PHONOLOGICAL DISTINCTIVE FEATURES OF THE RIBUN DAYAK LANGUAGE: THE PHONEMES AND WORD SYLLABLES

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ABSTRACT

The research aimed to discuss the distinctive features of the Ribun Dayak language. The description of the features was essential to foster the language for future preservation, revitalization, and development. Moreover, the research focused on descriptive analysis of the language's phonemes. The Ribun Dayak speaks the Ribun language and inhabits sub-districts Tayan Hulu, Parindu, Bonti, and Kembayan, district Sanggau, West Kalimantan. This indigenous language is vital for thousands of speakers residing in a broad zone. In effect, the language needs to be scientifically and linguistically described in terms of phonology through the research. The data collection technique was an interview and recording, and the data collecting tool was the Swadesh lexicostatistics recorded from informants using a voice recorder. Analysis of the data collected signifies that the distinctive features of language's phonemes are vowels, diphthongs, consonants, and semi-vowels. The vowels are /i/, /u/, /e/, /o/, and /a/, and the diphthongs are <ai> and <au>. Moreover, the consonants consist of plosive, fricative, nasal, trill, and lateral, and the semi-vowel comprises /w/ and /y/. Some phonemes are consonant clusters and compounds. The onset consonant clusters are /mp/, /nt/, /nc/, and /ŋk/, while the codas consonant clusters are /nt/ and /ŋk/. Furthermore, the consonant compounds are /m-p/, /n-t/, /n-c/, /ŋ-k/, /n-s/, and /h-w/. The research also identifies three consonants with two allophones, namely /p/ with [p] and [p'], /t/ with [t] and [t'], and /k/ with [k] and [k'] while the rest only have one. The compound consonants of the language indicate phonologically conditioned interactions with asymmetrical features, which is only with voiceless consonants.

Keywords: phonological features, distinctive features, Ribun Dayak language

INTRODUCTION

Despite the numerous indigenous languages in West Kalimantan, only a few publications are already available. One of them resulted from the research in terms of phonemic aspects is the Mali (Simanjuntak, 2020). The publication resulting from the research can linguistically help preserve and revitalize the language in the future. The linguistic features of the language, which are rich in variety, phonologically and morphologically, require continuous studies and description. They are functional as a grammatical reference for the language. The description of grammatical references will be the foundation for language development.

Based on the grammatical structure, a language has two layers: form and meaning (Dawson, Rastle, & Ricketts, 2021; Lee & Lin, 2019). The layer of the form consists of segmental and suprasegmental elements (Sharma, 2021). It is the segmental phoneme and features of the studied language. Moreover, the layer of meaning deals with the signification or indication of the forms (Haspelmath, 2020). In this case, the form is the feature of this studied language that distinguishes meaning. By referring to the layers, this language is studied according to the sub-branch of phonology, that is, the phonemic of the Ribun Dayak Language (Henceforth RDL).

As a language fact, the phoneme /r/ in morpheme /ribun/ is pronounced [h], making it [hibun], similar

to the case of morpheme /biru/ 'blue' that is aspirated [bihu] in the Seberuang Dayak language found in Kapuas Hulu district, the eastern part of West Kalimantan. This language fact is arbitrary since it is also found, for instance, in Spanish for the phoneme /j/ that is aspirated [h] (Dean & Kroff, 2017). Although the language fact is excluded, it is essential to look at it at a glance for valid lexis used in this research.

Distinctive features in linguistics are a set of binary properties (Um, 2020) or characteristics that differentiate one phoneme, a speech sound, from another. They represent the smallest units of sound that contribute to phonemic contrasts (Hua, 2022). They are abstract representations that capture the underlying characteristics of phonemes regardless of their actual phonetic realization (Suparsa, 2021). The distinctive features included in this RDL study are the place and manner of articulation and sound.

The place of articulation is described as where a sound is produced in the vocal tract (Alwan, Jiang, & Chen, 2011). The vocal tract is bilabial–both lips–, alveolar–tongue against the alveolar ridge–, or velar–back of the tongue against the soft palate. Furthermore, the manner of articulation defines how airflow is modified during sound production (Pradeep & Rao, 2019). The sound is plosives–complete closure and release of airflow–, fricatives–partial obstruction causing friction–, or nasals–airflow through the nose–. The question of this research is, what are the distinctive features of the RDL? The distinctive features of the RDL to describe in this research comprise the vowels, allophones and vowel distribution, diphthongs, vowel compound, consonants, allophones and consonant distribution, consonant clusters and compound, and syllables.

Based on the theory of structure, language is known from the essence of the language, and one of the essences is the sound system. It is the phoneme that is vowel and consonant (Oh et al., 2021). The sound system of the RDL studied is one that is phonemically different in terms of vowels and consonants. The first sound system is the vowel. The distinctive features of vowels and quality, according to Alteyp (2019), include position, part of the tongue, and labial shape. The position is high and low, in which it is high, medium, and low. Moreover, the labial shape is regular, wide, and rounded (Timkin, 2020). This RDL research also covers the distinctive features of vowels and quality in connection with the vowel as the sound system.

A diphthong is a change in vowel quality (Behr, 2022). Graphemically, the diphthong is symbolized by vowel phonemes produced as a single sound. The sound /aw/ in morpheme /kerbau/ 'buffalo' is a diphthong, and the syllable is [ker-baw]. The sound cannot be separated as ba-u, as found in morpheme /bau/ 'smell', which consists of two syllables [ba-u].

Another instance of a two-syllable word is /gulai/ 'beef cooked with coconut milk', in which the last syllable [laʌ] is a diphthong. It is distinguished from /gulai/ 'to put sugar on', which consists of three syllables [gu-la-i], in which the last syllable is

the suffix –i. The suffix is a vowel cluster. Therefore, the diphthong is different from the vowel cluster. Each vowel in the vowel cluster is two different word syllables. Hence, the intention of this research is also to verify whether or not the vowel of the RDL is diphthong and cluster.

The second sound system is the consonant. It is the sound produced by the air that is a hindrance in the particular articulator. In consonant articulation, three factors are involved: consonant distinctive features, sound string condition, and the way the articulator interacts, that is, by getting touch or getting close to each other (Abraham, 2019). The sound string is both snuggling and tenuous. The consonant that sounds snuggling is called a voiced consonant. The instances are /b/, /d/, /j/, and /g/. Meanwhile, the consonant that sounded tenuous is called an unvoiced or voiceless consonant, for example, /p/, /t/, /c/, /k/. The voiced and voiceless consonants are also the concerns of this RDL research.

Articulation points or position is a touch or approach between the articulators (Dmitrieva, 2018). Upper and lower lip touch results in bilabial sound; upper and lower teeth sound labiodental; the edge of the tongue touches upper teeth is apikodental; the edge of the tongue touches gum is apikoalveolar; tongue lamina touches palate is laminopalatal; tongue dorsal meet velar is dorsovelar; and when the sound string is close tightly, and airflow from the lungs is held, it is glottal.

Based on the way of articulation, some language sounds are produced. When air from the lungs is totally resisted, the sound is plosive. If airflow goes through a narrow canal, it sounds fricative. When the edge of the tongue sticks to the gum and airflows that go by two sides of the tongue, the sound is lateral. If the tongue dorsal touches the hard or soft palate repeatedly, the sound is trill.

Based on those factors, the identity of phoneme /p/ is unvoiced or voiceless, bilabial, and plosive. Meanwhile, the phoneme /b/ is voiced, bilabial and plosive. The distinctive features of the two phonemes are based on one distinction, that is, /b/ is voiced, and /p/ is voiceless. Moreover, this research also includes the features of the phonemes of the RDL, whether or not they are voiced or voiceless.

Some consonant formations are similar to vowels, but the sound is never the nucleus. This includes the /w/ sound, in which the formation is similar to /u/, and the /y/ sound is similar to the /i/ sound. Besides the distinctive features theory, there are some theories on phonemes analysis. Horslund, Puggaard-Rode, and Jørgensen (2022) have put forward the premise and action hypothesis that the language sound that is phonetically alike should be categorized into different phonemes or sound classes when there is a contradiction in a similar environment.

The first premise is that the categorization can be distinguished through minimal pairs. The minimal pairs like [paku] 'nail' and [baku] 'valid', [tari] 'dance' and [dari] 'from', [kali] 'river' and [gali] 'dig', [acar]

'pickle' and [*ajar*] 'teach', [*keras*] 'hard' and [*kelas*] 'class', [*ajar*] 'teach' and [*ajal*] 'death', promptly show that different sounds in pairs are different phonemes. The different phoneme in the pair is /p/ and /b/, /t/ and /d/, /c/ and /j/, /k/ and /g/, and /r/ and /l/. The second premise is that the sound that is phonetically alike and found in the same complementary distribution can be classified into the same class or phoneme sound (Chládková, Boersma, & Escudero, 2022). The instance is the sound /p/ in Indonesian. It has two allophones: open [p], as found in initial syllables, and unopen [p'], as found in final syllables.

The suprasegmental phoneme can also be studied similarly based on the premise put forward. For example, stress can also be a phoneme. In the Batak Toba language, the form [*tógu*] 'guide' is stressed in the first syllable, and the form [*togú*] 'strong' is stressed in the second syllable. It is evident that different stress syllable positions distinguish meaning. Another instance is in [*bágas*] 'house', and [*bagás*] 'inside'. Therefore, tone, duration, and postponement are also phonemes.

Another way to determine the phoneme is by studying phoneme distribution in words–what phoneme is initial, medial, and final, or the combination of the distribution (Hasibuan, Ritonga, & Andini, 2022). An additional way is by observing phoneme distribution in word syllables–after and before the nucleus. Moreover, the phoneme distribution of the RDL has also been covered in this research.

The allophone or phoneme variation is also the issue in this RDL research. Phoneme distribution can arise allophone or phoneme variation (Reinisch, Juhl, & Llompart, 2020). The phoneme is varied because of the complementary distribution. For plosive consonants, it arises two allophones: the open or explosive is positioned in the initial syllable, and the unopen or implosive is l, located in the final syllable.

In Indonesian, the vowel /i/ has two allophones, that is, [i] and [I] (Candra & Sukma, 2020). Phoneme /i/ is articulated [i] if it is in (1) open syllables and (2) unopen syllables ended with phonemes /m/, /n/, and /ŋ/ that have stressed. This phoneme /i/ distribution is found to be the initial, medial, and final of the word syllable (Vythelingum, Estève, & Rosec, 2018). A consonant cluster is a cluster of two or more phonemes that precede or follow a vowel in a syllable (Shinjae, 2020). The sound of compound consonant [str] in the word *struktur* 'structure' is a consonant cluster for the sound is found in the first syllable of [*struk-tur*], but consonants [k-t] in the same word are not a consonant cluster. It is a compound consonant (Wang & Li, 2021), for it is situated in different word syllables, that is first syllable [stru*k*-] and second syllable [-*t*ur].

Moreover, additional examples for the first syllable of words are [*sta-tis-tik*], [*tra-di-si*], [*plas-tik*], [*dra-ma*], [*kre-a-tif*], [*trans-por*]. The phoneme /m/ in the first syllable and the phoneme /b/ in the second syllable, as in the word [*bumbu*] 'spice' are the compound consonant, not the consonant cluster. In addition, the consonant cluster and compound consonant have also been the intention of this RDL research.

Furthermore, syllables are part of words articulated in one breath. A word can comprise one syllable, as in *tas* 'bag', *pak* 'pack', *bus* 'bus'; two syllables like *toko* 'store', *bulan* 'moon', *tanah* 'land'; three syllables, such as *purnama* 'full moon', *setia* 'loyal, *kerabat* 'relative'. The word *mandi* 'shower' consists of two breaths: man- as the first breath, and–*di* as the second breath. Syllables usually have a nucleus, and both are preceded and followed by one or more consonants.

The syllable is also the concern of this RDL research. The phonemes in word syllables are onset, nucleus, and coda. The compound consonant that precedes nucleus–vowel or vowel compound is onset, while the one following the nucleus is a coda. In terms of the nucleus, a syllable may be of one vowel (Rusli & Aziz, 2022), like the vowel /a/ as in the word *asa* 'hope' in which the syllables is [*a-sa*].

There are four types of word syllables based on phoneme series or compound consonants (Gregová, 2021). The first is the minimum syllable. It consists of one vowel as the nucleus. Second, the syllable with the compound of onset + nucleus. This one comprises one consonant + nucleus, two consonants + nucleus, and three consonants + nucleus. Third is a syllable with a compound of nucleus + coda, that is, nucleus + one consonant and nucleus + two consonants. The fourth is the compound of onset + nucleus + coda. It consists of one consonant + nucleus + coda, two consonants + nucleus + coda, three consonants + nucleus + coda, onset + nucleus + one consonant, nucleus + coda + two consonants, and onset + nucleus + three consonants.

Based on the previous research discussed, the distinctive features of the RDL to describe in this research comprise the vowels, allophones and vowel distribution, diphthongs, vowel compound, consonants, allophone and consonant distribution, consonant cluster and compound, and syllables.

METHODS

The research applies field research methods (Feldman, 2019), in this case, field linguistics and descriptive linguistics (Humaidi, 2020). To collect data, field linguistics is conducted in Pusat Damai, subdistrict Sanggau, West Kalimantan, Indonesia. In 2018, the village was inhabited by 7793 people (as in statistics at https://sanggaukab.bps.go.id/), and 6000 were native Ribun. The field study is conducted by visiting the village in 2022.

The instrument of data collection is an interview guide. (Cristina & Afriana, 2021; Jentoft & Olsen, 2019). It is conducted by questioning the Indonesian gloss of the language constructed based on Swadesh lexicostatistics (Aman, Jaafar, & Awal, 2019; Rosalina, Juwintan, & Pratiwi, 2022). The data are words recorded using a Sony recorder from five selected native informants speaking the RDL. The

selection is based on age and gender. The age ranged from 45 to 55 years old and involved two male and three female informants. The first two are interviewed to get the lexis data, and the second three interviewed are functioned to validate the correctness of the data. The number of data collected is 1100 lexes of the language.

The descriptive linguistics method is used to describe the linguistic features of the RDL. The recorded data is transcribed phonemically for the linguistics features. The description is on the features covering phonemes, allophones, consonant clusters, consonant sequences or consonant compounds, and syllables. Furthermore, the data are thematically coded and summarized based on the issues of this research, that is, a phonological distinctive feature of the RDL. Moreover, the data are analyzed by adjusting the transcriptions. The transcriptions are adjusted to determine whether the language is distinct in terms of linguistic phonological features studied.

RESULTS AND DISCUSSIONS

The result and discussion of the research is the distinctive phonological description covering all vowels, vowel allophone and distribution, diphthongs, vowel compound, consonants, consonant allophone and distribution, consonant cluster, consonant compound, and word syllable of the RDL.

Based on the data, parts and positions of the tongue, and labial shapes when articulating, the RDL has five vowels, as seen in Table 1.

Tabel 1 The Vowels of the RDL

Tongue parts and positions	Front	Medial	Rear
High	/i/		/u/
Medium	/e/		/o/
Low		/a/	

From Table 1, the vowels feature of the RDL are distinct like in the following:

Vowel /i/ is a high-front vowel with a wide labial shape. The example is data from number:
048. /iseh/ <iseh> 'meat'
190. /bis/ <bis> 'sleep'
765. /uhi/ <uhi> 'medicine'

Vowel /u/ is a high-rear vowel with a rounded labial shape. The example is data from number:
260. /uwaʔ/ <uwak> 'root'
007. /kosuh/ <kosuh> 'dog'
074. /lomu/ <lomu> 'fat'

Vowel /u/ is a high-rear vowel with a rounded labial shape. The example is data from number:

260. /uwaʔ/ <uwak> 'root'
007. /kosuh/ <kosuh> 'dog'
074. /lomu/ <lomu> 'fat'

Vowel /e/ is a medial-front vowel with neutral labial shape. The example is data from number:
611. /entado/ <entado> 'cocoon'
182. /taheʔ/ <tahek> 'pull'
502. /munte/ <munte> 'bambo'

Vowel /o/ is a medial-rear vowel with unrounded labial shape. The example is data from number:
448. /omoʔ/ <omok> 'matrass'
051. /doyo/ <doyo> 'blood'
596. /muhuto/ <muhuto> 'octopus'

Vowel /a/ is a lower-medial vowel with wide open labial shape. The example is data from number:
294. /abae/ <abae> 'grandfather'
018. /obiaŋk/ <obiangk> 'plenty'
012. /homaŋ/ <homang> 'sky'

The research also includes vowel allophone and distribution. The vowel allophone of the RDL is open and unopen, and the distribution is the word's initial, medial, and final. Phoneme /i/ has two allophones, namely [i] and [I]. The phoneme /i/ is pronounced [i] if it is found in (1) an open syllable or (2) unopen stressed syllables and ends with the phoneme /m/, /n/, or /ŋ/. The distribution is the word's initial, medial, and final. Orderly, the three examples for each open and unopen syllable are as follows:
048. [iseh] <iseh> 'meat'
075. [jipunt] <jipunt> 'teeth'
009. [opi] <opi> 'fire'
002. [piŋk] <pingk> 'water'
139. [kubis] <kubis> 'die'
149. [lctit] <lotit> 'hot'

Meanwhile, vowel /i/ is pronounced [I] when it is found in unstressed unopen syllables like:
142. [ninIʔ] <nyinik> 'drink'
205. [selomIh] <selomih> 'lip'

Vowel /e/ has two allophones: [e] and [ɛ]. The phoneme /e/ is pronounced [e] when it exists in (1) an open syllable and (2) a syllable that is not followed by a syllable containing an allophone [ɛ]. The distribution of this phoneme /e/ is the word's initial, medial, and final. Look at the following examples:
111. [bedohu] <bedohuh> 'fight'
334. [gereja] <gereja> 'church'
294. [abae] <abae> 'grandfather'

Moreover, the vowel /e/ is pronounced [ɛ] when it is available in the unopened final syllable. If the syllable that follows contains [ɛ], then the /e/ in the open syllable is also pronounced [ɛ]. Here are the examples:
047. [ŋumɛʔ] <ngumek> 'wash'
071. [ŋucɛh] <nguceh> 'dig'

Vowel /u/ only has one allophone, that is [u]. This allophone is found in both unopened and open syllables, and its distribution is initial, medial, and final. The instances are:
006. [*buwOʔ*] <*buwok*> 'wind'
043. [*monuʔ*] <*monuk*> 'chicken'
074. [*lomu*] <*lomu*> 'fat'

Vowel /a/ has two allophones, namely [a] and [Λ]. The allophone [a] exists in open syllable, and the distribution is initial, medial, and final. The examples are as follows:
001. [*abuh*] <*abuh*> 'ash'
041. [*hamaw*] <*hamau*> 'hunt'
032. [*daʎih*] <*dayih*> 'big'

Furthermore, the allophone [Λ] is available at final syllable as in:
003. [*uwΛʔ*] <*uwak*> 'root'
012. [*homΛŋ*] <*homang*> 'sky'
063. [*colΛp*] <*colap*> 'cold'

Vowel /o/ has two allophones, those are [o] and [O]. The phoneme /o/ is pronounced [o] when it exists in an open syllable and pronounced [O] if it is found in an unopen syllable or an open syllable containing [O]. The distribution of this phoneme /o/ is initial, medial, and final. The examples are as data taken from numbers:
051. [*doʎo*] <*doyo*> 'blood'
082. [*tonuoŋk*] <*tonuongk*> 'nose'
055. [*sOmOʔ*] <*somok*> 'near'
036. [*buwOh*] <*buoh*> 'fruit'

To conclude, the vowels and allophones of the RDL are like in Table 2.

Table 2 Vowels and Allophones of the RDL

Phoneme	Allophone	Example and Gloss
/i/	[i]	[*iseh*] 'meat'; [*piŋk*] 'water'
	[I]	[*ninIʔ*] 'drink'; [*selomIh*] 'lip'
/e/	[e]	[*bedohu*] 'fight'; [*abae*] 'grandfather'
	[ɛ]	[*bɛncɛs*] 'sardine'; [*ŋumɛʔ*] 'wash'
/u/	[u]	[*nugunt*] 'often'
/o/	[o]	[*doʎo*] 'blood'; [*tonuoŋk*] 'nose'
	[O]	[*sOmOʔ*] 'near'; [*buwOh*] 'fruit
/a/	[a]	[*hamaw*] 'hunt'; [*daʎih*] 'big'
	[Λ]	[*uwΛʔ*] 'root'; [*homΛŋ*] 'sky'

Moreover, the issue discussed in the research is diphthong. Based on data analysis, the RDL has two diphthongs, those are <ai> and <au>. The two vowels symbolize one unseparated sound. Diphthong <ai> is phonemically symbolized /aʎ/. The examples are:
113. [*hΛŋkaʎ*] <*hangkai*> 'dry'
686. [*pehosaʎ*] <*pehosai*> 'rainy'
909. [*selompΛʎ*] <*selompai*> 'scarf'

Moreover, diphthong <au> is phonemically symbolized /aw/, as in the following examples:
095. [*osaw*] <*osau*> 'wife'
150. [*domaw*] <*domau*> 'long'
600. [*hadaw*] <*hadau*> 'cricket'
781. [*hoŋkaw*] <*hongkau*> 'haughty'

Additionally, the coverage of the research is vowel compound. The vowel compound of the RDL is a combination of vowels. When a word has two different sequential vowels, and each vowel has two different airflows, then the two vowels are compound. Unlike diphthongs that exist in a syllable, the vowel compound is available in two different syllables of a word. In the RDL, the vowel compound is described as follows:

Compound /i e/ is as in:
042. [*biɛk*] <*biek*> 'ugly'
174. [*topient*] <*topient*> 'river'

Compound /i a/ is as exemplified like:
371. [*tiaŋk*] <*tiangk*> 'pole'
441. [*supiaʔ*] <*supiak*> 'pipe blow'

Compound /i o/, /a e/, and /u a/ are as found in:
425. [*pihioʔ*] <*pihiok*> 'pan'
777. [*baeʔ*] <*baek*> 'healed'
387. [*caŋkua*] <*cangkau*> 'hoe'

Compound /a i/ and its examples are:
357. [*pais*] <*pais*> 'loft'
402. [*naiʔ*] <*naik*> 'small'

Compound /a o/ is as in:
175. [*taoʔ*] <*taok*> 'know'
395. [*pɛŋaoh*] <*pengaoh*> 'gaff'

Compound /u o/ is found in examples:
133. [*boʔtuoʔ*] <*boktuok*> 'knee'
155. [*dayuoŋ*] <*dayuong*> 'girl'

Then, the compound /o u/ is as in:
094. [*ntou*] <*ntou*> 'this' (94),
1079. [*simouŋ*] <*simaung*> 'ten'

Based on the data collected, it is summarized that the vowel compound of the RDL comprises /i e/, /i a/, /i o/, /a i/, /a e/, /a o/, /u o/, /u a/, and /o u/.

Besides vowels, consonants are also described in this research. The consonant of language is restricted by the realizations. In this context, there are three factors constraining consonant realizations. First, the vocal cord vibrates when the consonants are realized. Second, speech articulator is bilabial, labiodental,

apiko (lamino) dental (alveolar), apiko (lamino) palatal, dorsovelar (uvular), and glotal (faringal). Third, the way articulator touches are plosive, fricative, nasal, trill, lateral, and semivowel.

Based on the factors, the consonant /p/, for instance, is briefly called a voiceless bilabial plosive consonant. Opposite to the consonant /p/, the consonant /b/, in terms of vocal cord vibrations, is an acknowledged voiced bilabial plosive consonant. The description of RDL consonants based on the data collection and analysis are as follows:

Voiceless bilabial plosive consonant /p/ exists in examples number:
002. /piŋk/ <pingk> 'water'
009. /opi/ <opi> 'fire'
063. /colap/ <colap> 'cold'

Voiced bilabial plosive consonant /b/ is found in examples number:
006. /buwoʔ/ <buwok> 'wind'
163. /bohuboʔ/ <bohubok> 'hair'
018. /obiaŋk/ <obiangk> 'plenty'

Voiceless alveolar plosive consonant /t/ is found in examples number:
089. /tohunt/ <tohunt> 'forest'
119. /gutis/ <gutis> 'lice'
195. /soŋkut/ <songkut> 'walking stick'

Voiced alveolar plosive consonant /d/, is found to exist in:
032. /dayih/ <dayih> 'big'
044. /modam/ <modam> 'rotten'
065. /dudu/ <dudu> 'push'

Voiceless palatal plosive consonant /c/ is as found in examples:
168. /cik/ <cik> 'few'
131. /hucoh/ <hucoh> 'saliva'
140. /ntocak/ <ntocak> 'red'

Voice palatal plosive consonant /j/ is found in numbers:
075. /jipunt/ <jipunt> 'teeth'
089. /ujant/ <ujant> 'rain'
103. /kojo/ <kojo> 'feet'

Voiceless velar plosive consonant /k/ is available in examples:
139. /kubis/ <kubis> 'die'
066. /dukoh/ <dukoh> 'two'
025. /oduk/ <oduk> 'correct'

Voiced velar plosive consonant /g/ exists in examples:
019. /guhiŋk/ <guhingk> 'lye'
251. /togaŋʔ/ <togangk> 'rib'
620. /togohoʔ/ <togohok> 'frog'

Voiceless glottal plosive consonant /ʔ/ is found in number:

003. /uwaʔ/ <uwak> 'root'
028. /bohaʔ/ <bohak> 'heavy'

Voiceless apicoalveolar fricative consonant /s/ is as examples in number:
055. /somoʔ/ <somok> 'near'
048. /iseh/ <iseh> 'meat'
040. /ŋkomis/ <ngkomis> 'kill'

Voiceless glottal fricative consonant /h/ is as available in number:
121. /hoɲiaʔ/ <honyiak> 'sky'
028. /bohaʔ/ <bohak> 'heavy'
007. /kosuh/ <kosuh> 'dog'

Voiced bilabial nasal consonant /m/ is as found in:
013. /maŋ/ <mang> 'father'
041. /hamaw/ <hamau> 'hunt'
775. /monam/ <monam> 'sick'

Voiced apikoalveolar nasal consonant /n/ exists in example number:
016. /nugunt/ <nugunt> 'burn'
027. /binih/ <binih> 'seed'
295. /iban/ <iban> 'son/daughter-in law'

Voiced laminopalatal nasal consonant /ɲ/ is as found in number:
199. /ɲipuh/ <nyipuh> 'snake'
368. /oɲant/ <onyant> 'ladder'
537. /kuɲieʔ/ <kunyiek> 'turmeric'

Voiced dorsovelar nasal consonant /ŋ/ is available in example:
047. /ŋumeʔ/ <ngumek> 'wash'
195. /soŋkut/ <songkut> 'walking stick'
012. /homaŋ/ <homang> 'sky'

Voiced apikoalveolar or trill consonant /r/ is found in:
412. /ɲiru/ <nyiru> 'flat basket'
414. /obor/ <obor> 'torch'
849. /sabar/ <sabar> 'patient'

Laminoalveolar lateral consonant /l/ is placed in examples number:
123. /luwoh/ <luwoh> 'wide'
087. /milaŋk/ <milangk> 'count'
215. /ginsul/ <ginsul> 'crocked teeth'

Voiced bilabial semivowel consonant /w/ is located in example:
003. /uwaʔ/ <uwak> 'root'
006. /buwoʔ/ <buwok> 'wind'
095. /osaw/ <osau> 'wife'

Laminopalatal semivowel consonant /y/ is as located in examples number:
114. /moyeʔ/ <moyek> 'left'
909. /selompay/ <selompai> 'scarf'

Based on the examples and analysis described, the consonants of the RDL are excerpted in Table 3.

Tabel 3 The Consonants of the RDL

Articu-lator / Articu-lation system	Bilabial	Labio Dental	Apiko Dental/ Alveolar	Lamino palatal	Dorso Velar	Glottal/ Pharyngal
Plosives:						
Voiceless	p		t	c	k	ʔ
Voiced	b		d	ɟ	g	
Fricatives:						
Voiceless			s			h
Voiced						
Nasals:						
Voiced	m		n	ɲ	ŋ	
Trill:						
Voiced			r			
Lateral:						
Voiced			l			
Semivowel:						
Voiced	w			ʎ		

The discussion of the consonants also involves allophones. The consonant allophone of the RDL is explosive and implosive, and the distribution is the syllable's initial, medial, and final. The distribution of the allophone is explosive when it is initial-syllable and implosive when it is final-syllable. The data finding shows only three RDL consonants that have two allophones. They are /p/, /t/, and /k/. The consonant phoneme /p/ has two allophones: explosive [p] and implosive [p']. The explosive [p] distribution is an initial-syllable while the implosive [p'] is final-syllable. Here are the examples:
115. [*pahako*] <*pahako*> 'dirty'
126. [*tampoh*] <*tampoh*> 'throw'
1005. [*maŋap'*] <*mangap*> 'touch'

The allophone of phoneme /b/ is [b], and the distribution is initial and medial of the first syllable. The instances are:
006. [buwoʔ] <buwok> 'wind'
018. [obiaŋk] <obiangk> 'plenty'
086. [ɲaboʔ] <nyabok> 'black'

Phoneme /t/ has two allophones, those [t] and [t']. The explosive [t] is found in the word-initial or syllable, while the implosive [t'] is situated in the syllable or word final. Look at the following examples:

089. [*tohunt*] <*tohunt*> 'forest'
022. [*botuh*] <*botuh*> 'stone'
195. [*soŋkut'*] <*songkut*> 'walking stick'

The allophone of phoneme /d/ is [d] and distributed in word-initial and medial, and found only in initial-syllable. The examples collected are:
034. [*daŋk*] <*dangk*> 'animal'
044. [*modam*] <*modam*> 'rotten'
065. [*dudu*] <*dudu*> 'push'

The allophones of phoneme /k/ are [k] and [k']. The explosive allophone [k] is available in syllable-initial or word-initial and medial. The implosive [k'] is positioned in the final syllable. The examples are:
159. [*kapuk'*] <*kapuk*> 'cut'
066. [*dukoh*] <*dukoh*> 'two'
025. [*oduk'*] <*oduk*> 'correct'

The allophone of phoneme /g/ is [g] and positioned in word-initial and medial of the initial syllable. The data gathered are:
019. [*guhiŋk*] <*guhingk*> 'lye'
251. [*togaŋʔ*] <*togangk*> 'rib'
620. [*togohoʔ*] <*togohok*> 'frog'

Phoneme /ʔ/ only has one allophone, that is [ʔ]. It is found in the final syllable. The instances are:
003. [*uwaʔ*] <*uwak*> 'root'
028. [*bohaʔ*] <*bohak*> 'heavy'
043. [*monuʔ*] <*monuk*> 'bird'

The allophone of phoneme /c/ is [c], and distributed word-initial and medial of initial syllable. Example taken are:
168. [*cik*] <*cik*> 'few'
131. [*hucoh*] <*hucoh*> 'saliva'
140. [*ntocak*] <*ntocak*> 'red'

The allophone of phoneme /ɟ/ is [ɟ]. It is positioned in syllable-initial of the word-initial and medial. Look at the following examples:
075. [*ɟipunt*] <*ɟipunt*> 'teeth'
128. [*ɟiho*] <*ɟiho*> 'tongue'
103. [*koɟo*] <*koɟo*> 'feet'

Phoneme /s/ has one allophone, which is [s] and placed in syllable-initial and final of word-initial, medial, and final. The examples picked are:
170. [*sodo*] <*sodo*> 'all'
048. [*iseh*] <*iseh*> 'meat'
139. [*kubis*] <*kubis*> 'die'

The allophone of phoneme /h/ is [h]. It is located in syllable-initial and final, and the position is word-initial, medial, and final. The example is like:
121. [*hoɲiaʔ*] <*honyiak*> 'sky'
078. [*dohik*] <*dohik*> 'hill'
007. [*kosuh*] <*kosuh*> 'dog'

The allophone of phoneme /m/ is [m]. It is

found in syllable-initial and final, and the distribution is word-initial, medial, and final. The examples are as follows:

013. [maŋ] <mang> 'father'
248. [pompi] <pompi> 'cheek'
775. [monam] <monam> 'sick'

The [n] is the allophone of phoneme /n/. It exists in syllable-initial and final, and the position is word-initial, medial, final. Here are the collected examples:
046. [nodouʔ] <nodouk> 'smell'
173. [bonuh] <bonuh> 'husband'
530. [buntan] <buntan> 'coconut'

Phoneme /ɲ/ has one allophone, which is [ɲ]. It is only available syllable-initial, and the distribution is word-initial and medial. The examples are:
199. [ɲipuh] <nyipuh> 'snake'
368. [oɲant] <onyant> 'ladder'
537. [kuɲieʔ] <kunyiek> 'turmeric'

The allophone of phoneme /ŋ/ is [ŋ]. It is placed in syllable-initial and final, and the position is word-initial, medial, and final. Look at the examples below:
071. [ŋuceh] <nguceh> 'dig'
160. [puŋo] <pungo> 'back'
029. [kodonaŋ] <kodonang> 'swim'

The [r] is the allophone of phoneme /r/. In the RDL, it is situated in syllable-initial and final. Meanwhile, its distribution is word-initial, medial, and final. The data are:
079. [boriʔ] <borik> 'hit'
412. [ɲiru] <nyiru> 'flat basket'
414. [obor] <obor> 'torch'

The allophone of phoneme /l/ is only one, that is [l], and its position is syllable-initial and final. In terms of distribution, this allophone is word-initial, medial, and final. The examples are consecutively:
074. [lomu] <lomu> 'fat'
063. [colap] <colap> 'cold'
788. [adel] <adel> 'wise'

Phoneme /w/ only has one allophone, namely [w]. The sound of this [w] functions as consonant in syllable initial. In words, this allophone is medial and final. Please see the following examples:
003. [uwaʔ] <uwak> 'root'
006. [buwoʔ] <buwok> 'wind'
095. [osaw] <osau> 'wife'

Phoneme /ʎ/ consists of only one allophone, which is [ʎ]. The distribution of this allophone is word-medial that is syllable-initial, and word-final. Please look at the examples below:
032. [daʎih] <dayih> 'big'
073. [ŋoʎu] <ngoyu> 'scratch'
113. [haŋkaʎ] <hangkai> 'dry'

Based on the description, it is revealed that the RDL consonants are identified to mostly have one

allophone or phoneme variant, except /p/, /t/, and /k/. The three phonemes have explosive and implosive allophones, namely [p] and [p'], [t] and [t'], and [k] and [k']. By referring to the analysis described, the consonant allophones of the RDL and their distribution are classified into four types. First, the consonants that place word-initial, medial, and final are /p/, /t/, /k/, /s/, /h/, /m/, /n/, /ŋ/, and /l/. Second, the consonants that only distributed in word-initial and final are /b/, /d/, /g/, /c/, /ɟ/, and /ɲ/. Third, the consonants only situated in word-medial and final are /r/, /w/, /ʎ/. Fourth, the consonants only positioned in word-final is /ʔ/.

Furthermore, the consonant discussion also includes the cluster. A consonant cluster, to refresh once again, is a sequence of two or more consonants in a word syllable preceding or following vowels. The cluster is onsets and codas clusters. The onsets clusters of /mp/, /nt/, /nc/, /ŋk/, and /bl/ found in the RDL words and syllables are:
370. [mpaho] <mpaho> 'self to dry'
979. [mpumu] <mpumu> 'dream-walking'
118. [ntomuʔ] <ntomuk> 'yellow'
148. [ntoʎant] <ntoyant> 'people'
223. [nciŋk] <ncingk> 'kelingking'
1019. [ncuhan] <ncuhan> 'feed'
973. [ŋkomis] <ngkomis> 'kill'
040. [ŋkoduk] <ngkoduk> 'run'
784. [bliŋkuoʔ] <blingkuok> 'bent'

Moreover, the /ŋk/ and /nt/ codas clusters is found in the following examples:
002. [piŋk] <pingk> 'water'
018. [obiaŋk] <obiangk> 'plenty'
016. [nugunt] <nugunt> 'heaven'
075. [jipunt] <jipunt> 'teeth'

The selected data from the examples signify that the consonants can be clustered with ones that are nasals homorganic. In this case, the onset clusters begin with nasal phonemes and are followed by voiceless plosive consonants. Therefore, the onset cluster consonants of the RDL are /mp/, /nt/, /nc/, and /ŋk/. It is identified that the language also has one consonant that is not clustered with a nasal homorganic consonant: cluster /bl/.

In terms of the cluster, the codas clusters found in the language are only two homorganic nasals: nasal/n/ followed by consonant /t/, and nasal /ŋ/ followed by consonant /k/. Thus, the codas cluster consonants are /nt/ and /ŋk/. These two types of consonant clusters are also called homorganic nasalization.

Another result and discussion for this RDL research is compound consonants. The compound consonants, as highlighted, are two consonants that are sequential in a word, and the two consonants are found in different syllables. The compound /m-p/ is as found in example:
126. [tampoh] <tampoh> 'throw'
225. [tompo] <tompo> 'body'
307. [ompuʔ] <ompuk> 'village'
The compound /n-t/ is as listed in the following:

391. [*lintuoŋk*] <*lintuongk*> 'cobek'
432. [*hantaŋk*] <*hantangk*> 'mortar'

The compound /n-c/ is as exemplified in the number:
463. [*bonciŋ*] <*boncing*> 'corn'
583. [*toncuoŋk*] <*toncuongk*> 'snail'

The compound /ŋ-k/ is as identified in example:
014. [*muŋkeh*] <*mungkeh*> 'how'
113. [*haŋkaʌ*] <*hangkai*> 'dry'

The compound /n-s/ is as collected in number:
568. [*hanso*] <*hanso*> 'swan'
950. [*behinsieʔ*] <*behinsiek*> 'move aside'

Finally, the compound /h-w/ is found to exist only in the example number:
892. [*sahwa*] <*sahwa*> 'trouser'

Based on the data analysis and these descriptions, it is summarized that the compound consonant of the RDL comprises /m-p/, /n-c/, and /ŋ-k/, /n-s/, and /h-w/.

Another coverage of the research is a syllable. The syllable of the RDL is minimum, and syllables are a combination of onset and nucleus, nucleus and coda, and the combination of onset, nucleus, and coda. The minimum syllable of the RDL consists of a vowel as the nucleus. The examples are:
560. [***i**-duh*] <*iduh*> 'grass'
001. [***a**-buh*] <*abuh*> 'ash'
003. [***u**-waʔ*] <*uwak*> 'root'
009. [***o**-pi*] <*opi*> 'fire'
132. [*buju-**o***] <*bujuo*> 'straight'
189. [*ka-**e***] <*kae*> 'not, not'
375. [*baku-**a***] <*bakua*> 'basket'

The syllable, as the composition of onset and nucleus, has two patterns: one consonant + nucleus and two consonants + nucleus. The three examples for each type collected are in respect as follows:
007. [***ko**-suh*] <*kosuh*> 'dog'
012. [***ho**-maŋ*] <*homang*> 'sky'
075. [***ji**-punt*] <*jipunt*> 'teeth'
370. [***mpa**-ho*] <*mpaho*> 'self to dry'
118. [***nto**-muʔ*] <*ntomuk*> 'to color yellow'
776. [***nci**-ŋuh*] <*ncinguh*> 'chill'

The type of syllable as the composition of nucleus and coda also has two patterns: nucleus + one consonant and nucleus + two consonants. The examples are respectively provided three each as in the following:
042. [*bi-**ek***] <*biek*> 'bad'
107. [*ta-**uh***] <*tauh*> 'right'
155. [*daju-**oŋ***] <*dajuong*> 'girl'
174. [*topi-**ent***] <*topien*> 'river'
082. [*tonu-**oŋk***] <*tonuongk*> 'nose'
517. [*di-**ant***] <*diant*> 'durian'

Finally, the syllable of the RDL is the composition of onset, nucleus, and coda. The example

of this syllable consists of:
126. [***tam**-poh*] <*tampoh*> 'lempar'
196. [*mun-**tuh***] <*muntuh*> 'tua'
195. [***soŋ**-kut*] <*songkut*> 'tongkat'.

The description of the language as fostered above infers that the RDL features are phonologically distinct. The distinction is in terms of layers covering form and meaning. The layer of form that is phoneme distinguishes meaning based on their distribution in words and syllables.

Despite the phoneme that differs the meaning like most Austronesian languages, for instance, the diphthong possession, the RDL does not have any word and syllable for the phoneme /b/ as a coda in the consonant cluster. The absence of this phoneme with the position as a coda in a word syllable is similar to the Kanayatn Dayak Language (Bunau, 2022). The consonant /b/ distribution is only as an onset.

Although the consonant phoneme distribution in words or syllables causes consonant allophones, this research only lists three consonants varied into implosive allophones. This finding indicates that the phonemic of the RDL is segmental, not suprasegmental. It is unlike the Batak Toba Language, as studied by Kuswantari et al. (2022), showing that the language phonemic is prosodic for the particular vowels are stressed in syllables.

The composition of the consonant cluster is mostly between nasal and voiced plosive consonants, creating nasal homorganic consonants in word syllables. This finding is in line with the verbal nasalization process in the Bidayuh Somu Language (Bunau & Yusof, 2018), in which the nasalization results in double homorganic nasal consonants.

CONCLUSIONS

As described based on the selected samples and discussion, the research concludes that the phonemes of the RDL are phonemic. They are vowels, consonants, and diphthongs. There is no evidence that the phonemes are prosodic, involving rhythm, stress, and intonation. The data analysis shows that only three phonemes have two allophones, while the others are all of one allophone. Moreover, the distribution of the phonemes is initial, medial, and final. They can only be onset or coda for consonant distribution, both onset and coda.

The consonant cluster of the language indicates that the cluster is nasal homorganic. It means that the cluster as onset begins with nasals and is followed by voiceless plosive phoneme to create the /mp/, /nt/, /nc/, and /ŋk/. In other words, the consonant cluster is also called homorganic nasalization. The exception is that the cluster is not homorganic but the compound of a voiced plosive and lateral to create the /bl/.

The vowel cluster of the RDL is all symmetrical. Furthermore, the consonant cluster, which is all voiceless, consists of /m-p/, /n-t/, /n-c/, /ŋ-k/, /n-s/, and

/h-w/. As important notes to record in this language, the consonant phonemes are asymmetrical, for the voiced consonants have never appeared as clusters. Moreover, the word syllables are the minimum in which vowels are nucleus, onset and nucleus, nucleus and coda, and onset, nucleus, and coda.

This research implies that the non-homorganic cluster beside the /bl/ with the compound of other consonant phonemes and the symmetrical cluster in which the voiced consonants probably appear as clusters in other indigenous languages. The contribution of this research is the complete phonological description of the RDL. Therefore, the recommendation for future research goes to two extents. They are an alphabetical system of the RDL and the phonology of other languages across the Indonesian archipelagos.

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