skin, water)'</td>
</tr>
<tr>
<td>giviwi</td>
<td>(a) sound of thunder; (b) a way of jumping in water</td>
</tr>
<tr>
<td>givithi</td>
<td>'deformity of bone structure in large people'</td>
</tr>
<tr>
<td>geveth</td>
<td>'small stomach noises'</td>
</tr>
<tr>
<td>kiviwi</td>
<td>'long (masculine object)'</td>
</tr>
<tr>
<td>kevew</td>
<td>'way of making white, clean, or clear'</td>
</tr>
<tr>
<td>ka-vaw</td>
<td>(a) completely remove or leave (a person or object); (b) clean (e.g.</td>
</tr>
<tr>
<td></td>
<td>wash a bowl clean)'</td>
</tr>
<tr>
<td>kawaw</td>
<td>'long (for a well)'</td>
</tr>
<tr>
<td>povar</td>
<td>'a child’s way of falling'</td>
</tr>
<tr>
<td>kiviti</td>
<td>'the sound of metal'</td>
</tr>
<tr>
<td>givithi-diy~gavathdi</td>
<td>'big (e.g. big stick)'</td>
</tr>
<tr>
<td>bevew</td>
<td>'a tree that gives lots of fruit'</td>
</tr>
<tr>
<td>bevethi</td>
<td>'fall from weakness (for a child)'</td>
</tr>
<tr>
<td>bi-vithi</td>
<td>(a) a big person falling; (b) big/large (e.g. work, argument)</td>
</tr>
<tr>
<td>vaki</td>
<td>(a) a confirmation; said when someone sneezes while someone else is</td>
</tr>
<tr>
<td></td>
<td>saying something true; (b) fall freely and with force to the ground; (c)</td>
</tr>
<tr>
<td></td>
<td>height of a goat</td>
</tr>
<tr>
<td>havat</td>
<td>'sound of many things falling on an object or person'</td>
</tr>
<tr>
<td>vapi</td>
<td>(a) submerged in water; (b) sound of arrow when it hits</td>
</tr>
<tr>
<td>vil</td>
<td>'big (e.g. a ball)'</td>
</tr>
</tbody>
</table>
\( ba\text{\textsuperscript{v}aw} \) ‘noise of a projectile passing through the leaves of trees’

\( bo\text{\textsuperscript{v}ow} \) ‘to catch fire, to lift oneself up’

\( ho\text{\textsuperscript{v}owi} \) ‘rope like’

2.10 Migaama [MMY, c10] (Chad). labiodental

Jungraithmayr and Adams (1992), Semur (1997, cited by Bill Chesley, p.c.). The sound occurs only in ideophones and in word-medial position.

\( ka\text{\textsuperscript{v}ac} \) ‘whipping noise—a cooking term’ (Jungraithmayr and Adams 1992:17)

\( pu\text{\textsuperscript{v}up} \) ‘noise of the beating of wings’ (Semur 1997:1)

2.11 Mukulu [MOZ, c11] (Chad). labiodental

Jungraithmayr (1990:196) (Mokilko dialect). He describes it as a “coup fricatif dentilabial”. This is most likely a labiodental flap, but the description is unclear.

\( wu\text{\textsuperscript{v}um} \) ‘noise of falling in water’

2.12 Pevé [LME, c12] (Chad, Cameroon)

Venberg (1975) includes it in his phoneme inventory, but he does not provide clear evidence of contrast. It does not occur in intervocalic position.

\( \ddot{\text{v}ao} \) ‘once upon a time’

\( \ddot{\text{vi}}\text{\textsuperscript{j}} \) ‘slingshot’

2.13 Ron [CLA, c13] (Nigeria)

Phil Davison (p.c.) reports a labiodental flap during the playing of the game awali (popularly known as Mancala in the U.S.). At the point where the last stone is put in a hole so that a player succeeds in getting the opponent’s stones, the player exclaims \( \ddot{\text{vi}}\text{\textsuperscript{j}} \).

2.14 Yiwom [GEK, c14] (Nigeria)

Jungraithmayr (1965:172) (\textit{alt.} “Gerka”), Greenberg (1983:12) (\textit{alt.} “Gerka”). Jungraithmayr uses the symbol \(<\text{f}>\) to refer to the sound, which may indicate a voiceless articulation. However, Greenberg uses a \(<\text{v}>\) with left loop to represent the sound in the same lexical item. Both Jungraithmayr and Greenberg attest it in the word \( ka\text{\textsuperscript{v}in} \) ‘buffalo’.
3. Benue-Congo

3.1. Bantoid

The labial flap is found in three Northern Bantoid languages (Kwanja, Samba Daka, and Tep) in Cameroon and Nigeria and four Narrow Bantu languages in southeastern Africa. No evidence for contrast is given by any of the sources. It is found almost exclusively in ideophones. Except for Shona, most sources give only one or two examples. None of the sources consider the sound to be phonemic.

3.1.1 Kwanja [KNP, t1] (Cameroon). labiodental

Weber and Weber (1987), Blench (1993). Weber and Weber state that it is pronounced with some nasalization. They note that it only occurs in ideophones and is very rare. They give the following example:

kité ҩiwù ‘Rabbit took off out of sight!’

3.1.2 Samba Daka [CCG, t2] (Nigeria)

Boyd (1994:47, 64, 154, 162), Cloarec-Heiss (1998). Boyd attests it in the following words:

ṿạạt ‘hit’

ṿek ‘split’

3.1.3 Tep [MZK, t3] (Nigeria)

Bruce Connell (p.c.). Grimes (1996) considers Tep to be a dialect of Mambila, but Connell considers Tep to be a separate language. He attests it in the lexical item 品格 ‘spiggot used specifically to tap palm wine’.

3.1.4 Manyika [MXC, t4; Guthrie zone S] (Zimbabwe, Mozambique)

Hannan (1974:728) cites one ideophone: ʯօjo ‘of disappearing into thick grass or forest’.

3.1.5 Ndau [NDC, t5; Guthrie zone S] (Zimbabwe)

Doke (1931:224) describes the sound as either “infra-labial” (i.e. bilabial) or “denti-labial” (i.e. labiodental). He attests it in the ideophone ʯut’iʯu ‘thud’.

3.1.6 Nyanja [NYJ, t6; Guthrie zone N] (Malawi, Botswana, Mozambique, Tanzania, Zambia, Zimbabwe). labiodental

Scott (1929:590, 598) attests the sound in the words ʯa ‘beating, hitting’ and ʯoʯo ‘disappearing into’, which both appear to be ideophones.
3.1.7 Shona [SHD, t7; Guthrie zone S] (Zimbabwe, Botswana, Malawi, Zambia)

Doke (1931:224) (Karanga, Zezuru, and Korekore dialects). The sound has the same articulation as in Ndau. It is attested only in ideophones. In one ideophone in the Zezuru dialect, the sound is voiceless, but in fact, the entire word is voiceless: ţ̃u ‘of report of a gun’. See also Fortune (1962:30).

\[ṽi\] ‘of hollow thud’ (Korekore)
\[kuti̯i\] ‘to thud on something hollow’ (Zezuru, Korekore)
\[ṽo\] ‘of striking on the mouth (Karanga)’ or ‘of flicking’ (Zezuru) (Hannan 1974:714 transcribes this as ţ̃o)
\[ho̯o\] ‘of animals rushing unseen through grass’ (Karanga)

3.1.8 Kalanga [KCK, (t8); Guthrie zone S] (Zimbabwe, Botswana)

Doke (1931:224) reports a labial flap in the Rozi dialect of Kalanga (the <z> in “Rozi” is an “alveolar labialized voiced fricative”). The articulation is the same as in Ndau. He attests the sound in the ideophone ko̯o ‘of cattle covering the veld’.

He notes (p. 14) that the Rozi people were scattered and that in many places they spoke the local language instead of Rozi (Doke did his field work in 1929). It is possible that this dialect is now extinct. Grimes (1996:460) states, “Rozvi (Rozwi, Ruzwi, Chirozwi) speak Karanga dialect and do not have their own language. They are dispersed over many areas of the country.”

3.2 Platoid

The labial flap is attested in one Platoid language.

3.2.1 Nungu [RIN, p1] (Nigeria)


4. Adamawa

The labial flap is attested in twelve Adamawa languages. It is most common in the Mbum-Day subgroup. Sources provide evidence for contrast in Karang and Mbum. In most languages, it occurs either in all grammatical categories or in more than one. It is well-attested in several languages. It is usually only found in word-initial position. Researchers consider it to be phonemic in Karang, Kare, Kuo, and Mbum.
4.1 South Fali [FAL, a1] (Cameroon). labiodental

Ennulat and Ennulat (1971) (alt. “Fali de Ram”; this is likely the “Fali” referred to by Cloarec-Heiss 1998). Ennulat and Ennulat report the flap in the words ṛāktā ‘clench the teeth’ and ṛāmndā ‘slap’.

4.2 Dii [DUR, a2] (Cameroon)


4.3 Gula Iro [GLJ, a3] (Chad)

Pairault (1969) (Pongaal dialect of alt. “Kulaal”), Cloarec-Heiss (1998) (alt. “Kulaal”). Pairault considers the articulation to be bilabial. He notes that the sound is voiceless in word-initial position and voiced in intervocalic position. He attests the sound in two ideophones wǒwū and ṛw[arr]p, both which mean ‘bang/boom’. He does not consider the sound to be phonemic.

4.4 Niellim [NIE, a4] (Chad). labiodental

Diane Vanderkooi (p.c.) attests the sound in the ideophone kīvāb ‘definitively’.

4.5 Karang [KZR, a5] (Cameroon, Chad)

Boyd (1974:82-3) (alt. “Ndó Mbàli”), Ubels and Ubels (1980), Bob Ulfers (p.c.). Boyd considers the sound either bilabial or labiodental, whereas Ubels and Ubels consider the sound to be labiodental. They note that the articulation of the sound is the same as in Shona, but different from Margi (cf. Ladefoged 1971:52).

Ubels and Ubels and Ulfers present contrast between the labial flap and other labial sounds (reproduced in Olson and Hajek 2003). The sound is well-attested in Karang, occurring in over a dozen words (see below). It occurs in all major grammatical categories in Karang, including nouns, verbs, and ideophones. It usually occurs in word-initial position, but is also attested in word-medial position in two words. Of particular interest is its occurrence following a consonant (presumably across a syllable boundary) in pekēvēkēk ‘very high’. This is the only case in our data of the sound occurring adjacent to a stop. It is attested before all vowels in Karang except ū.

Nouns
 ṛ̱ara  ‘animal’
 ṛ̱u̱j  ‘kind of grass’
Verbs

\(\tilde{v} \tilde{e}\) ‘to cut’
\(\tilde{v} \tilde{i}\) ‘to ask’
\(\tilde{v} \tilde{i}r\) ‘to brew’
\(\tilde{v} \tilde{o}l\) ‘to distinguish’
\(\tilde{v} \tilde{u}\) ‘to throw away’

Ideophones

\(\tilde{v} \tilde{a}l\tilde{a}\) ‘very’
\(\tilde{v} \tilde{a}w\) ‘loudly’
\(k\tilde{a} \tilde{v} \tilde{a}w\) ‘out of sight’
\(p\tilde{e}k\tilde{v} \tilde{e}k\tilde{v} \tilde{e}k\) ‘very high’
\(\tilde{v} \tilde{i}r\) ‘hard’
\(\tilde{v} \tilde{i}r\tilde{im}\) ‘whole’
\(\tilde{v} \tilde{u}b\tilde{u}b\tilde{u}\) ‘like rushing water’

4.6 Kare [KBN, a6] (Central African Republic, Cameroon)

Boyd (1974:63, 67, 82-3) (alt. “Kali”), Lim (1997), Cloarec-Heiss (1998). Boyd considers the sound bilabial or labiodental. Lim considers it labiodental. Boyd attests the sound in the words \(\tilde{v} \tilde{a}r\) ‘man/husband’, \(\tilde{v} \tilde{o}k\) ‘to wash’, \(\tilde{v} \tilde{a}\) ‘to hit’, and \(\tilde{v} \tilde{u}\) ‘to throw’. Lim attests the sound in the items listed below. This includes several words that could be considered taboo.

Nouns

\(\tilde{v} \tilde{a}r\tilde{a}\) ‘testicles’
\(g\tilde{a} \tilde{v} \tilde{a} \tilde{r} \tilde{a}\) ‘G-string’
\(\tilde{v} \tilde{e} \tilde{r} \tilde{e}\) ‘vulva’
\(s\tilde{a} \tilde{v} \tilde{e} \tilde{r} \tilde{e}\) ‘bitter wild yam’
\(\tilde{v} \tilde{i} \tilde{r}\) ‘excrement’
\(\tilde{v} \tilde{i} \tilde{r}\tilde{i} \tilde{z} \tilde{r}\tilde{u}\) ‘wax, polish’
\(\tilde{v} \tilde{o}l\) ‘sorcery’

Animal names

\(n\tilde{d} \tilde{v} \tilde{e} \tilde{r}\tilde{e}\) ‘type of insect’
\(k\tilde{i} \tilde{v} \tilde{i} \tilde{r}\) ‘beetle’
\(g\tilde{b} \tilde{o} \tilde{r} \tilde{v} \tilde{r} \tilde{r} \tilde{r}\) ‘type of reptile’
\(\tilde{v} \tilde{u}n\tilde{d} \tilde{i} \tilde{l}\) ‘type of water insect’

Plant names

\(\tilde{v} \tilde{a}r\tilde{a}\) ‘type of tree’
Qosú ngávì ‘type of tree’
Vẹ́vérá ‘type of herb’
Ngàvérá ‘type of herb’
Viù ‘type of herb’
Gívírí ‘type of tree’

Verbs
Vá ‘hit, cry, shout’
Vé ‘cut’
Vèrè ‘break’
Vírí ‘become slack, cook many times’
Ví ‘ask’
Vù ‘throw’

Adjectives
Ngàvà ‘stupid’

Ideophones
Vẹ̀η ‘of a hard knock’

4.7 Kuo [KHO, a7] (Chad, Cameroon)

Boyd (1974:71) (alt. “Ko”), James Roberts (p.c.), Marcia Bleeker (p.c.). Boyd and Bleeker consider the sound to be either bilabial or labiodental. Bleeker considers the sound to be a phoneme. She notes that it occurs in nouns, verbs, adverbs, adjectives, and ideophones, and that it occurs only in word-initial position. The data below are from Bleeker except where noted.

Vi ‘ask’
Víw ‘question’
Vù ‘throw’
Vududú ‘pell-mell’
Vjám ‘play a game’ (Boyd)

4.8 Mambai [MCS, a8] (Cameroon, Chad)

Eguchi (1971:141-7, 186, 192-3) reports a “labio-dentale semivoyelle” v in Mambai. Stefan Elders (p.c.) confirms that it is actually a labiodental flap. It is rarer than w. It is found in word-initial and word-medial positions, but in the latter it is always stem-initial. Eguchi attests the sound in the following words:

Nouns
Vààlá ‘testicles’
ná-vérgà  ‘lizard’
-vízò  ‘fishhook’
-víilò  ‘drum, tom-tom’
-činá  ‘male, husband’

Verbs
-víí-nà  ‘cut’
-včá-nà  ‘divide, share’

4.9 Mbum [MDD, a9] (Cameroon, Central African Republic). labiodental


Hagège (1970) provides contrasts with most other labial sounds (except p, kp, gb, and ngb). It occurs in nouns, verbs, pronouns, and ideophones. It is common, occurring in over twenty words, including the core vocabulary words ví ‘you’,4 ví ‘to ask’, and vů ‘to throw’. The sound occurs most often in word-initial position, but it is attested in word-medial position in words which can be derived from other lexical items (e.g. ásìvír ‘circle’, hàví ‘yourselves’). The following items are from Hagège (1968), Flöttum (1974) and Hino (1978).

Nouns
-čvá  ‘lower jaw’
-čvatài  ‘cross’
-čvén ~ vón  ‘god’
-čvijà-mbiì  ‘fountain’
-čvínqè  ‘question’
-čvijà  ‘spurting, gushing’
-čvijtíívòk  ‘tibia’
-čvùl  ‘witchcraft’

Adjectives
-čváqàkè  ‘large, grand’

Verbs
-čvál ~ wàl  ‘to divide, distribute’
-čváy ~ hú  ‘to become fat’
-čvar hánà  ‘to separate, say goodbye’

4 Richardson (1957) glosses this as second person plural.
\[\text{\textit{\v{e}}} \quad \text{‘to strangle, kill by cutting one’s throat’}\]
\[\text{\textit{\v{e}}} \quad \text{‘to amass a lot’}\]
\[\text{\textit{\v{i}}} \quad \text{‘to ask’}\]
\[\text{\textit{\v{ij}}} \quad \text{‘to spring (up)’}\]
\[\text{\textit{\v{o}}} \quad \text{‘to overturn’}\]
\[\text{\textit{\v{ok}}} \quad \text{‘to rinse’}\]
\[\text{\textit{\v{og}}} \quad \text{‘to narrow’}\]
\[\text{\textit{\v{un}}} \quad \text{‘to apply ointment’}\]

**Pronouns**

\[\text{\textit{\v{i}}} \quad \text{‘you’}\]

**Ideophones/Adverbs**

\[\text{\textit{\v{a}l\'a\'k} \quad \text{‘brilliant’}\]
\[\text{\textit{\v{ir}}} \quad \text{‘round and round’}\]

### 4.10 Mundang [MUA, a10] (Chad, Cameroon)

Elders (2000), James Roberts (p.c.). Elders considers the sound to be labiodental. He notes that it can occur in nouns, verbs, and adverbs, but he considers all examples to be ideophonic. He attests the sound in the following words:

\[\text{\textit{\p{a}v{\v{a}}m}} \quad \text{‘disproportionately large’}\]
\[\text{\textit{\b{a}v{\v{a}}w}} \quad \text{‘black buffalo, Derby eland’}\]
\[\text{\textit{\m{a}-\v{a}j}} \quad \text{‘type of mask for initiation and mourning’}\]
\[\text{\textit{\m{a}-\v{\v{a}}k{\v{a}}} \quad \text{‘type of herb’}\]
\[\text{\textit{\v{\v{a}g}}} \quad \text{‘to tan, to soften (of leather)’}\]

### 4.11 Nzakmbay [NZY, a11] (Chad, Cameroon)

Boyd (1974) (“Nják Mbái”) and James Roberts (p.c.) (“Nzakambay”). Boyd considers the sound to be bilabial or labiodental. He attests the sound in the lexical items for \textit{\v{a}} ‘to hit’ and \textit{\v{u}} ‘to throw’.

### 4.12 Tupuri [TUI, a12] (Cameroon, Chad)

Ruelland (1988:106) reports the sound in the ideophone \textit{gi\v{u}w} ‘(to swallow) fast’.  

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5 The grave accent in this word indicates a lower mid tone.
5. Ubangi

5.1 Banda

The labial flap is found in ten of the eleven Banda subgroups. The subgroup in which it is not attested is South Central Banda, which includes Langbashe (Cloarec-Heiss 1978:17). Grimes (2000) generally treats each of these subgroups as a single language, and we have followed that convention here. Sources give evidence for contrast in Banda-Bambari, Banda-Ndélé, Mid-Southern Banda, and Mbandja. In most languages it is considered common, and it is attested in over twenty-five lexical items in Banda-Bambari, Banda-Banda, Banda-Mbrès, Mid-Southern Banda, Togbo-Vara Banda, West Central Banda, and Mbandja. Tisserant (1931) considers the flap a “fundamental sound” in Banda. In most languages it is attested in both word-initial and intervocalic positions.

Tisserant (1931) provides numerous examples of the labial flap. He reports no less than 33 examples of the sound which occur in the “ensemble des dialectes, ou la majeure partie d’entre eux” (p. 10). Of these examples, the flap is in word-initial position in 15 of them and in word-medial position in 18. These examples are comprised of nouns, verbs, adverbs, and one adjective. He does not explicitly mention dialects in the Banda-Ndélé, Banda-Yangere, or Southwestern (Ngbundu) groups, so it is not clear if these 33 words are found in those subgroups. In addition to these 33 items, numerous additional items containing the flap are cited for individual dialects. We have not included his data here, due to the large amount of it.

5.1.1 Banda-Bambari [LIY, b1] (Central African Republic). labiodental


Cloarec-Heiss (1967) provides contrasts between the labiodental flap and other labial consonants. She reports the following words:

\[
\begin{align*}
\end{align*}
\]

5.1.2 Banda-Banda [BPD, b2] (Central African Republic, Sudan). labiodental

Tisserant (1931) (Banda-Banda, Belingo, Ndi, Gbaga, Mbi, and Buru dialects).

5.1.3 Banda-Mbrès [BQK, b3] (Central African Republic, Sudan). labiodental

Tisserant (1931) (Moruba, Wada, Mbele, and Sabanga dialects).
5.1.4 Banda-Ndélé [BFL, b4] (Central African Republic, Sudan). labiodental

Sampson (1985) (Tangbago dialect). Moñino (1988) (Ngao dialect). Sampson provides contrast with other labial sounds in both word-initial and intervocalic positions. He provides examples of both nouns and verbs containing the sound:

\[ \ddot{v}a \] ‘fight, split’
\[ \ddot{a}\ddot{v}\ddot{a} \] ‘fighting’
\[ \ddot{v}\ddot{i} \] ‘throw’
\[ \ddot{a}\ddot{v}\ddot{i}\ddot{g}i \] ‘wall plate’
\[ \ddot{v}\ddot{o} \] ‘send’

5.1.5 Banda-Yangere [YAJ, b5] (Central African Republic). labiodental

Richardson (1957), Moñino (1988). Moñino attests it in the words \[ \ddot{v}\ddot{o} \] ‘to send’ and \[ \ddot{v}\ddot{i} \] ‘to throw’.

5.1.6 Banda, Mid-Southern [BJO, b6] (Central African Republic, D.R. Congo)

Tisserant (1931) (Bongo, Wasa, Yakpwa, Mono, and Ngobu dialects), Cloarec-Heiss (1978) (Ngundu, Gobu, Kpagua, and Yakpa dialects), Olson (1996) (Mono and Gobu dialects), Kamanda (1998), Olson and Hajek (1999), Olson and Schrag (2000), and Olson (2001) (all Mono dialect). Olson and Schrag (2000) consider the sound to be bilabial with a labiodental variant. There is a backing movement of the tongue during the articulation of the sound.

Olson and Schrag give evidence for contrast with other labial sounds (reproduced in Olson and Hajek 2003). It occurs in the core vocabulary words \[ k\ddot{w}\ddot{i} \] ‘to throw’ and \[ k\ddot{w}\ddot{a} \] ‘to send’. It occurs in all major grammatical categories in Mono, including nouns, verbs, and adverbs. It occurs in both word-initial and word-medial positions. It occurs before most vowels in the language, including front, back, high, and low vowels.

The following data are from Olson (2001) except where noted. The audio samples were recorded by Brian and Barbara Schrag at the SIL recording studio in Yaoundé on March 16-18, 1998. Mike Fox was the recording engineer. The recordings were made with a Nakamichi 550 analog tape recorder and an AKG D330DT microphone. The two subjects, Speakers A and B, were both adult male native speakers of Mono, about 30 years old. A digital audio tape (DAT) copy was made in December 1999 at the University of Chicago Language Laboratories and Archives at a sampling rate of 48,000 Hz and then converted to WAV files using SoundDesigner II, version 2.8. The video of Speaker A was recorded by Brian Schrag and Ken Olson at SIL in Yaoundé in January 1998 and digitized at the University of Chicago Language Laboratories and Archives in December 1999. The individual frames are 30 ms apart.

Click here for a video of a labial flap (9.5 MB)

Click on links to the right for the corresponding sound clip.
### Nouns

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
<th>Speaker A</th>
<th>Speaker B</th>
</tr>
</thead>
<tbody>
<tr>
<td>àwétorò</td>
<td>‘stick used in an animal trap’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>àwárá</td>
<td>‘wisdom’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>àwéygè</td>
<td>‘rainbow’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ndívá</td>
<td>‘rubber’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ndívírí</td>
<td>‘crowd’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>àwúrüngù</td>
<td>‘vehicle’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>wángálíasù</td>
<td>‘syphilis’ (Kamanda 1998)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>àwálá</td>
<td>‘prayer’ (Kamanda 1998)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>gává</td>
<td>‘scoop’ (Kamanda 1998)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>kàvá</td>
<td>‘gruel’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>kávángéngá</td>
<td>‘dryness’ (Kamanda 1998)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>kàwángòndá</td>
<td>‘name of village’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>àjì àwá</td>
<td>‘messenger’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>bűvělè</td>
<td>‘type of banana’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>gbàngéwétà</td>
<td>‘disability’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>kpìkíwìkpí</td>
<td>‘filaria’ (Kamanda 1998)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Animal names

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
<th>Speaker A</th>
<th>Speaker B</th>
</tr>
</thead>
<tbody>
<tr>
<td>wátò</td>
<td>‘queen ant’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>jàwélè</td>
<td>‘catfish’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tèwé</td>
<td>‘black ant’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>kìvì</td>
<td>‘type of mollusk’ (Kamanda)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>àwí</td>
<td>‘hyena’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>wùrüjù</td>
<td>‘dung beetle’</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Body parts

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
<th>Speaker A</th>
<th>Speaker B</th>
</tr>
</thead>
<tbody>
<tr>
<td>wàlà</td>
<td>‘bone marrow’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>wílí</td>
<td>‘thigh’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>wítí</td>
<td>‘calf’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>kìwílí</td>
<td>‘hip’ (Kamanda 1998)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Verbs

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
<th>Speaker A</th>
<th>Speaker B</th>
</tr>
</thead>
<tbody>
<tr>
<td>kòwà</td>
<td>‘to send’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>kòwàdù</td>
<td>‘to take out’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>kòwàngà</td>
<td>‘to cut across’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>kòwàrá</td>
<td>‘to be fast, open’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>kòkàwà</td>
<td>‘to snap’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>kòkèwè</td>
<td>‘to fold’</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
40

Lexicon of the Labial Flap

kówɔ̀ ‘to roll’ (Kamanda 1998)
kówî ‘to throw’
kóndzìŋìwì ‘to be leafy’ (Kamanda 1998)
kóndìwìri ‘to swarm’
kópìwì ììngírì ‘to tumble’ (Kamanda 1998)
kółò wìirimà ‘to gnaw around’
kázù wèrè-wèrè ‘to be loose’
kófìa gàvà ‘to spill’ (Kamanda 1998)

Adverbs/Ideophones
tàkàvàrà ‘crooked’
wégê ‘hot’
kèvètò ‘weakness’
vìì ‘throw out’
pìŋìwì ‘suddenly’
tindiwìri ~ kìngìwì ‘round’

5.1.7 Banda, Togbo-Vara [TOR, b7] (D. R. Congo, Central African Republic)


5.1.8 Banda, West Central [BBP, b8] (Central African Republic, Sudan). labiodental


5.1.9 Ngbundu [NUU, b9] (D. R. Congo). labiodental

Cloarec-Heiss (1978). No data are given.

5.1.10 Mbandja [ZMZ, b10] (D. R. Congo, Central African Republic, Republic of Congo)

Tisserant (1931), Tingbo (1978) (Balawo dialect), Cloarec-Heiss (1978), Moñino (1988), Jim Fultz and Paul Noren (p.c.). Tingbo notes that the articulation is bilabial rather than labiodental. He provides some evidence of contrast. The sound occurs in all major grammatical categories; it is common, occurring in over 30 lexical items; and it can appear in both word-initial and word-medial positions. Noren attests the sound in the following lexical items: ñwìŋáwìŋbì ‘type of
fruit’, and \textit{gòwâ kóñò ‘type of hornbill that follows monkeys around’}. Fultz attests it in the following lexical items:

<table>
<thead>
<tr>
<th>Nouns</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textit{wàngga jò}</td>
<td>‘cross’</td>
</tr>
<tr>
<td>\textit{wèla}</td>
<td>‘fishing basket’</td>
</tr>
<tr>
<td>\textit{njàwòlè}</td>
<td>‘young woman’</td>
</tr>
<tr>
<td>\textit{dòwòlè ñgu}</td>
<td>‘lake’</td>
</tr>
<tr>
<td>\textit{àwììga}</td>
<td>‘rainbow’</td>
</tr>
<tr>
<td>\textit{àwò}</td>
<td>‘monster’</td>
</tr>
<tr>
<td>\textit{wìlìì gu}</td>
<td>‘island’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Animal and Plant Names</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textit{wàtò}</td>
<td>‘bee’</td>
</tr>
<tr>
<td>\textit{neka\textit{wà}là}</td>
<td>‘grasshopper’</td>
</tr>
<tr>
<td>\textit{kàwà}</td>
<td>‘type of tree’</td>
</tr>
<tr>
<td>\textit{mbo\textit{wò}wò}</td>
<td>‘tse-tse fly’</td>
</tr>
<tr>
<td>\textit{kòwò}</td>
<td>‘tortoise’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Body parts</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textit{ògòwò}</td>
<td>‘joint’</td>
</tr>
<tr>
<td>\textit{ògòwòlò}</td>
<td>‘ankle’</td>
</tr>
<tr>
<td>\textit{ògòwò\textit{ò}wò}</td>
<td>‘wrist’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Verbs</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textit{wà}</td>
<td>‘send’</td>
</tr>
<tr>
<td>\textit{wà}</td>
<td>‘knock down’</td>
</tr>
<tr>
<td>\textit{wàlo}</td>
<td>‘be supple’</td>
</tr>
<tr>
<td>\textit{wàta}</td>
<td>‘uproot’</td>
</tr>
<tr>
<td>\textit{gàwà}</td>
<td>‘jam’</td>
</tr>
<tr>
<td>\textit{kàwà}</td>
<td>‘break’</td>
</tr>
<tr>
<td>\textit{wò}</td>
<td>‘spray’</td>
</tr>
<tr>
<td>\textit{wògòwò}</td>
<td>‘shake’</td>
</tr>
<tr>
<td>\textit{wì}</td>
<td>‘throw’</td>
</tr>
<tr>
<td>\textit{wìlì}</td>
<td>‘discuss’</td>
</tr>
<tr>
<td>\textit{wìlìì}</td>
<td>‘agitate’</td>
</tr>
<tr>
<td>\textit{wìlìì}</td>
<td>‘lament’</td>
</tr>
<tr>
<td>\textit{wìlì}</td>
<td>‘roll’</td>
</tr>
<tr>
<td>\textit{wìlìì}</td>
<td>‘lift’</td>
</tr>
</tbody>
</table>
Adjectives
\- *waya*  ‘alternate’

Adverbs
\- *wiligi*  ‘firmly’

Ideophones
\- *gbowə*  (with ‘throw’)

5.2 Ngbandi

The labial flap is attested in one Ngbandi language.

5.2.1 Kpatili [KYM, n1] (Central African Republic)

Boyd (1988:38, 107, 119) (alt. “Kpatiri”) attests the sound in the words *vè* ‘to throw’, *vùtù* ‘calf (anat.)’, and *kāvā* ‘right’. Grimes (2000) considers Kpatili to be part of the Zande sub-group of Ubangi, but Boyd considers it to be closely related to Ngbandi.

5.3 Gbaya-Manza-Ngbaka

The labial flap is attested in four Gbaya-Manza-Ngbaka languages. Grand’Eury (1991) provides evidence for contrast in Ngbaka-Minagende, but she does not consider the sound to be phonemic since it occurs predominantly in ideophones. In the four languages of this language group, the sound occurs in ideophones and animal names. It is considered rare.

5.3.1 Gbaya-Bossangoa [GBP, g1] (Central African Republic). labiodental

Samarin (1966:26), Moñino (1995:162-3). Samarin reports the sound in the following words:

\- *gáva*  ‘fish-trapping ramp’ (used only at the town of Bowe)
\- *vọv*  ‘descriptive of hitting something’
\- *họv̥k*  ‘descriptive of passing on or falling out of sight’
\- *họv̥vọ*  ‘exclamation of victory (at winning at a throw of dice)’
\- *gùvùuŋ*  ‘a very deep place in a river’

5.3.2 Gbaya, Northwest [GYA, g2] (Central African Republic, Cameroon, Republic of Congo, Nigeria). labiodental

Moñino and Roulon (1972:65) (Gbaya Kara 'Bodoe dialect), Noss (1981:9) (Yaayuwee dialect), Moñino (1995:58). Noss considers the sound a phoneme, but does not provide evidence of contrast. He attests the sound in two ideophones: *hìvìk* ‘abrupt movement’, and *vaa* ‘sound produced by tapping something soft’. Moñino reports the following words, all ideophones: *vìi*
‘noise of the fall of an object’, hōvōŋ ‘sheer’, hūvūvūvū ‘with a noise of breaking water’. It is rare.

5.3.3 Manza [MZV, g3] (Central African Republic). labiodental


5.3.4 Ngbaka [NGA, g4] (D. R. Congo, Central African Republic, Republic of Congo)

Grand’Eury (1991:99); Henrix (2000); Margaret Hill, Elaine Thomas, Timothy Assama Mambo, and Paul Noren (p.c.) (alt. “Ngbaka-Minagende”). Grand’Eury considers the sound labiodental, but Mambo considers it bilabial. Grand’Eury provides evidence of contrast but claims that the sound is only found in ideophones. In contrast, Henrix does list nouns and verbs which contain the sound. Data are from Henrix except where noted.

Nouns
vó ‘crop (of a chicken)’
vù ‘type of large fish with rough skin’
vùndù ‘large liana’

Verbs
vanda ‘cross, intertwine, weave’
vundu ‘to punch or head-butt something soft’

Ideophones
vā (the noise of finger snapping)
vāndā vîndí ‘tangled, intertwined; exclamation of astonishment’
vângâ vângâ (being tangled up)
vī vī (the sharp pains of an abcess, headache, etc.)
vikpi (indicates several things assembled which weigh a little)
vîndí vîndí ‘rolled up’
vokpo ~ vokpoto ‘something which is slightly swelled, such as a small gourd or a child with intestinal worms’
vònđò (beginning a game)
vökpō (indicates something wound up in a ball)
vū ‘very early in the morning’

Grand’Eury reports the sound in the words vùndū ‘type of fruit’, kūvū ‘swallow like a pig’, vùndō-vùndō ‘enlarging a circle’. Noren attests the sound in the word kâkâvâ ‘type of hornbill’. Mambo attests the sound in the ideophone w̃ˈɔ ‘sound of an animal disappearing into the forest’.

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5.4 Sere-Ngbaka-Mba

The labial flap is found in at least seven Sere-Ngbaka-Mba languages. Sources provide evidence for contrast in Ndogo, and further research will likely show contrast in most if not all of the rest of the seven languages. It occurs in both nouns and verbs in all of the languages, in adjectives as well in Sere and Tagbu, and in all grammatical categories in Ndogo. It is attested in over 40 lexical items in Ndogo, in eight lexical items in Sere, and in four or five lexical items in Bai, Feroge, Mangayat, and Tagbu. It occurs in both word-initial and word-medial position in Ndogo.

5.4.1 Bai [BDJ, s1] (Sudan). labiodental

Santandrea (1961:13, 148ff), Tucker and Bryan (1966:92). Santandrea reports it in five words, including both nouns and verbs:

\[\begin{align*}
\dot{v}a(ta) & \quad \text{‘fall (down)’} \\
bele \, \ddot{v}ere & \quad \text{‘lie’} \\
\ddot{v}i & \quad \text{‘child’} \\
\ddot{v}i-li & \quad \text{‘girl’} \\
\ddot{v}u & \quad \text{‘grinding stone’}
\end{align*}\]

5.4.2 Feroge [FER, s2] (Sudan)

Santandrea (1950:21-30, 43-46):

Nouns
\[\begin{align*}
\dot{k}eva & \quad \text{‘water’}^6 \\
de\dot{v}igi & \quad \text{‘arrow’}
\end{align*}\]

Verbs
\[\begin{align*}
\ddot{v}ara & \quad \text{‘to plaster’} \\
\ddot{v}ag\ddot{a}(h) & \quad \text{‘to throw’}
\end{align*}\]

5.4.3 Mangayat [MYJ, s3] (Sudan). labiodental


Nouns
\[\begin{align*}
\dot{g}e\dot{m}a\dot{n} \text{-} \dot{k}eva & \quad \text{‘thirst’} \\
(\ddot{g})\dot{k}eva & \quad \text{‘water’}
\end{align*}\]

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6 Santandrea employs an umlaut to mark centralization of a vowel (Santandrea 1961:7).
gevege

‘arrow’

Verbs

värä

‘to plaster’

vägä(h)

‘to throw’

5.4.4 Ndogo [NDZ, s4] (Sudan). labiodental

Tucker (1940:65), Santandrea (1961:13, 87, 148ff), Tucker and Bryan (1966:90-107), Thelwall (1980:80-81), Pozzati (1987), Constance Kutsch Lojenga (p.c.), Peter Rebigo and Wanda Pace (p.c.). Ndogo has a five vowel system in which the vowels transcribed as <e> and <o> are pronounced [ɛ] and [ɔ], respectively. Rebigo and Pace provide evidence for contrast with other labial sounds before a (reproduced in Olson and Hajek 2003). They report that contrast between the labial flap and other labial sounds in Ndogo is also attested before the other vowels (i, e, u, and o). The sound occurs in nouns (including animal names), verbs, and adjectives. Pozzati attests the sound in over 40 words. The sound occurs in the core vocabulary words vĩn ‘child’, vĩ ‘to throw’, vëë ‘to greet, to ask’, and vĩ ‘must, may (auxiliary verb)’. While the sound normally appears in word-initial position, it can also occur in word-medial position. The data below are from Rebigo and Pace and Kutsch Lojenga.

Nouns

vá

‘a sprout’

válá

‘life’

vé

‘greeting, question’

vëë

‘raw one’

vëè

‘a lie’

vĩ

‘flower’

vĩĩ

‘child’

divi

‘throwing-stick’

vô

‘protruding bone’

vóko

‘beam, rod’

vũũ

‘grinding stone’

Animal names

vodőrō

‘kind of sparrow which makes its nest in holes along high river banks’

vũrũ

‘small bird in nightingale family’

gũũgũũũũũũ

‘small animal in duiker family’

Verbs

vā

‘to throw’

vā

‘to sprout’
vā(tō)  ‘to fall (down)’
vālā  ‘to live, to save’
kāvā  ‘to scratch’
vēē  ‘to greet, to ask’
vēè  ‘to scatter’
dè vērè  ‘to say a lie’
vī  ‘must, may (auxiliary verb)’
vīi  ‘to measure, to weigh’
vīi  ‘to open, to part’
vū  ‘to block the way by putting a piece of wood’

Adjectives
vē  ‘raw, unripe’

5.4.5 Sere [SWF, s5] (D. R. Congo, Central African Republic). labiodental

Santandrea (1961:13, 148ff); Tucker and Bryan (1966:86-107); Thomas et al. (1976:166). Santandrea notes the following data:

Nouns
vendi  ‘brother’
tēvé  ‘mahogany’
vī ~ wi  ‘child’
vī-ni  ‘girl’
tevé  ‘grinding stone’
kořo  ‘nose’

Verbs
kaحفظ  ‘to light’

Adjectives
ngořa-ngořa  ‘fast (quick)’

5.4.6 Tagbu [TBM, s6] (D. R. Congo). labiodental


vā  ‘ask’
vā(ta)  ‘throw (down)’
vā  ‘unripe’
5.4.7 **Bangba** [BBE, s7] (D. R. Congo)

Boone (1995:52) reports the sound in the lexical item -koño ‘to heal’.⁷

5.4.8 **Dongo** [DOO, (s8)] (D. R. Congo)

Pasch (1986:179-180, 389) reports the phoneme /v/ in Dongo and attests it in the word uó-è ‘to cut with a knife’. Unfortunately, she does not describe the sound represented by this symbol, but given the geographical location, it is likely a labial flap.

5.4.9 **Ngbaka-Ma’bo** [NBM, (s9)] (Central African Republic, D. R. Congo, Republic of Congo)

Richardson (1957:91) reports a “flapped v” in Ngbaka-Ma’bo and attests it in the word for ‘nine’. However, Cloarec-Heiss (1998) states that this is erroneous.

5.5 **Zande**

The labial flap is attested in one Zande language.

5.5.1 **Nzakara** [NZK, z1] (Central African Republic, D.R. Congo)

Santandrea (1965:28) reports the sound in the word keve ‘thorn’.

6. **Central Sudanic (West)**

The labial flap is found in seven West Central Sudanic languages. Evidence for contrast is only given for Baka. The sound occurs mostly in nouns, and to a lesser extent in verbs. It is attested in five lexical items in Sar and Yulu, and in fewer lexical items in the remaining languages. Sources consider it to be phonemic in Gbaya and Baka, but the evidence for this is limited.

6.1 **Aja** [AJA, w1] (Sudan)

Cloarec-Heiss (1998). No data are given.

6.2 **Gbaya** [KRS, w2] (Sudan). labiodental

Westermann and Ward (1933), Tucker (1940), Tucker and Bryan (1966:63), Brown (1991:54, 63) (“Kreish”). Westermann and Ward consider it rare, but Tucker and Bryan claim that it is

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⁷ Boone (1995) refers to the flap as an “unusual sound”, which he writes as <vh>. We clarified via personal communication that it is indeed a labial flap.
“very common.” Westermann and Ward attest it in the words ge\(\text{ê}v\) ‘arrow’ and ge\(\text{ê}v\)umu ‘to shoot with a bow’. Brown attests it in the word br\(\text{u}t\text{ù}v\text{ù}l\text{ù}v\text{ù} n\text{ê} ‘honey badger’. He considers it to be phonemic, but does not provide evidence of contrast.

### 6.3 Baka [BDH, w3] (Sudan, D.R. Congo)

Tucker and Bryan (1966:63, 78), Parker (1985:65-6). Parker gives contrasts with other labial sounds, and he considers it to be a phoneme. He attests it in the word \(\text{vë}n\text{î} ‘August’\). Tucker and Bryan attest it in the word \(dë\text{vê} \text ‘break’\). The sound is rare.

### 6.4 Gula [KCM, w4] (Central African Republic, Sudan)

Santandrea (1970) (“Kara”) and Nougayrol (1999:47) report a labiodental flap in Gula. Nougayrol includes it in his consonant chart, but does not provide contrasts. He reports that the sound is rare. Santandrea attests it in the words \(\text{vàl\text{à ‘ox’ and kîvî ‘hard sesame’}\). Nougayrol reports it in the following words (Méré dialect except where noted):

\begin{itemize}
  \item \(\text{vàr}\) (imitation of the noise of a slap)
  \item \(\text{ngàvàvà} ‘\text{crowned crane’}\)
  \item \(\text{ngàvàvàr}\) ‘run-off ditch’
  \item \(\text{a\text{vàr}\) (imitation of the trotting of a donkey)
  \item \(\text{ga\text{vàr}\) (expressing the sloshing of a liquid transported in a receptacle)
  \item \(\text{ngàvàvà}\) ‘\text{crowned crane’ (Zura dialect)
  \item \(\text{àvà}\) ‘It’s not true!’
\end{itemize}

### 6.5 Morokodo [MGC, w5] (Sudan). labiodental

Tucker and Bryan (1966:63). No data are given. It is rare.

### 6.6 Sar [MWM, w6] (Chad)

Palayer (1970; 1992), Fournier (1977:39). Both authors call it labiodental, but Fournier notes that the lower lip flaps against the upper lip. The sound is rare. Palayer (1970) attests it in the following words:

\begin{itemize}
  \item \(\text{và}\) ‘explosion’
  \item \(\text{vày} ‘\text{resonance’}\)
  \item \(\text{vàb}\) ‘tumbling’
  \item \(\text{vày}\) ‘banging’
  \item \(\text{vìvì}\) ‘pile’
\end{itemize}
6.7 Yulu [YUL, w7] (Sudan, Central African Republic, D.R. Congo). labiodental

Santandrea (1970) (Yulu and Binga dialects) considers the sound to be less common than in Ndogo. The following data are from the Yulu dialect except where noted:

\[
\begin{align*}
\text{kava} & \quad \text{‘ashes’} \\
\text{bango\text{"o}ai} & \quad \text{‘bow’} \\
\text{devi} & \quad \text{‘arrow’ (Binga dialect)} \\
\text{devidevi} & \quad \text{‘arrow’} \\
\text{ngoyo} & \quad \text{‘shield’} \\
\text{sow-mbovo} & \quad \text{‘madida’} \\
\text{nduvu} \sim \text{ndu\text{"u}u} & \quad \text{‘waterbuck’}
\end{align*}
\]

7. Central Sudanic (East)

The labial flap is found in seven East Central Sudanic Languages. Evidence for contrast is given for Mangbetu. It occurs in nouns, verbs, and numerals in Mangbetu, in nouns and verbs in Lese, and in nouns in Asoa, Lombi, and Mamvu. It is most common in Mangbetu, but appears to be rare in the rest of the languages. It is usually found in word-medial position.

7.1 Asoa [ASV, e1] (D. R. Congo). labiodental

Tucker and Bryan (1966:29) and Demolin (1988:68) report the sound in the word lâvîè ‘tail’ (Demolin’s transcription).

7.2 Lombi [LMI, e2] (D. R. Congo)

Demolin (1988:81, 83) reports the sound in the following lexical items:

\[
\begin{align*}
\text{nêîvô} & \quad \text{‘root’} \\
\text{nêîtèvë} & \quad \text{‘claw’} \\
\text{nâvî} & \quad \text{‘tail’}
\end{align*}
\]

7.3 Mangbetu [MDJ, e3] (D. R. Congo, Uganda)


Demolin and Teston (1996:103) state that the articulation of the sound is “a labiodental flap with a bilabial variant”. The bilabial variant can occur before a and o. The articulation of the sound is the same in “all the languages of the Moru-Mangbetu group...where this sound is encountered (Efe, Lese, Mamvu, and most of the languages of the Mangbetu group)”. They provide instrumental evidence to demonstrate that the sound is not an implosive, contra
Larochette (1958), and not a fricative, contra McKee (1991). In addition, they note that there is a backing movement of the tongue (p. 110).

Demolin (1992) gives evidence for contrast with other labial sounds (reproduced in Olson and Hajek 2003). The sound is well-attested, occurring in over twenty words. It occurs in nouns, verbs, and numerals. Although it is found before all vowels, it only occurs in word-medial position. The following are sample lexical items from Demolin (1992):

Nouns
naːvũi
‘strong wind’
neːvũo ~ eːvũò
‘root’

Animal names
naːɺeːːe
‘snail’
něɺbɔːɡũɔ ~ eːbɔːɡũɔ ~ nɛɓɔːɡũɔ
‘bumblebee’
nɛvjaːjja
‘black bird’

Body parts
neːtẽẽ ~ eːtẽẽ
‘nail/claw’
nãːɺjẽẽ
‘snail shell’
nãːvũi ~ aːvĩ
‘tail’
nɛrjαːvĩ
‘animal tail’
nɛbɔwẽːẽ
‘monkey tail’
nẽmẽlαvĩ
‘wildcat tail’

Numerals
teːẽ
‘ten’
eteːẽ soonɗru
‘twenty’

Verbs
nɔːa
‘to play’
nɔːɔ ~ nɔwɔː
‘scatter, disperse’
nɔːẽ
‘delight’
nɔːẽ
‘take, capture’
nɔːvĩ
‘jump’
nɔːvĩ
‘fly’
nɔvɔː
‘scratch, scrape’
nɔvɔː ~ kãvɔː
‘defecate’
nɔvũavũ ~ kãvũu
‘to blow on fire’
7.4 Efe [EFE, e4] (D. R. Congo)

Demolin and Teston (1996:103). No data are given.

7.5 Lese [LES, e5] (D. R. Congo). labiodental

Tucker and Bryan (1966:35), Demolin and Teston (1996:103), Constance Kutsch Lojenga (p.c.). In comparing the labial flaps in Ndogo and Lese, Kutsch Lojenga observed that the flap in Lese is “weaker” in that there is no actual contact between the articulators. The following words are from Kutsch Lojenga except where noted.

\[ \text{vá vá} \] ‘stomach ailment’
\[ \text{á vi} \] ‘friend’
\[ \text{ηè vè} \] ‘type of plant’
\[ \text{vì} \] ‘gather’ (Tucker and Bryan)

7.6 Mamvu [MDI, e6] (D. R. Congo). labiodental

Tucker and Bryan (1966:29, 46).

\[ \text{à vè} \] ‘father’
\[ \text{umú-è vè} \] ‘my body’

7.7 Mvuba [MXH, e7] (D. R. Congo, Uganda)

Demolin (1988:68). No data are given.

8. Austronesian

The labial flap is attested in one Austronesian language.

8.1 Sika [SKI, m1] (Indonesia). labiodental

Donohue (forthc.) describes the articulation as a voiced labio-dental flap. (He employs a dental diacritic to mark a flapped sound, /ψ/.) Donohue states that this sound is produced as for a [v] but with labial contact with the inner surface of the upper teeth; this sound is flapped forward from the start to create a sound that is at times affricated ([bv]), and sometimes simply a voiced labio-dental stop/flap ([b]). In careful speech, however, [v] is produced.

He provides contrast with [b] and [v]:

\[ \text{voter} \] ‘I stand a pole in the ground’
\[ \text{bòtèr} \] ‘I buy’
\[ \text{voter} \] ‘we (INCL.) buy’
He attests it in four verbs, all in the 1SG form:

\[\nu\bar{a}li\] ‘give’
\[\nuai\] ‘grow’
\[\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\mu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\nu\n
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Olson and Hajek


Authors' contact information:
Kenneth Olson
SIL
7500 West Camp Wisdom Road
Dallas, TX 75236
USA
http://www.sil.org/~olsonk

Prof. John Hajek
School of languages
University of Melbourne
VIC 3010
Australia
j.hajek@unimelb.edu.au