Common Kyushu-Ryukyuan substratum in maritime vocabulary: A preliminary analysis

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This paper constitutes a preliminary linguistic test of the hypothesis which postulates that shared Kyushu-Ryukyuan lexicon related to maritime knowledge provides evidence for a Kyushu-Ryukyuan subgrouping within the Japonic cladogram. The paper introduces Kyushu-Ryukyuan cognates and potential shared lexical innovations in seafaring vocabulary, cardinal directions and navigation, and marine fauna, all of which suggest a shared Kyushu-Ryukyuan navigation culture, as well as common maritime subsistence and lifestyle patterns. The case is reinforced by several promising cases of common morphological features between Kyushu and Ryukyuan. The overall conclusion is that the compared linguistic data does support the Kyushu-Ryukyuan clade. Finally, we identify a mismatch between lexical and morphological evidence concerning lower-unit classification of the South Japonic node. We observe that while shared innovative vocabulary allows to postulate Proto-Satsugū-Ryukyuan within Kyushu-Ryukyuan as the most direct mainland ancestor of Ryukyuan languages – the predecessor pre-Proto-Ryukyuan language that was still spoken in Kyushu in the first millennium AD – shared grammatical features do not suggest any particular subdivision of Kyushu-Ryukyuan.

Keywords: Ryukyuan languages, maritime vocabulary, Japonic, Kyushu-Ryukyuan, language spread, genetic subgrouping

Introduction

Ryukyuan is a linguistic group that, together with Mainland Japanese and the moribund Hachijō language spoken in Hachijō islands, forms the Japonic language family. Ryukyuan languages are spoken in the Ryukyu Islands, a chain of Japanese islands that stretches from the south-east of Kyushu to the northern part of Taiwan. Most specialists divide Ryukyuan languages into two branches: a northern one, North Ryukyuan, comprising the languages spoken in Amami Ōshima and Okinawa, and a southern one, South Ryukyuan/Sakishima, comprising the languages spoken in Yonaguni and Yaeyama (also referred to as Macro-Yaeyama), as well as the one spoken in Miyako (Chiiki Kenkyūjo 2013; Shimoji & Heinrich 2014).

Past language planning policies, which started as early as in the Meiji era (1868-1912), when the Tokyo-based *hyōjungo* (standard language) was promoted and local varieties stigmatized through a series of punishments, including the *hōgen fuda* (dialect tag), have resulted in the current endangered status of Ryukyuan languages, now spoken chiefly by native speakers in their 50s and 60s or older (Karimata 2015: 114; Heinrich 2012). While there are no official statistical data on the number of native speakers of Ryukyuan languages, there are some rough estimates of it. According to Niinaga et al. (2014: 100-101), the number of North Ryukyuan speakers is around 265,963, and the number of South Ryukyuan speakers does not exceed 26,000 (cf. Jarosz 2023: 196-197).

Historically, Ryukyuan languages are documented since the late fifteenth century, with older texts being found on stone inscriptions, such as the *Ankokuzan Jukamoku-no Kihi*, which dates back to 1427 AD. If one excludes some administrative appointments written in 1523, one of the earliest and most important written sources is the *Omoro Sōshi*, a compilation of ancient poems and songs from Okinawa and the Amami Islands, collected into 22 volumes and written primarily in *hiragana* with some simple *kanji*. Due to the historical and political contacts between Ming China and the Ryukyu Kingdom, starting from the fifteenth century, a number of Chinese sources mention the Ryukyus and its language (Ding 2008; Tawata 1997, 2010; Lin 2015; Ishizaki 2015). Korean materials also made their appearance in the 16th century. Western accounts on the Ryukyus also go back as far as the late 15th and early 16th centuries, when Portuguese voyagers travelled East Asia and arrived at the Ryukyus for the first time. However, with occasional exceptions, the earliest Western treatises on the Ryukyus fail to mention the language spoken by their inhabitants, which only appeared in the second half of the eighteenth century.

Dating the origins and spread of Ryukyuan languages remains a debated and controversial topic, as a significant disparity between linguistic and extra-linguistic evidence (historical, archaeological, and anthropological) still persists (Pellard 2015). Most linguists date the split of Ryukyuan between the 2nd and the 7th centuries CE (Hattori 1979; Uemura 1992; Miyake 2003; Hokama 2007: 30). Pellard (2021) believes it must have occurred no later than the 8th century CE. Jarosz (Jarosz et al. 2022: 4) believes that the latest dating of the split of the Ryukyuan branch must be set at no later than mid-6th century, since Ryukyuan languages had already undergone innovations from Proto-Japonic source forms (such as, e.g., the treatment of Proto-Japonic diphthongs *uj, *oj and *əj) that Miyake's (2003) philological study of Pre-Old Japanese demonstrated the split to have occurred by the end of the sixth century at the latest. Other approaches include the two studies by Lee & Hasegawa (2011) and Robbeets et al. (2021).

On the other hand, major, successful population movements from Kyushu into the Ryukyus occurred no sooner than 9th/10th century CE (Asato & Doi 2011; Jarosz et al. 2022). It is believed since at least the time of Basil H. Chamberlain (1850-1935) that the diffusion of Ryukyuan languages was favoured by the spread of agriculture (Schwartz 1908: 129; Newman & Eng 1947: 32). However, in the Ryukyus, agriculture was hampered by thin soils and other geological problems. As such, while we do not contend that agriculture was not a very important factor in favouring the spread of Ryukyuan languages, it is also felt that other factors such as sea craft may have played an important role in the formation and diffusion of Ryukyuan languages. The present article elaborates on the idea presented in Jarosz et al.

(2022) that it is the seafaring-related vocabulary that distinguishes Kyushu and Ryukyuan from other Japonic-speaking areas, suggesting an erstwhile shared maritime subsistence and lifestyle patterns. The main goal of the paper is, however, to provide evidence from the seafaring-related sectors of vocabulary supporting the Kyushu-Ryukyuan/South Japonic node on the Japonic cladogram (see e.g. Igarashi 2021, Karimata 2020, or DeBoer 2020), which groups together modern Ryukyuan languages with putative, unattested/extinct indigenous Kyushu topolects reflected only as a substratum in modern Mainland Kyushu topolects. This Kyushu-Ryukyuan/South Japonic group is genetically contrasted with one or more Mainland Japanese nodes[1], and it challenges the prevalent bipartite division of Japonic into Ryukyuan and Kyushu-inclusive Mainland (cf. Pellard 2015). This revision of the Japonic family tree has been proposed in the most systematic way by Igarashi (2016 et seq.) with five levels of genetic-diachronic stratification of the South Japonic group (Igarashi 2021: 41-42, fig. 9).

Previous lexicon-based studies discussing the possibility of a closer genetic affinity between Kyushu and Ryukyuan include Igarashi (2016 et seq., especially 2021), Jarosz (2019a), Jarosz et al. (2022). Pioneering research in Japan highlighting the shared Kyushu-Ryukyuan vocabulary, although without teasing out shared innovations from retentions and loanwords, was conducted by Yukio Uemura and Mitsuyoshi Nohara, and its results are discussed in Karimata (2020: 232-235).

1. Sociogeographical background of the Ryukyu Islands

The Ryukyu Islands, also known in Japanese as the Nansei Islands, are a chain of volcanic Japanese islands that stretch southwest from Kyushu to Taiwan. Among the most important islands are Ōsumi, Tokara, Amami, Okinawa, and Sakishima Islands (further divided into the Miyako and Yaeyama Islands), with the southernmost Hateruma. The topolects spoken in Tokara and Ōsumi islands, however, do not belong linguistically to the Ryukyuan group. The Ryukyuan-speaking area, which can be equated with the area of the pre-modern Ryukyu Kingdom at its peak, comprises the island groups of Amami, Okinawa (= North Ryukyuan), Miyako and Yaeyama (= Sakishima / South Ryukyuan). It is therefore smaller than the geographic range of the Nansei archipelago.

Yonaguni, one of the Yaeyama Islands and also the westernmost inhabited island of Japan, is separated from Taiwan by about 60 km. On the other hand, the main island of Okinawa is separated from Miyako by the Kerama Gap, which extends over about 250 km and in the past also functioned as a barrier to travel, albeit properly equipped vessels were able to overcome it. Another geographical, and by extension cultural, boundary is marked by the Shichitō-nada that separates the Ryukyus from Kyushu. The Kuroshio (Black Current) that flows through the Shichitō- serves as a marine barrier between Yonaguni and both Taiwan and the southeast coast of China.

There are no precise data on the historical population of the Ryukyus. According to Kerr (2000: 15), "it is doubtful if there were ever as many as 300,000 people in the islands before

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[1] Igarashi's (2021) model proposes three and DeBoer's (2020) four first-unit divisions of Japonic, Kyushu- -Ryukyuan being one of them, whereas Karimata (2020) suggests a bipartite Kyushu-Ryukyuan/Mainland division. While our own view inclines toward Karimata's, this question will not be addressed here.

1879," and, indeed, demographers estimate that in the whole Okinawa Prefecture there were only around 166,789 people in 1873 (NIAC 2018; Higa 2021). In fact, it is probable that the population began to increase after Satsuma's invasion of the Ryukyu (*Ryūkyū shinkō*) in 1609, spurred as it was by the introduction of Japanese sugar corporations, new technologies, and land reforms. Growth rates notwithstanding, it appears that the Ryukyus historically could not sustain a large population of more than 300,000 people.

During the Ryukyu Kingdom period, the town-dwelling gentry was proportionally more numerous compared to the food-producing peasantry (Kerr 2000: 191). As noted already by Engelbert Kaempfer (1651-1716), the peasants, both farmers ("husbandmen" in his words) and fishermen, lived in poverty; nor was any excess of wealth detected among the elites (Kaempfer 1729: 62). More recently, Gregory Smits (2019) has shown how the Ryukyus' prosperity was not based upon the produce of the indigenous farming-based economy, but on a trade in luxury goods through a wide nautical network, extending northward through coastal Kyushu, Iki and Tsushima, and up to a certain extent even through the southern part of the Korean Peninsula. Even after the introduction of new crops from southeastern China, the economy of the Ryukyus was more centred on trade than on farming, as sugarcane cultivation was mostly reserved for trade than for subsistence.

It is important to bear the facts mentioned in this short overview in mind when reading the following sections, where we explore the connection between archaeology, geography and language in more detail. Below, we briefly introduce the materials which we utilized to carry out our analysis of the maritime lexicon, and then we proceed further with a compara

2. Discussion

While we do not intend to identify languages, in this case a group of insular topolects, with their vocabulary, it has been pointed out already a long time ago that languages may carry cultural information (Sapir 2004: 234). In this specific case, one might expect a close relationship between maritime knowledge and certain lexical items inherent to seafaring vocabulary, wind patterns, and sea craft. We assess the accuracy of this prediction.

We consulted several dictionaries on various Ryukyuan/Southern Kyushu topolects (cf. References), as well as different sources on Western and Eastern Old Japanese (hereafter WOJ and EOJ), and Old Ryukyuan. We transcribed all the lexical items related to maritime vocabulary into a spreadsheet file, comprising several sheets such as "fish vocabulary", "seafaring vocabulary", "maritime flora and fauna", and "wind patterns" among many others. We looked for promising parallels between Ryukyuan and Southern Kyushu items, and then we looked for possible cognates in WOJ, EOJ, as well as other Japanese dialects in order to see whether they are shared retentions or shared innovations. Although we cast a wider net to haul as much information as possible, in order to have the broadest possible areal coverage of the equivalents of the selected vocabulary, we critically assessed all the lexical items, eliminating circumstantial similarities and other possible cases of "false friends".

In this section, we discuss in more detail some linguistic phenomena, especially, although not exclusively, lexical items inherent to seafaring vocabulary, cardinal directions/navigation

and wind patterns, as well as marine flora and fauna. Whenever possible, we try to trace back the etymologies to PJ in order to provide a linguistic context and to allow for an assessment of the distinctiveness of the Kyushu-Ryukyuan communities from other ancient Japonic communities in terms of their maritime knowledge and culture.

We approached our study with a premise that modern Ryukyuan and Kyushu topolects do reflect a shared proto-language. At this point in the paper, however, we remain necessarily agnostic about the possible geographical range of that proto-language, or the subgroupings within it. Therefore, the terms that we tentatively use in order to refer to the shared Kyushu-Ryukyuan ancestor languages are Proto-Kyushu-Ryukyuan (alternatively: Proto-South Japonic, following Igarashi 2021) to indicate the geographically broadest putative ancestor language of all modern Ryukyuan languages and their erstwhile Kyushu kins reflected as a substratum in the modern Kyushu topolects, and Common Kyushu-Ryukyuan to refer to any ancestor language at any level equal to or below Proto-Kyushu-Ryukyuan which is delineated by the presence of shared Kyushu-Ryukyuan innovations. Starting with section (2.4.), the label "Common Kyushu-Ryukyuan" will be replaced with specific proposals of Kyushu-Ryukyuan subunits.

The purpose of this study is to argue for a closer genetic link of Kyushu than other Mainland varieties with Ryukyuan, as well as to attempt an approximation of the internal cladistic structure of the Kyushu-Ryukyuan branch by determining if there are any Kyushu topolects which can be argued to be more closely related to Ryukyuan than others. Therefore, the focus will be on providing the pertinent data from Kyushu topolects, especially in sections (2.1.) and (2.3.). Only the Kyushu evidence will be presented exhaustively, possibly by indicating all regional Kyushu attestations of the discussed Kyushu-Ryukyuan item. The Ryukyuan evidence, on the other hand, will mainly serve a representational function; the cognates on the Ryukyuan side are selected so that they show the distribution of the item throughout the Ryukyus (North/South, and the respective linguistic subunits), and they do not necessarily exhaust the list of Ryukyuan cognates of the item in question.

The term "Satsugū", which will occasionally be used as a reference to the Kyushu region which is geographically closest to the Ryukyus, comprises the areas which formerly (until the end of the feudal period in 1868) belonged to the Satsuma domain, meaning the entirety of Kagoshima prefecture as well as the southernmost part (Morokata) of Miyazaki prefecture.

Proto-language reconstructions provided in this paper are the authors' proposals, unless indicated otherwise. Where available, references to Martin's (1987) reconstructions are provided, also in the instances where our reconstructions formally differ due to differences in reconstructed PJ phoneme inventories and/or etymological approaches.

Except modern standard Japanese, romanized with the modified Hepburn standard, all linguistic material is presented in. Linguistic material cited from external sources has been retranscribed to conform with the conventions used in this paper, whereas the data originally provided in Japanese syllabaries has been romanized according to the authors' best knowledge of the phonological systems of the pertinent lects. Romanizations of Old Okinawan are based on the descriptions of Old Okinawan phonology in previous studies (Tawata 2010: Ishizaki 2015). Old Japanese phonological values in essence follow Vovin (2020).

The paper includes in the form of an appendix a listing of all toponyms and topolects below the prefectural level appearing in the text.

2.1. Seafaring vocabulary

The essential terminology of seafaring in Ryukyuan is of Japonic lineage. This set of vocabulary includes concepts such as 'ship/boat', 'sail', fish catching tools such as 'harpoon' (one of the types), 'fishing hook' and 'net', a range of parts of a boat such as 'stern' and 'bow', locations such as 'harbor', and the verb 'to row'. Examples of such vocabulary along with its Proto-Japonic reconstructions are presented in Table 1.

Table 1: Seafaring vocabulary with a Proto-Japonic lineage

	WOJ	Kagoshima	Naze	Kametsu	Hirara	Shika	Hateruma	Proto-Japonic
boat, ship	pune	fune	funɨ	funi	funi	funi	funi	*punaj (cf. Martin 1987: 413)
bow, head	pe	hesaʔ	—	—	—	—	piː	*paj (cf. Martin 1987: 403)
catching fish/ foraging	iso 'rocky shore'	iso (Takara)	—	—	isu	iɕu	—	*iso 'rocky shore; foraging ashore; catching fish'[2] (cf. Martin 1987: 427)
fishing hook	ti	—	—	—	ksɨː[3]	tsɨː	dzɨ	*ti (cf. Martin 1987: 546)
fishing rod/pole	sawo	sao	ɕoː	sau	soː	soː	—	*sawo
harbor (natural), anchorage	təmari	—	—	tumai	tumaz	tumarɨ	—	*təmari (cf. Martin 1987: 549)
harbor (port)	minato	minato	minato	—	mnatu	minatu	minatu	*minato (cf. Martin 1987: 480)
harpoon	—; MJ mori	moi	—	mui	—; Nagahama, Kuninaka mul	—	—	*mori/*məri (cf. Martin 1987: 485)
net	ami	an	ami	ami	am	an	an	*ami (cf. Martin 1987: 381)
sail	po	ho	fu	fuː	puː	fuː	poː	*po/*pə (cf. Martin 1987: 413)
stern	təmə	tomo	—	tumu ~ tomo	tumu	tumui	tumu	*təmə (cf. Martin 1987: 549)

[2] Although the meaning 'catching fish, foraging' is not attested in Old Japanese, there is broad evidence from Mainland Japanese for this meaning of *iso*, including Hachijō, Iwate, and Ōmishima; because of this, it appears to be safely reconstructible for Proto-Japonic. This meaning is also attested throughout Kyushu (Tokara, Tsutsu). At the same time, the WOJ meaning of 'rocky shore', often generalized to 'shore', is also commonly reflected in Ryukyuan (Hirara *isu*), Kyushu (Iojima *iso*), and also further east in the Mainland, often with different semantic developments (Miwa in Tokushima: 'crag'; a number of topolects in Chiba, Hyōgo, Yamaguchi: 'reef near the coast' or 'the sea close to the shore'; Toyota district in Hiroshima prefecture: 'places that get deeper the farther you go from the coast'). Martin (1987: 427) reconstructs *iswo* with more general meanings 'beach; rock'.

[3] This is an irregular correspondence in place of the expected †*tsiː*.

A number of lexical items, related to fishing and fish-catching techniques or to boat construction, appears to be shared exclusively by Kyushu and Ryukyuan. Some of the items are exact formal and semantic matches; at other times, the correspondences are partial. The relevant items are listed below:

- 'a spot where many fish gather, a good fishing spot': Hatoma and Yonaguni *suni*, Hateruma *suneː*, Iki and Gotō islands, Tanegashima, Kagoshima and Okatchugamizu *sone*; this morpheme appears frequently in toponyms and family names in the Ryukyus (cf. Nakasone in Miyako), and in Tanegashima as reported by Uemura (2004: 50);
- 'bow, the head of the boat': Proto-South Ryukyuan **panagi*, e.g. Ikema *panadzi*, Tarama *panagzï*, Hatoma *panai*, Shika *hanai*, with Kamikoshiki *hanaːgi* and Shimokoshiki and Amakusa *hanagi*;
- Proto-Ryukyuan **ijako* 'oar', broadly attested in modern Ryukyuan (Miyako *zzaku*, Shika *jaku*, Shuri *ʔweːku*, China *joːkuː*) as well as in Old Okinawan (*ijako ~ ijago*, found as the second morpheme in compounds), with the form *jaku* 'oar' attested in Takara island in the Tokara group;
- 'fish bait' *kabu* in South Ryukyuan (Ikema, Hatoma), *kabuɛi* 'scattered bait; fish bait' in Satsugū Kyushu (Koshiki islands), and the verbs *kabusu* 'to scatter bait so as to attract fish' (Satsuma Peninsula, e.g.: Makurazaki, Nagashima, Azuma, Hashima, Bōnotsu; and Ōsumi Peninsula, e.g. Hami, Magome Ōdomari)[4];
- 'harpoon': Ikema and Hirara *tugja* 'harpoon with a hook', Naze *tugja*, Kametsu *tugja* 'trident for catching octopuses and small fish', from PJ **togu* 'to sharpen' => nominalization **togi* + substantive/diminutive PR suffix **-a* > PR **tugja*; relatable to Satomura (Kamikoshiki) *togiː* 'convex part of the joint of an oar', putatively a nominalization of **togu*;
- Proto-Ryukyuan **idzari* 'fishing at night (using the light of torches)', with the descendants broadly attested in North (Naze *ʔidzari*, Kametsu *ʔidai*, Wadomari *ʔidzai*) and South (Shika *idzari*, Ikema *idzai*, Tarama *idal*) Ryukyuan, has cognates with a correspondent meaning in Akuseki (Tokara islands) and Tanegashima. This is a nominalization of PJ **insaru* 'to fish', attested in WOJ as *insaru*. Although WOJ has items such as *insaripï*/*insarimpï* 'torch light used to attract fish' and that meaning also served as a metonymic extension of the nominalization of *insaru – insari*, the use of the descendant of PJ **insaru* which specifically refers to traditional procedures of catching fish at night appears limited to Kyushu-Ryukyuan;
- 'scooping net', traceable to Proto-Kyushu-Ryukyuan **tabo*, broadly distributed throughout the Ryukyus, with the form *tabu* attested e.g. in Naze, Ikema, Hatoma, Shika and Hateruma, as well as Kyushu: Fukuoka *tabo*, Kumamoto *tabu*, Miyazaki *tɕetabu*, Kamikoshiki *gotaːbu* – the reflex of **b* is opposed to Mainland Japanese **m* in forms such as standard Japanese *tamo*. Also note the **o > u* raising in most Kyushu forms, which may be indicative of the Ryukyuan-type vowel raising that had occurred in the indigenous Kyushu topolects before they were replaced by Mainland Japanese-type of topolects. Here, however, a mentioning needs to be made of a neighboring non-Kyushu attestation of **tabo*: the lexeme tabu in Abu

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[4] The correspondence of Satsugū /bu/, instead of the expected /bo/, with Ikema /bu/ also implies that **o > u* raising has taken place in Satsugū, endorsing the hypothesis of the archaicity of these vocabulary items: the raising must have occurred before the overall shift of indigenous Satsugū Kyushu into Mainland Japanese. This is the same kind of vowel change as postulated for **tabo > tabu* 'scooping net' above. Cf. also (2.5.)

(Yamaguchi; Shōgaku Tosho 1989: 1410) means 'a bag used by fisherwomen for carrying the catch'. Considering the close ties of Yamaguchi with Kyushu and an often-reported fact of Yamaguchi showing resemblance to the Kyushu lects (Okano 1986; Hirayama 1992-93: 239-240), the presence of this single token in Yamaguchi may be a result of an areal diffusion and/or suggest an influx of Kyushu-Ryukyuan migrants in Yamaguchi; the same, apparently innovative meaning of *tabo is attested in the Itoshima district in Fukuoka (Shōgaku Tosho 1989: 1410). At any rate, this exclusive Yamaguchi attestation does not disqualify *tabo as a candidate for a Kyushu-Ryukyuan innovation.

On the other hand, a significant number of seafaring vocabulary represents innovations limited to Ryukyuan, among which some are reconstructible for Proto-Ryukyuan, whereas others seem confined to specific languages or smaller areas.

Ikema has a wide range of specialist vocabulary concerning ship construction, including *kandan* 'the part where the sail is fixed', *babu* 'small hole at the bottom of the ship in which the sail is stood and fixed', *matagara* 'the post', *ti:han* 'rope used to prevent the crosspiece from falling off from the post', or *hatagatsɨ* 'a fence board cover against waves, fixed at both ends of a boat'. Other examples include:

- Proto-Miyako *pɨda* 'harbor': Tarama and Sawada-Irabu *pɨda*, Ikema *hida*, cf. also Shiraho (West Yaeyama) *pɨda* 'shore';
- Proto-Ryukyuan *kananko* ~ *kanago* 'anchor': Middle Okinawan *kanaku* ~ *kanagu*, Shika--Ishigaki *karangu*, Hirara and Nozaki *kanagu*;
- Ikema and Irabu-Nagahama *ubu* 'anchor';
- a wide range of vocabulary referring to various types of 'harpoon', including Proto-Ryukyuan *uge(mu)* (Hirara *vgjam*, Kurima *ugjam*, Nishibe *ugin*, Hateruma *ui*, Ie *udzimu*, China *ugimu*, Kametsu *ɕo:raug*i[5]); Proto-Ryukyuan *ige(mu)* ~ *igo(mu)* (Tarama and Yonaguni *igun*, Hatoma *juku:n*, Sesoko *idzi:mu*), Ikema *mabjai* and *kakidza*, Wadomari *itɕidza:*, China *itɕiga:*, Kurima *kaz* ~ *gaz*, Hatoma *ɕi:me:*;
- vocabulary related to fishing nets and net production, such as Ikema *abi:* 'net-knitting needle', *agita* 'a ruler for knitting nets with even eyes', and Hirara *itsuvkja* 'square net';
- Tarama *dzibuku*, Hateruma *dzibagu* 'fishing pole';
- Hirara *bura* 'head of a Japanese-style ship';
- Hateruma *uni* 'captain of the ship'.

In sum, the seafaring vocabulary of Proto-Ryukyuan speakers indicates that although their seafaring culture had general Japonic roots, it had also developed a number of concepts and names unique to the Kyushu-Ryukyuan zone, in particular in terms of fish catching and foraging. This sort of vocabulary is shared with Ryukyuan in all parts of Kyushu. On the other hand, items related to boat construction, such as 'oar' and 'bow', seem to be shared only with the southernmost outskirts of Satsugū Kyushu, such as Koshiki and Tokara islands, which may imply that the shipbuilding culture carried by Proto-Ryukyuan speakers was specific to the narrow southernmost Kyushu area.

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[5] *ɕo:ra* stands for 'Spanish mackerel'.

2.2. Cardinal directions/navigation

Names of cardinal directions are conspicuously different in Mainland Japanese and Ryukyuan. Table 2 illustrates this by contrasting WOJ and EMJ (the system of EMJ has remained stable unto modern standard Japanese) systems with Proto-Ryukyuan and Old Okinawan. Proto-Ryukyuan reconstructions of 'east' and 'west' accord with Nakamoto (1983: 196-204). The reconstructions are corroborated by the earliest attested Old Okinawan forms (after Hokama 1995; phonological reconstructions follow Hattori 2018).

Table 2 shows Proto-Ryukyuan doublets for the names of all four cardinal directions. A reconstruction of similar doublets was already proposed by Nakamoto (1981, 1983), and it will be explained and explored in the discussion to follow.

Table 2: Cardinal directions in Japonic

	Proto-Japonic	WOJ	EMJ	Proto-Ryukyuan	Old Okinawan
east	*pingaɕi (cf. Martin 1987: 405)	pimungaɕi anduma	pigaɕi	*agarupe *piga(ɕi)	agarupɨ piga(ɕi)
west	*niɕi (cf. Martin 1987: 498)	niɕi	niɕi	*irupe *niɕi	irupɨ
north	*kita (cf. Martin 1987: 452)	kita	kita	*niɕi *kita	niɕi
south	*minami *pape 'southern wind' (cf. Martin 1987: 395; 479)	minami	minami	*pape *minami	papɨ

Both in Ryukyuan and in Mainland Japanese names for cardinal directions characteristically overlap with, or are extensions of, names referring to winds from specific directions, as exemplified by WOJ: *niɕi* means both 'west' and 'western wind' (Sawakata 1967: 544), whereas *minami* means both 'south' and 'southern wind' (Sawakata 1967: 712). This seems to underscore the close ties between navigation and the naming conventions of cardinal directions. In fact, the component *ɕi* in WOJ *niɕi*, *pimungaɕi* (EMJ *pigaɕi*, modern *higashi*), as well as in e.g. *araɕi* 'storm', is hypothesized to have originally meant 'wind' (Sawakata 1967: 345; Nakamoto 1981: 202). This would make the PJ etymology of *pimungaɕi* quite clear, as proposed earlier by Martin (1987: 405): *pi* 'sun' + *munga* 'to turn to' (attributive) + *ɕi* 'wind' = 'the wind turned toward the sun', 'the wind blowing in the direction of the sun'[6].

Among the four Ryukyuan cardinal directions, three have the component *pe*, which is the Proto-Japonic and Proto-Ryukyuan morpheme meaning 'side, direction'.

Cognates of WOJ *pimungaɕi*/EMJ *pigaɕi* 'east' are found in Old Okinawan as well as, with a punctual local distribution, in North Ryukyuan (including Wan in Kikai, Ongachi, Yuwan and Yadon in Amami, Kametsu and San in Tokunoshima, Yoron, Oshikaku in

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[6] Although Martin derives EMJ *pigaɕi* directly from WOJ *pimungaɕi*, there is also a possibility that these are two parallelly-formed lexemes, with *piga* analyzable as PJ *pi-nə-ka* sun-GEN-place 'the place of the sun', 'the location of the sun'.

Kakeroma-Amami, down to Sate in northern Okinawa); they are also broadly encountered in toponyms and family names such as the very popular Okinawan name Higa (Nakamoto 1981: 200-201; Nakamoto 1983: 197-198). A South Ryukyuan hapax legomenon *pingasɨ* is also attested in a ceremonial song in Hateruma (Nakasone 1969: 465). This evidence is enough to reconstruct **piga(ɕi)* for Proto-Ryukyuan as well as **pinga(ɕi)* for Proto-Japonic. On the other hand, the core Ryukyuan 'east' lexeme, **agarupe*, constitutes a definite majority throughout the North and South Ryukyuan area. With such evidence one can hypothesize that whereas **piga(ɕi)* had been the inherited Proto-Ryukyuan label for 'east', **agarupe* was a Proto-Ryukyuan innovation shared by the speakers of Proto-South Ryukyuan at the moment of the split of Proto-Ryukyuan into North and South, which likely happened no earlier than the 12th century along with the move of Proto-South Ryukyuan speakers into the Sakishima islands (cf. Jarosz et al. 2022). The linguistic data as presented here indicates that at the time of the split, there was a regional variation, with some of the Proto-Ryukyuan communities using **agarupe* and others **piga(ɕi)*. The use of **agarupe* at that time must have been robust and widespread enough, however, to eventually minorize **piga(ɕi)*.

Semantically, **agarupe* has a transparent structure of **agaru* 'to rise' and **pe* 'side, direction', referring to the side of the sky on which the sun rises. It was apparently initially used in sacral contexts related to the cult of the sun. As the direction of the rising sun, the east was revered and considered sacred (Nakasone 1969: 468; Nakamoto 1981: 200, 202). This may have been the initial motivation of the emergence of Proto-Ryukyuan **agarupe*, the 'sacred east', and its differentiation from **piga(ɕi)*, the 'profane east'[7]. Traces of this distinction seem to be retained in modern Yamatoma (Amami Ōshima), which displays both forms: *ʔagare* is used to refer to the direction of praying to the rising sun, whereas *higaɕi* does not have any reported usage limitations (Osada et al. 1980: 140).

A mention should also be made of the cognates of WOJ *koti* 'eastern wind', which are again found in Middle Okinawan (e.g. makutɕi 'eastern wind') and modern Shuri, meaning both 'east' and 'eastern wind'. In North Ryukyuan, although the cognates of *koti* are soundly attested (a wide range of topolects from Osai and Koniya in Amami to Itoman in Okinawa), their meaning appears mostly limited to 'eastern wind'; Nakamoto (1981: 200-201) lists a number of topolects in which the meaning of 'eastern wind' expanded to 'east', and they are scattered in Amami Ōshima, Kikai, down to Aha, Henoko and Sokei in north Okinawa. A similar situation is observed in Kyushu, with cognates of *koti* meaning 'eastern wind' distributed from Ōita and Kumamoto through Kagoshima down to Tanegashima and Yakushima. Such cognates can also be found in the topolects of a broadly comprehended western Honshu (Wakayama, Totsukawa, Hiroshima), with the easternmost post of distribution at the time found in Shizuoka. All this would seem to imply that PJ **koti* was originally a navigation-only term, with the reconstructible primary meaning 'eastern wind'. There is no evidence that in any Mainland Japanese topolect **koti* has expanded enough to be used as an indication of a cardinal direction.

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[7] Nakasone (1969: 468) proposes a reverse explanation: the innovative metonymic form **agarupe* had replaced **piga(ɕi)* because of the sacredness/taboo of the latter.

No cognates of WOJ *anduma* have been found in Ryukyuan; this lexeme is likely a Mainland Japanese innovation.

The Ryukyuan word for 'west', **irupe*, is apparently an innovation symmetrical with **agarupe*. In contrast to **agarupe*, **irupe* consists of **iru* 'to enter, to descend (about the sun)' (cf. Japanese *hinoiri* 'sunset') and, again, **pe* 'side, direction'[8]. Reflexes of **irupe* are virtually an exclusive reference to the direction of 'west' in Ryukyuan languages, and they must have replaced the original Proto-Japonic word for 'west', **niɕi*, which in turn acquired the meaning of 'north' in Ryukyuan (cf. below). Reflexes of **niɕi* 'west' with the original PJ meaning are still found or even predominant in Amami, through Tokunoshima, also attested locally in Okinawa (Sate, Kayō, Nakima), the southernmost boundary of their distribution being Itoman[9] (Nakamoto 1981: 203). There are also attestations of a use, albeit declining, of *niɕi* 'west' in Old Okinawan (Hokama 1995: 506). Out of the two Ryukyuan expressions for 'west', it is only the reflexes of **irupe* that are found in South Ryukyuan, suggesting that the innovative **irupe* must have been well established in Proto-Ryukyuan at the time of the split into Northern and Southern groups. Although **niɕi* was still retained in a range of communities, it had been completely replaced by **irupe* in the community of the Proto-South Ryukyuan carriers, similarly to the virtually total replacement of **piga(ɕi)* by **agarupe* for 'east'.

In a fraction of topolects from the Amami area (Nakamoto 1983: 199 lists Shitoke in Kikai, Yuwan-Amami, and Amagi-Tokunoshima), the item 'west' is traceable to a proto-form **oki*. To this list one can add lexemes and compounds in which reflexes of **oki* indicate 'northern wind', such as Amami (Naze, Koniya, Yamatoma) *uki-niɕi* 'north-western wind' and *ukibe* (Yamatoma) 'western wind'. These reflexes are valuable inasmuch as they have cognates in the forms of Kamikoshiki *okibainin*, Tanegashima *okibaje* and Yanagawa *okibae* 'south-western wind'. **oki* 'western wind' could be therefore reconstructed for a shared Kyushu-Ryukyuan ancestor, with a strong indication that Proto-Ryukyuan speakers had a shared navigation culture with at least some of the Kyushu communities of the time. Semantically, the picture becomes still more complicated with the presence of the unit *oki-no kadze* 'southern wind' in Miyazaki, *oki* 'eastern wind' in Koyu (eastern Miyazaki), as well as Old Okinawan *okitoba*, allegedly 'northern wind'[10]. The reconstruction of the meaning of

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[8] Both **agarupe* and **irupe* were likely modeled in their structure after **pape* 'south', although if one attempts to analyze 'south' as **pa-pe*, at this point it is not clear what the meaning of **pa* is. Considering that a descendant of **pape* meaning 'waves stirred by the wind' is attested in Kitaamabe (Ōita), one very vague guess is that **pa* might be related to PJ **aba* 'foam' (Martin 1987: 387).

[9] The markings on the isogloss (isolexical) map in Nakamoto (1981: 203) indicate that the forms *nisɨ* are also found in Miyara (Eastern Yaeyama) and Shiraho (Western Yaeama) on Ishigaki. This, however, seems to be a printing mistake which confused marking assigned to *nisɨ* with that of *iri*. No source has recorded a cognate of **niɕi* to mean 'west' in any South Ryukyuan topolect, and even Nakamoto himself (1981: 202) only discusses North Ryukyuan in this context.

[10] Also Old Okinawan *okitoba* may in fact mean 'north-western wind', rather than just 'northern wind'. Hokama (1995: 125) identifies it as meaning 'northern wind', and the component *oki* as the regular Japonic morpheme meaning 'open sea', the whole compound literally meaning 'northern wind blowing from the open sea'. Although *oki* 'open sea' should be the ultimate etymological origin of **oki* 'western wind', it is not impossible that the isolated morpheme *oki* in Old Okinawan *okitoba* means 'west/western wind', just as is implied by the

Common Kyushu-Ryukyuan *oki* thus remains inconclusive, although considering the geographically central location and quantitative domination of the meanings of 'west/western wind', 'western wind' seems to be the most likely candidate. Note, however, that also the component *toba* is reported as meaning 'western wind' in a Shikoku topolect (Hokama 1995: 125). In actuality, looking at the comparanda from all over Japan, *oki* can mean the wind from virtually any direction, and by extension, any cardinal direction.

Thus, *oki-no kadze* is reported with the meaning 'north-eastern wind' in Ano in Shimane (western Honshu), and again with the meaning 'southern wind' in Shima (Mie, western Honshu), whereas *oki* by itself indicates 'north' in Minamikoma (Yamanashi); *oki* means 'east' or 'south-east' in Yaizu (Shizuoka), 'south-east' in Aichi and Hekikai, and 'south-west' in Nishi Kasugai (all Aichi); and plain 'south' in Hamana (Shizuoka) and Kurahashi island, or 'southern wind' in Aki (Kōchi). Upon a closer look at the location of these places on the map of Japan, it turns out that this semantic variation must be motivated geographically: from PJ *oki-* 'wind from the open sea' (metonymic extension of *oki* 'open sea') were developed area-specific names of wind directions, depending on which direction the open sea was located at in the particular area. As a consequence, this also produced a Common Kyushu-Ryukyuan innovation *oki-* 'western/southwestern wind'. The noteworthy fact that no topolect group outside Kyushu-Ryukyuan seems to use *oki with the plain meaning of 'west' (as opposed to 'south-west') must be rooted in such a geographic underspecification accompanying the meaning of *oki. It is also remarkable that in Mainland Japan, with one confirmed exception in Ano, *oki seems only to be shared by topolects spoken in areas facing the Pacific, and not Sea of Japan; hence the domination of the 'south'-related meanings of *oki.

Cognates of WOJ *minami* 'south' are few in Ryukyuan, and include forms such as *minam*, *minan* and *minoːhoː*. Not only are they – like the cognates of WOJ *niɕi* 'west' and *kita* 'north' – unattested in South Ryukyuan, they are also spatially confined to the narrow Amami area: parts of the Kakeroma island (Oshikaku, Setsukawa, Sesō), Sani, Yuwan, Nesebu (Nakamoto 1981: 204-205, Nakamoto 1983: 201), and Yamatoma (Osada et al. 1980: 140). As Nakamoto (1981: 204, 1983: 199) points out, such distribution limited to the area geographically closest to Mainland may encourage a conclusion that these forms are loans from Japanese; however, it does not appear particularly likely that a contact-induced loan from the dominating state language should remain limited only to a small number of remote topolects all concentrated in a relatively narrow area, rather than spread throughout the islands. The view that these cognates of *minami* reflect in fact a conservative layer of Ryukyuan vocabulary is endorsed by the evidence from the names for the three other cardinal directions, all of which replicate the scenario of the WOJ/Mainland cognates being confined to limited North Ryukyuan areas with the alleged innovations taking over everywhere else. A further support may be offered by attestations of *minami* in Old Okinawan, although this evidence by itself is not considered to be firm enough[11].

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comparative North Ryukyuan evidence. If this etymology is correct, *okitoba* 'north-western wind' would be a lexical compound analogous to modern Amami *uki-niɕi*.

[11] Although the form *minami* is also attested in the Chinese sources on Old Okinawan (cf. Hokama 1995: 640)*: Liuqiu Guan Yiyu/Ryūkyūkan Yakugo* (around 1500) and *Yinyun Zihai/On'in Jikai* (around 1573), Hattori

The widespread Ryukyuan name for 'south', Proto-Ryukyuan **pape*, can be hypothesized to be conservative and reveal a Proto-Japonic morpheme. Cognates of **pape* meaning 'southern wind', although absent in WOJ and EMJ, are broadly distributed in Mainland Japan. Already in *Butsurui Shōko*, the 18th-century dialectal lexicon by Gozen Koshigaya, *fae* 'southern wind' and a range of related vocabulary of the seafarers, such as *kurofae* 'wind blowing at the beginning of the wet season', *arafae* 'wind blowing in the middle of the wet season', and *woɕifae* 'south-western wind', are reported for western Honshu and the Izu province (Tōjō 1941: 11-13)[12]. In modern Mainland Japanese topolects, *hae* 'southern wind' or its local variants are abundantly attested in Kyushu, as well as in other areas of western Mainland, in particular the Chūgoku area (Shimane, Yamaguchi, Okayama), but also Shikoku (mostly Ehime). There are, however, also individual attestations of **pape* in Watari (Tōhoku) – *haebutɕi* – as well as in the Hachijō language, *haebuki*, here meaning 'southern wind blowing around May' (Shōgaku Tosho 1989: 1878).

Furthermore, several Mainland descendants of *pape have changed the meaning from 'southern' to 'western' (*hai-no kadze*; Oki islands), 'north-western' (*hai*; Uma in Shikoku), or 'north-eastern wind' (*haikadze*; Kasado island). These three locations represent a relatively concentrated area of western Mainland, with two facing the Seto Inland Sea. Such meaning innovations relative to the geographic placement of the specific topolect may imply that PJ *pape may have originally represented a noun not tied to a specific direction, as perhaps reflected in still different Mainland meanings of *pape attested today: 'violent wind, gale' in Higashitonami (*ohaikadze*; Toyama); 'gust' in Yakushima (*hainokadze*); or even 'wet season' (*hae*; Shima). One can hypothesize that PJ-speaking communities recognized a relationship between the concepts of 'strong wind, gale, gust' on the one hand and 'southern wind' on the other. While PJ *pape may have meant both, the meaning of 'southern wind' may have been replaced by different directions in topolects in which perhaps winds from different directions carry a stronger association with 'gale' or 'gust'.

In few modern Mainland topolects (Naka in Shimane, Nishi Sonogi in Nagasaki), *pape is attested with the cardinal direction meaning of 'south'. Since these examples are so isolated, and since extending the meaning from the name of a wind to the name of a cardinal direction seems such a common occurrence in Japonic, it would be prudent not to reconstruct PJ *pape 'south' based on these attestations alone, and treat them as parallel semantic innovations instead.

The most likely interpretation of the so far accumulated evidence concerning the Ryukyuan 'south' lexemes is that there were two Proto-Ryukyuan items with this meaning, conservative **minami* and innovative **pape*. Proto-Ryukyuan innovated the meaning 'south' from a specialized vocabulary item **pape* meaning 'southern wind', to the general exclusion of the original lexeme **minami* but for a number of Amami topolects.

(1979) points out that *Liuqiu Guan Yiyu* frequently confuses Ryukyuan with Japanese data (an analogous Japanese language guide was compiled at the same time), and the sources that follow, including *Yinyun Zihai*, often cite the chronologically earliest *Liuqiu Guan Yiyu* uncritically. Therefore, this cannot be considered as evidence for the presence of *minami* in Old Okinawan, and neither can be the presence of *minami* in Classical Okinawan literature, which is heavily influenced by Japanese.

[12] Romanization of *Butsurui Shōko's* reflexes of PJ *p as <f> follow the description of the pertinent sound change in Frellesvig (2010: 386-387).

Similar to 'south', cognates WOJ and Mainland Japanese *kita* 'north' are only scarcely attested in Ryukyuan, and the evidence is limited to North Ryukyuan, again concentrating in Amami. The form *kitaː* is found in Amami's Kakeroma island, *kita* in Amami's Yoro island and the central part of Amami Ōshima (Yuwan, Kushi, Nakama, Ongachi, and Yamatoma), but also Nakima in the Okinawa main island, and *k'ita* in Uka in the north of Okinawa (Nakamoto 1981: 206-207; Nakamoto 1983: 200-201; Osada et al. 1980: 140). The distribution of Ryukyuan cognates of *kita* is therefore significantly broader than *minami*. Furthermore, a cognate of WOJ/Mainland *kita* 'north' is attested in Old Okinawan with a general meaning of 'wind', not specified for direction (Hokama 1995: 226).

The development of Ryukyuan 'north' from the Proto-Japonic lexeme for 'west' is strictly tied to the emergence of the aforementioned innovative Ryukyuan pair **agarupe* 'east' and **irupe* 'west'. Once **irupe* had started to diffuse and replace **niɕi* as the 'west' lexeme, **niɕi* survived by shifting its meaning to 'north'[13], in turn eliminating Proto--Japanese **kita* from most of the Ryukyuan-speaking area. The shift to the meaning 'north' was facilitated by the use of **niɕi* with the meaning of 'northern wind' – traces of which are still retained in topolects like Yamatoma, which uses *kita* as the cardinal direction 'north' – and the existence of a range of compounds with *niɕi* to refer to various types of 'northern wind'. A similar multitude of expressions with *niɕi* meaning 'northern wind' are attested in Old Okinawan (Hokama 1995: 506-507); similarly, although the essential meaning of Old Okinawan *niɕi* is 'west', Old Okinawan also provides early traces of interpreting *niɕi* as 'north' (Nakamoto 1981: 202).

The overarching scenario which emerges from the above picture is that initially, Proto--Ryukyuan displayed the system of four cardinal directions entirely inherited from Proto-Japonic: **pinga(ɕi)* 'east', **niɕi* 'west', **kita* 'north' and **minami* 'south'. Remnants of this system are still found in North Ryukyuan, although they are concentrated in the Amami island group, in particular its northern part down to Tokunoshima; the further south, the more incidental these reflexes become.

The innovative system: **agarupe* 'east', **irupe* 'west', **niɕi* 'north' and **pape* 'south' had been fully formed before the split of Proto-Ryukyuan into the North and South groups, i.e. by the 12th century. It has become prevalent in the Ryukyuan-speaking area. Most importantly, this system was already stable in the language of the eventual Japonic settlers of Southern Ryukyus, with no traces left of the conservative system inherited from Proto--Japonic, a situation likely caused by the bottleneck effect (cf. e.g. Fortescue 1998, Everett 2017). This explains why reflexes of the conservative system are practically nowhere to be found in South Ryukyuan, not even in the epic and ritual songs famous for their linguistic archaisms (cf. Nevskiy 1978).

Such a complete distancing from the inherited Proto-Japonic system magnifies – or becomes more and more apparent – the further down south one looks. This agrees with the line of Proto-Ryukyuan expansion southward from the Kikai island, which is the most plausible candidate for the Proto-Ryukyuan homeland (cf. Jarosz et al. 2022: 15). One can imagine

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[13] It is plausible that the meaning shift from 'north' to 'west' was mediated by a metonymic extension of **niɕi* referring to 'north-west', as in e.g. 'north-western wind'. An analogous precedent is found in the item *niɕikadze* 'north-western wind' in Mainland Nakagambara (Niigata; Shōgaku Tosho 1989: 1789).

that those Proto-Ryukyuan communities which innovated their lexicon of cardinal directions were also those communities which were more mobile and whose members would become the founders of outpost Ryukyuan-speaking settlements. The more mobile communities, actively involved in navigation in order to reach the islands further south, would be more likely to establish innovative vocabulary for cardinal directions – which in their case would be some of the most essential vocabulary – and use it as a token of their identity distinct from their more sedentary Proto-Ryukyuan kins. Viewed in this light, it is understandable that it was only the innovative system that survived in Proto-South Ryukyuan, the language of the ultimate long distance explorers among ancient Ryukyuans, who had to overcome a roughly 300-kilometer-long stretch of the Pacific in order to reach the Miyako islands from Okinawa.

Navigation was therefore an important building block of a Ryukyuan ethnolinguistic identity. The said navigation-related part of the Ryukyuan identity was only constructed, however, long after the split of Proto-Ryukyuan from Proto-Japonic as well as Common Kyushu-Ryukyuan, and there is no evidence that any of the Proto-Ryukyuan innovations were shared by some topolects in Kyushu – with the exception of Common Kyushu- -Ryukyuan *oki-* ‘western wind’ > local North Ryukyuan ‘west’ which, however marginal and spatially limited in its attestations on both sides of the linguistic Kyushu/Ryukyuan divide, does testify to some amount of navigation knowledge exclusively shared between the two groups.

Several other names of cardinal directions also come from the names of winds. Apart from the directions which incorporate the alleged Proto-Japonic component *ɕi* ‘wind’, such is the case with *pape* and *koti*; either can be respectively reconstructed as Proto-Japonic ‘southern wind’ and ‘eastern wind’, with *pape* later evolving into a general Proto-Ryukyuan lexeme of cardinal direction meaning ‘south’, and *koti* innovating into the meaning of ‘east’ in some North Ryukyuan topolects. Furthermore, *niɕi* was used in early Proto-Ryukyuan stages with the meaning of ‘northern wind’, which led to a metonymic identification of the name of the wind with the name of the cardinal direction, as a consequence allowing *niɕi* to replace *kita* as the indicator of ‘north’ as *niɕi* itself had begun to be replaced by *irupe* with the meaning ‘west’.

In sum, the sources of the innovative names of cardinal directions in Proto-Ryukyuan were twofold: one was the names of winds metonymically extended to indicate the directions (*pape* ‘south wind’ > ‘south’; *niɕi* ‘north wind’ > ‘north’), and the other referenced the respective directions of the rising and setting of the sun (*agarupe* ‘the direction where the sun rises’ > ‘east’; *irupe* ‘the direction where the sun sets’ > ‘west’), and was rooted in the Ryukyuan cult of the sun.

2.3. Names of marine flora and fauna

Considering the difference in climate zones between the (subtropical) Ryukyus and most of the (temperate) mainland Japan, it is little wonder that the amount of inherited shared lexicon pertaining to marine flora and fauna in both groups is low. It is also to be expected that Ryukyuan would have a large base of innovative fish names coined specifically to label

the species unique to the Ryukyus, or that these names would reflect a pre-Ryukyuan substratum.

If a species does seem to share a label in Mainland and Ryukyuan, there are good chances that the label has been borrowed from Mainland to Ryukyuan. This is most likely the case with names for the genus Thunnus, standard Japanese *shibi*, attested in Old Japanese as *ɕubi*. Although well attested in Ryukyuan, the equivalents of *shibi* do not show the expected sound correspondences, cf. Hateruma *ɕibi* instead of the predicted †*sɨbɨ*, a clear indication of a loanword.

As a consequence, there are few fish names that can be fairly uncontroversially reconstructed for Proto-Japonic. They include 'eel', 'flatfish', and possibly 'Spanish mackerel'; there are also attestations of items with possible Proto-Japonic roots which now indicate different species in standard/Mainland Japanese and Ryukyuan, such as *moro. This list can be expanded by 'whale', which, although obviously not a fish, may be conceptualized as such due to its formal resemblance to a prototypical fish.

Table 3: Proto-Japonic fish names inherited in Ryukyuan

Species	Attestations Ryukyu	Standard Japanese	Proto-Japonic
bluespine unicornfish/blackhead seabrem	'bluespine unicornfish' (*Naso unicornis*) Madomari-Kume *tɕinuman*, Itoman *hontɕinuman*, Shika *tsinumara*	'blackhead seabrem' (*Acanthopagrus schlegelii*) *chinu*	*tinu/*tino
eel	Hirara *mnagzi*, Ikema *unadzi*, Hateruma *unan*, Wadomari *unadzi*	unagi	**(m)unagi*/**(m)onagi* (cf. Martin 1987: 562)
flatfish	Hirara, Shika *i:*, Naze *e:*, Kametsu *je:*	ei	*ewi
Spanish mackarel (*Scomberomorus niphonius*)	Wadomari, Kametsu *so:ra*, Hateruma *sa:ra*, Yonaguni *sara*	sawara	*sapara
threadfin emperor/shortfin scad	'threadfin emperor' (Lethrinus genivittatus) Shika *muru:*, Chinen, Itoman, Madomari-Kume, Hama *ino:muru:*	'shortfin scad' (Decapterus macrosoma) *moro*	*moro/*mərə
whale	Naze *k'udzira*, Sesokko *gudza*, Hirara, Nagahama *fuddza*	kujira	*kundira (cf. Martin 1987: 468)

In contrast, a sizeable bulk of shared Kyushu-Ryukyuan fish names is attested, especially in the Satsugū area. That the Ryukyus and southern Kyushu have more in common in terms of climate certainly favoured this kind of outcome. Some of the cognates indicate slightly different fish species in the Ryukyus and in Satsugū, although they still refer to species which are visually akin. Similarly, the fact that a number of items, such as 'flathead silverside' and 'two-spot red snapper', appear to be shared by just Kyushu and South Ryukyuan alone, with the omission of North Ryukyuan, strengthens the likelihood of a label being recon-

structible for Common Kyushu-Ryukyuan, retained at the peripheries of the pertinent Kyushu-Ryukyuan area, in a manner characteristic of archaic lexemes.

Although the number of fish lexemes shared exclusively by Ryukyuan and Satsugū is the biggest, the lexicon shared with other parts of Kyushu, including the Chikugo area, Gotō islands, Tsushima and Amakusa, cannot be ignored. This corroborates the observation based on the vocabulary of seafaring technology (2.1.) that before migrating to the Ryukyus, Pre-Proto-Ryukyuan speakers participated in a broader Common Kyushu-Ryukyuan seafaring/fishery culture.

Table 4: Shared Kyushu-Ryukyuan innovations in fish names

Species (as attested in Ryukyuan)	Attestations in Ryukyu	Attestations in Kyushu	Common Kyushu-Ryukyuan reconstruction
bigeye scad (*Selar crumenophtahlmus*)	Naze *gatsun*; Itoman *gatɛun*; Hirara *gatsinu*; Hateruma *gatsɨn*	Kaimon, Kasasa (Satsuma Peninsula) *gatsun*; Iwamoto, Akune, Ichiki (Satsuma Peninsula), Kamikoshiki *gattsun*	*gatsunu ?
bluefin trevally/skipjack (*Caranx melampygus*), striped jack (*Pseudocaranx dentex*), yellow-spotted trevally (*Carangoides orthogrammus*)	Nagahama, Nakachi *mnuzzu*	Shimahira (Satsuma Peninsula) *minoio*, Tsushima *minouo* 'luna lion-fish' (*Pterois lunulata*)	*minoiwo
dogtooth tuna (*Gymnosarda unicolor*)	Itoman *tokakin*, Madomari-Kume, Hisamatsu *tukakin*, Hateruma *tukajuꞏ*; cf. also Shika 'yellowfin surgeonfish' (*Acanthurus xanthopterus*) *tukadza*	Beppu Itajiki, Origuchi (both Makurazaki, Satsuma Peninsula) *tokatɛi*; 'Korean mackerel' (*Scomberomorus koreanus*) Kagoshima *tokatɛin*; 'rainbow runner' (*Elagatis bipinnulata*) Fukumoto (Satsuma Peninsula), Magome Ōdomari (Ōsumi Peninsula) *tokatɛin*	*toka-
flathead silverside (*Hypoatherina valenciennei*)	Hirara, Karimata, Shika *padara*	Makurazaki, Akune, Izumi, Komenotsu (Satsuma Peninsula), Shimokoshiki *hadara*; Imuta (Satsuma Peninsula) *hadaradzako*; Ibusuki, Akune (Satsuma Peninsula) *hadaradzako*; 'roughhead silverside' (*Atherion elymus*) Matsunoo (Satsuma Peninsula) *hadara*; Hashima (Satsuma Peninsula) *hadarasago*; 'Japanese sardinella' (*Sardinella zunasi*) Ōkawa (Chikugo), Shiranuhi, Ōyano (both Amakusa), overall Kumamoto prefecture *hadara*; 'dotted gizzard shad' (*Konosirus punctatus*) Kurume, Yame (both Chikugo) *hadara*	*padara

Japanese ricefish (*Oryzia*)	Shuri-Naha *takamami*, *takaːmi*, *takamaː*	Ōura-Kawabe (Satsuma Peninsula) *takamami*, Ōsaka-Hiyoshi (Satsuma Peninsula) *takamamintɕo*; widespread in Satsuma and Ōsumi Peninsulas *takamame* and its suffixated variants such as *takamamesenko*, *takamametɕin*, *takamamenoko*, *takamamenti*, and many other	*takamame
longtailed red snapper (*Etelis coruscans*)	Itoman *akamatɕi*, Karimata, Hisamatsu *akamatsi*, Hateruma *agamatsi*, Yonaguni *agamatɕi*	Kunigami (Tanegashima) *akamaʔ* 'Japanese soldierfish' (*Ostichthys japonicus*)	*akamatu[14]
mottled spinefoot (*Siganus fuscescens*)	Nakijin *eːnukwaː*; Hateruma *enoha* (referring to the fry only)	Kataura (Satsuma Peninsula), Shibushi (Ōsumi Peninsula), Furue (Yakushima) *jenoha*; Makurazaki *jeno* (Satsuma Peninsula); 'land-locked trout' Chikugo *enoha*	*eno-
olive flounder (*Paralichthys olivaceus*); righteyed flounders (*Pleuronectidae*)	Naze *katahiraʔju*; Nagahama *pssazzu*; Hatoma *pisaidzu*	Kagoshima *katahiraiwo*; Kamikoshiki *katahirajo*	*(kata-)pira-ijo
two-spot red snapper (*Lutjanus bohar*)	Shika *akanaː* ~ *akanaːidzu*, Hirara *akanazzu*	Issō, Kurio, Ambō (all Yakushima) *akana*[15]	*akana
wrasse (*Labridae*)	Hirara, Sawada, Nakachi *fusabzi*; Wadomari, China, Kametsu *kusabi*	Miyanoura, Kurio, Ambō (all Yakushima), Tanegashima, Higashi Ichiki (Satsuma Peninsula), Takushima, Iki, Tsushima, Amakusa *kusabi*; Tsushima, Amakusa *kusabu*	*kusabi

Names of the fish that appear to be Ryukyuan innovations not traceable to shared Japonic roots include 'longspined porcupine fish' (*Diodon holocanthus*, PR *abasu ~ *abasa), 'blackspot tuskfish' (*Choerodon schoenleinii*, PR *makobo), 'brutal moray' (*Gymnothorax kidako*, PR *udzu), 'fugu' (PR *une ~ *unja), 'emperor' (*Lethrinus*, PR *tamanu), 'parrotfish' (*Scaridae*, PR *irabutu), and 'shark' (PR *saba, cognate of standard Japanese *saba* 'mackerel'). Apart from these, individual Ryukyuan languages or topolects also have a range of "endemic" fish names – innovative labels not found outside the specific area, such as Tarama *kaːngu* for 'crucian carp', and South Ryukyuan *babja* 'Japanese black porgy' (*Acanthopagrus schlegelii*) and 'Japanese black seabrem' (*Girella punctata*).

In contrast to fish names, names of seafood creatures are shared in substantial numbers between Ryukyuan and Mainland Japanese. This pertains especially to generic names which

[14] In a number of western Mainland lects in Mie, Okayama and Kagawa prefectures (Shōgaku Tosho 1989: 23), *akamatsu* indicates a different fish species, the common ninow (*Zacco platypus* or *Opsariichthys platypus*). This leaves a margin for consideration as to which meaning is innovative and which a retention from a shared ancestor; for now, the interpretation of the Kyushu-Ryukyuan meaning as the innovative one will be maintained.

[15] *Akana* is reportedly a usual Satsugū name for red snappers and similar species, encountered in Satsuma and Ōsumi areas as well as Morokata (Hashiguchi 2004-1: 60). Furthermore, like *akamatsu*, the name *akana* is attested outside the Kyushu-Ryukyu area in Tottori as a reference to the 'marbled rockfish' (Bouz-Konnyaku 2021; Shōgaku Tosho 1989: 23), suggesting that the name itself has a broader western Japan distribution.

do not introduce a specialized distinction of species, such as 'crab', 'medusa' or 'octopus'. These names can be therefore assumed not to have been replaced in Ryukyuan since Proto--Japonic.

Table 5: Proto-Japonic marine animal names inherited in Ryukyuan

Species	Attestations in Ryukyu	Mainland Japanese	Proto-Japonic
abalone	China *e:bi*, Hirara *a:bzï*, Tarama *e:bzï*,	*awabi*	*awambi (cf. Martin 1987: 388)
clam	Naze, Kametsu, Wadomari *hamagui*, Shika *hamo:ri,* Hatoma *pamo:ru*	*hamaguri*	*pamagoruj (cf. Martin 1987: 379)
crab	Naze, Kametsu *gan*, Yoron *gan*, Shuri *gani*, Sesoko, Ie *gai*, Hirara, Ikema, Shika, Hateruma *kan*	*kani*	*kanuj
jellyfish	Naze *jə:ra*, Hatoma *ira*, Shuri *ʔi:ra:*, Ikema *rrja:*, Hirara *zza*, Sawada *lla*	dialectal (e.g. Sado, Shima) *ira*	*ira
octopus	Naze, Wadomari, Kametsu *to:*, Sesoko *tafu:*, Hirara, Tarama, Shika, Hateruma taku, Yonaguni *tagu*	*tako*	*tako
sea urchin	Wadomari *ʔuni:*, Sesoko *ui*, Hirara, Hateruma *un*	*uni*	*oni
shellfish	Tarama, Sawada *kaz*; China *ha:i:* 'conch', Shuri *ke:*	*kai*	*kapi (cf. Martin 1987: 433)
shrimp	Naze, Wadomari i:bi, Sesoko *ʔi:bi*, Hirara ibzï, Hateruma *ibi*, Yoron *ibi*, Yonaguni *in*	*ebi*	*jebi (cf. Martin 1987: 392)
squid, cuttlefish	Wadomari *ʔitɕa*, Shuri *ʔika*, Shika *ika*, Hirara *ikja*, Hatoma, Hateruma *iga*, Yonaguni *ita*	*ika*	*ika (cf. Martin 1987: 421)
turtle	Wadomari *hami:*, Naze, Kametsu *kami*, Hirara, Ikema, Shika, Hateruma *kami*	*kame*	*kamaj (cf. Martin 1987: 435)

Although there is also a body of seafood and other sea creature names innovatively shared by Kyushu and Ryukyuan, unlike fish, these are typically limited to the Satsugū area alone, and still only to specific, individual topolects of Satsugū rather than the whole area. It is also remarkable that whereas the vocabulary with Proto-Japonic lineage involved generic names, the putative Kyushu-Ryukyuan vocabulary mostly targets specific species[16] – and the semantics of the particular names is consequently much narrower. This encourages a hypothesis that Pre-Proto-Ryukyuan speakers in southern Kyushu distinguished themselves from other Japonic-speaking groups at the time by the specialized vocabulary pertaining to the specific types or species of sea creatures.

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[16] One exception here may be 'shellfish', Kyushu-Ryukyuan *mina, cognate of WOJ *mina* > *nina* '(mud) snail' (cf. Jarosz 2021: 54). Since no Mainland cognates of Kyushu-Ryukyuan *mina* 'shellfish' have so far been found, it is impossible to determine whether the Kyushu-Ryukyuan semantics are an innovation or if they reflect the Proto-Japonic semantics of this item. Instances like *manina* 'Lunella coreensis' in Sukumo and Ōtsuki in Kōchi (Shikoku) are inconclusive, as they technically refer to a snail which lives in the sea like a shellfish.

Also important is the fact that even if a certain form can be reconstructed for Common Kyushu-Ryukyuan, often the semantics of the modern Kyushu and Ryukyuan reflexes have become rather distant, to the point where it is not possible to postulate a confident Kyushu--Ryukyuan semantic reconstruction, as in *nosa* – which yielded modern Kagoshima 'shark' and Miyako 'spiral shellfish' – or *korowa*, which resulted in Shika 'many-formed cerith', but Tokara and Koshiki 'sea cucumber'. Some of the correspondences are also not well established, increasing the risk of a spurious cognacy.

As a consequence of all of the above reservations, the only relatively certain and straight-forward Kyushu-Ryukyuan items in Table 6 below are 'hermit crab', 'webfoot octopus', 'golden cuttlefish', 'trepang' and 'turban snail'.

Table 6: Proto-Japonic marine animal names shared by Kyushu-Ryukyuan

Species (as attested in Ryukyuan)	Attestations in Ryukyu	Attestations in Kyushu	Common Kyushu--Ryukyuan reconstruction
coconut crab (*Birgus latro*)	Ikema, Tarama, Hatoma *makugan*, Hateruma *mugon*, Shika *mukkon* ~ *makkon*, Naze *ammaku*	'fish eggs' Kurume, Ukiha, Yame, Hita (all Chikugo), Kamikoshiki, Shimo-koshiki, Tanegashima *mako*; 'red sea brem' Sasue, Fukumoto (both Satsuma Peninsula) *mako*	*mako 'fish eggs'; juxtaposed with *kani 'crab' produced Proto-South Ryukyuan *makogan 'coconut crab'
golden cuttlefish (*Sepia esculenta*)	Kametsu, Shika, Yonaguni *kubuɛimi*, Hateruma *kuɛɛimi*, Wadomari, China *hibuɛimi*; broadclub cuttlefish (*Sepia latimanus*) Shuri *kubuɛimi*	Shimokoshiki, Satomura, Taira (both Kamikoshiki) *kubuɛi(-ika)*, Tanegashima, Kamikoshiki *koboɛi(-ika)*	*kobose-
hermit crab	Naze, Hateruma *aman*, Wadomari *amamu*, Hirara *amam*	Takara (Tokara islands) *amamu*; 'sea slater' (*Ligia exotica*) Tanegashima *amame*	*amamu
Japanese mud shrimp (*Upogebia major*)	Shika *da:na-kan*	*Macrobrachium nipponense* Sakurajima, Hioki (both Satsuma Peninsula), Fukuyama (Ōsumi Peninsula) *damma*, Tanegashima *dakuma*; generic reference to 'shrimp', Nagasaki *dakuma*, Beppu Tawaratsumida (Satsuma Peninsula) *damma*; 'freshwater shrimp' (referring to multiple geni/subspecies) Morokata, Kimotsuki *dakumaebi*; Torisu, Sato (both Satsuma Peninsula), Kokubu, Kaseda (both Ōsumi Peninsula) *damma*; Tamaki *daguma*; Nobeoka *rakumaebi*	*dakuma
many-formed cerith (*Batillaria multiformis*)	Shika *kuruba:*	'sea cucumber' Kodakara (Tokara), Kuwanoura (Koshiki) *koroa*	*korowa

mysid/opossum shrimp/small river shrimp	Shuri-Naha *seːgwa*; Nagahama *saz*; Ikema, Shika *sai*; Hateruma *səː*	Takaoka (Morokata) *dzae*; Chikugo *saintɕoː*	*sapi/*sai[17]
spiral shellfish	Ikema, Nagahama *nusa*	a species of shark (*Galeus nipponensis*) Kagoshima *nosa*	*nosa
trepang, sea cucumber	Shika *sikiri*, Hateruma *sikiri*, Yonaguni *t'ija*, Sani *ɕikiri*, Nakijin *ɕitɕiːri~hitɕiːri*	Tanegashima *ɕikiri*, Kagoshima *ɕikii*	*ɕikire
turban snail, a species of (*Lunella correensis*)	Shika *tsibusi-nna*	Izumi, Kasasa (both Satsuma Peninsula), Kamikoshiki, Teuchi-Shimo-koshiki *tsubuɕi-mina*	*tuboɕi-mina
webfoot octopus (*Octopus ocellatus*)	Wadomari *ɕiːgai*, China *ɕigeː*, Nakachi *sigaz*, Sawada *sigal*	'long-armed octopus' (*Octopus minor*) Tanegashima *sugaru*	*sugaru

Whereas the proportion of shared Kyushu-Ryukyuan names in this sector of vocabulary is relatively low, there is conversely a wealth of innovative names which are exclusive to Ryukyuan. Some of the species represented by such names are found elsewhere in Japan and, as such, the labels could be potentially shared with other Japonic topolects; they include 'cowry' (PR *subi*[18]), 'Neptune's cradle' (*Tricadna gigas*, PR *adzikai*), 'coral' (PR *uro*), or 'trumpet shell' (PR *sabora*). Like with fish, there is also an abundance of names with etymologies attested only locally.

This fact must be related to the apparently uneven, at times likely endemic diffusion of seafood and other marine creatures among the Ryukyuan-speaking area.

There is not much of note in terms of innovative marine flora names shared by Kyushu and Ryukyuan. The available Ryukyuan vocabulary either has Proto-Japonic roots, including 'sea lettuce' (PJ *awosa*), 'lavor, sloke, sloak' (PJ *nəri*), 'alga, duckweed, seaweed' (tentative PJ *mo*), '*Codium fragile*' (tentative PJ *mojru*, cf. Jarosz 2020: 77 and Martin 1987: 480), and '*Chondrus ocellatus*' (PJ *tunomata*), or represents innovations exclusive to Ryukyuan, such as 'brown alga' (*Nemacystus decipiens*, PR *sinuri*), 'red seabroom' (*Digenea simplex*, tentative PR *natsɨ-ara*), and 'sea grapes' (*Caulerpa lentillifera*, Miyako *nkjafu ~ nkifu*). All in all, there seems to have been no substantial shared Kyushu-Ryukyuan culture of the seaweed/marine plant subsistence such that would single out the Kyushu-Ryukyuan communities from other Japonic speakers.

2.4. Shared Kyushu-Ryukyuan morphology

Although not the central topic of our paper, shared innovative morphology provides strong arguments in favour of a genetic subgrouping of Kyushu and Ryukyuan. As such,

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[17] This could be ultimately related to Old Japanese regional *se* 'Japanese goose barnacle', attested in *Izumo Fudoki* (Hashiguchi 2004-1: 885). In modern Satsugū, this item is reflected as *se* (Nagata in Yakushima) ~ *sei* (Beppu-Itajiki on the Satsuma Peninsula).

[18] Formally, PR *subi* corresponds to the aforementioned Old Japanese *ɕubi* and modern standard *shibi*, so there is some chance that these items are cognates, despite the marked semantic difference.

a number of such features will be listed here in order to provide supporting evidence for this paper's case.

Igarashi (2023) successfully demonstrated a shared Kyushu-Ryukyuan innovation in verbal morphology resulting from a shared sound change from the PJ diphthong *əj to Kyushu--Ryukyuan *e, causing the cognates of WOJ upper bigrade verbs, such as *əkəj > okɨ 'to get up', *ətəj > oti 'to fall', to merge their conjugation patterns with the cognates of lower bigrade verbs (WOJ *akaj > ake 'to open', *sagaj > sage 'to lower'), cf. Common Kyushu--Ryukyuan *oke, *ote. According to Igarashi's evidence, the areas which retain the verbs inflecting according to the patterns imposed by the *əj > *e change include large parts of the Miyazaki prefecture, the former Ōno district in the Ōita prefecture, the Aso area in Kumamoto, the Iki island, and, to a smaller extent, the Koshiki islands.

The following list of other shared Kyushu-Ryukyuan morphological innovations is a revised and expanded version of the discussion in Supplementary Material 2 of (Jarosz et al. 2022), based chiefly on the transcript of natural speech records in Kindaichi and Shibata (1966) and Shibata (1967). The respective features undergo an in-depth discussion in a forthcoming publication (Jarosz 2024).

- Negative converb *-(a)da(na), e.g. Miyako -(a)dana, comparable with -(a)dza (Minamiamabe--Ueno), -adena (Kumamoto, Shirinashi, Tsutsu, Gotō, Arie);
- negative gerund *-(a)di, e.g. Yoron -(a)dzi, Yuwan -(a)dzii, and Kyushu -(a)dzi, broadly attested especially in the areas of Kagoshima and Miyazaki prefectures, but also in the Iki and Gotō islands;
- conditional suffix *-(te)kara, attested throughout the Ryukyus, especially South Ryukyuan, as well as in locally in Ōita and Fukuoka;
- purposive marker appearing in constructions such as 'to go to do X'; there are two groups of reflexes, simplex and complex, the former consisting of Proto-Japonic genitive *-nə followed by locative *-ka grammaticalized from *ka 'place' > modern Uku (Gotō islands), Shuri, Kametsu, Hirara, Tarama -ga; the latter comprised of locative *-ka followed by allative *-pe > *-kape > modern Kagoshima, Miyazaki, Kuboizumi (Saga), Fukue -ke, Kuma, Kamikoshiki -kjaː; another variant of *-kape is also preceded by the genitive marker, *-nəkape > modern Fukuoka -geː, Nagasaki, Uku, Kumamoto, Kuma, and China -gja(ː), Ie -dza;
- the complex purposive marker *-(nə)kape also attested in a range of Ryukyuan topolects as a marker not of the purposive, but of the allative, cf. Shuri, Tarama -nkeː, Hirara -nkai; in Kyushu topolects such as Satofure, Okatchugamizu and Shirinashi-Akune, descendants of *-(nə)kape are attested in both purposive and allative functions;
- the manner-instrumental marker *-ti and the allative marker(s) *ti/*-ti-pe, the former grammaticalized from Proto-Japonic *ti 'way, road', in Kyushu attested with the form -tɕi in Tsutsu (Tsushima) and Miyakonojō;
- the Ryukyuan instrumental marker derived from the resultative form of the verb 'to do', PR *ɕija(ri) > *ɕiː, cognate with gerund/causal markers -seː ~ -ɕeː ~ -sei on nominalized verb forms, attested in topolects of the Kagoshima prefecture;
- ability verb *woposu, a cognate of Early Middle Japanese oposu 'to complete, to achieve', attested as an ability potential auxiliary/suffix throughout Ryukyuan as well as, scarcely, in Fukuoka and Ōita prefectures.

Several of these assumed Kyushu-Ryukyuan innovations are found in most or all of the Kyushu area. This speaks in favour of the validity of Kyushu-Ryukyuan, or Igarashi's South Japonic, as a genetic subgrouping within the Japonic cladogram.

At the same time, morphological data does not provide firm evidence for a lower-level subgrouping of Ryukyuan and southern Kyushu/Satsugū, which is a crucial departure from what lexical evidence seems to be pointing at. Nevertheless, both lexical and morphological findings allow us to postulate Proto-Kyushu-Ryukyuan as the shared ancestor of Ryukyuan and the original Kyushu Japonic topolects.

A note should also be made of shared Kyushu-Ryukyuan morphological features which also have cognate forms in western Japanese dialects. One example is negative past tense markers, viz. Proto-Ryukyuan *-(a)datamu < *-(a)dana-atamu* (cf. Thorpe 1983: 197), comparable with Kyushu -(*a*)*datta* (Shiiba-Miyazaki, Kumamoto, Ōita), -(*a*)*ratta* (Suwatsuru-Ōita), -(*a*)*dzatta* (Gotō islands), -(*a*)*dzatta* / -(*a*)*dzotta* (Satofure-Iki), -(*a*)*dzatta* (Tsutsu-Tsushima, Minamiamabe-Ueno in Ōita, Minamikata-Nishiusuki in Miyazaki, Tanegashima). While cognates of these markers are also attested in e.g. Wakayama and Izumo, attestations besides Kyushu-Ryukyuan are confined to western Japanese (cf. Ōnishi 2016: 144-145), and as such, for the moment at least, they cannot be reconstructed for PJ.

2.5. Support of the shared Kyushu-Ryukyuan ancestry hypothesis

Speculations about common proto-language origins of neighbouring linguistic communities – or those that used to be neighbours in the past – are inherently disputable due to the nature of contact-induced changes. Studies in contact linguistics conclude that in fact any linguistic feature can be borrowed or diffuse even across language borders (cf. e.g. Thomason & Kaufman 1988, Thomason 2001, Chambers & Trudgill 2004). Needless to say, among all sectors of a linguistic system, vocabulary is by far the most prone to borrowing and diffusion. With these theoretical odds working against using shared lexicon as evidence of an erstwhile linguistic subgrouping, below we provide evidence strengthening the case for the vocabulary discussed in (2.1-2.3.) being considered as inherited from a shared Kyushu-Ryukyuan ancestor.

First, there is evidence rooted in the sound change patterns of Proto-Ryukyuan and its daughter languages which implies that much of the vocabulary examined in this paper dates back to Pre-Proto-Ryukyuan, Proto-Ryukyuan or, in the case of South Ryukyuan items, to Proto--Sakishima[19]. The absolute timing of the split of all these proto-languages may be tentatively proposed as no later than 9th/10th century in the case of Pre-Proto-Ryukyuan, 13th century in the case of PR and early 14th century in the case of PS[20]. Sounds and sound sequences which can confidently be considered a reflection of any of these (pre-)proto-languages include:

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[19] Cf. Hattori (1978) and Thorpe (1983) for seminal studies of Proto-Ryukyuan phonology, as well as Jarosz (2018a et seq.) for detailed analyses of the diachrony of specific phonological phenomena in the history of Ryukyuan, such as changes in the vowel system and the related chain shifts.

[20] These are cautious estimations; Karimata (2020: 245) suggests an even earlier interval of the split of PR into North and South, namely 10th to 12th centuries.

- PJ *p in e.g. PR *padara 'flathead silverside' (4)[21], PR *pira-ijo 'olive flounder' (4), PR *panagi 'bow, head of the boat' (2.1.); if these items had been loans from Mainland Japonic, they would have been borrowed in a period when Mainland still retained the initial voiceless bilabial stop, therefore probably no later than 13th century if one follows Frellesvig's (2010: 311) estimates concerning the inception of the fricativization of initial /p/ in Late Middle Japanese;
- PR centralization of PJ *u after coronal obstruents, e.g. PR *sɨgaru 'webfoot octopus' (6), *akamatsɨ 'longtailed red snapper' (4). These reflexes show that the origins of these items must be predating PR;
- PR *u in 'hermit crab' (6), PR and PS *amamu; due to chain shifts which occurred in South Ryukyuan languages (Jarosz 2018a, Jarosz 2019b), if a Kyushu form amamu had been borrowed to Ryukyuan postdating the split of PR, it would have been reflected e.g. in Miyako as †amamu;
- PR word-initial sequence *ij, as in *ijako 'oar' (2.1.), *ijo 'fish' (e.g. 'olive flounder', 4). These sequences underwent distinct developments in North and South Ryukyuan; affrication *j > *dz occurred in PS, ensuring that South Ryukyuan origins of these items predate PS or else they would reflect in modern Sakishima languages as /ij/, e.g. Hirara-Miyako †ijaku 'oar', †iju 'fish';
- PS assimilation of the strings *Cir as an example of the Proto-Sakishima Flap Assimilation (FA; Jarosz 2018a, Jarosz 2019b), whereby C stands for a voiceless obstruent. The aspiration of voiceless obstruents in Sakishima caused the fricativization of the flap in these strings, e.g. *pir > *pis. If items such as 'olive flounder' (4) postdated PS, their expected modern form would be e.g. Nagahama (Miyako) †psɨra;
- PS change *ku > *fu, which ensures a pre-PS origin of the item 'Wrasse' (4), reflected as e.g. fusabzɨ and not †kusabzɨ or †kusabi in Miyako;
- PS centralization of PR *i after bilabial and velar stops, e.g. again in 'Wrasse' (4) – cf. Miyako fusabzɨ, not †kusabi; 'trepang, sea cucumber' (6) – cf. Shika sɨkɨri, not †ɕikiri or †sɨkiri; 'bow, head of the boat' (2.1.) – cf. Tarama panagzɨ, not †panagi or †hanagi.

Although even such amount of substantial evidence in favour of the anciency of the relevant sound changes and the related lexical forms still does not eliminate the possibility of these items being loanwords from Mainland/Kyushu-Japanese (even as old as Pre-Proto-Ryukyuan, i.e. predating the Japonic migration into the Ryukyus c.a. 9th century CE), the time window permitting these loans becomes significantly narrower[22].

Morphemes used in toponyms can be expected to reflect older, conservative layers of vocabulary which are more likely to be inherited than diffuse through contact. Such are the instances of place and family names with PR *sone, which as a common noun indicates 'a spot where many fish gather, a good fishing spot' (2.1.).

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[21] Single-digit numbers in parentheses reference the number of Table in which the specific item is originally listed.

[22] On a side note, one can reiterate the tendencies of mid-vowel raising observed in a range of Kyushu items (e.g. 'scooping net', 'fish bait', 2.1.). Although this cannot be strictly considered a shared Kyushu-Ryukyuan change, since it is clear (cf. e.g. Hattori 1979, Thorpe 1983, Jarosz 2018a/b, Jarosz 2019, Jarosz 2021) that the mid-vowel raising was far from complete in PR, there is a likelihood that some mid-vowel raising tendencies were shared in the Kyushu-Ryukyuan ancestor language as allophony/variant forms.

Turning to geolinguistic and sociolinguistic considerations: as was briefly mentioned in (2.3.), morphemes attested in South Ryukyuan and Kyushu without mediation of North Ryukyuan are more likely to reflect inherited vocabulary. With the loan/diffusion scenario, the geographic discontinuity of attestations of such morphemes requires to assume that the diffusion omitted North Ryukyuan entirely, which is difficult to imagine both in general geolinguistic terms – the loanwords/diffusing vocabulary would have to somehow skip a roughly 600-kilometer-long chain of islands to be transferred directly to Sakishima – as well as from the sociopolitical perspective. It was the North Ryukyuan languages, in particular the Shuri-Naha topolect spoken in the capital of the Ryukyu Kingdom, that were the contact hub between the Ryukyus and pre-modern/early modern Kyushu. Examples of Kyushu or other Mainland Japanese loans that would be borrowed into South Ryukyuan directly rather than through Shuri-Naha/the Okinawan language are yet to be heard of (cf. Lawrence 2012: 408). There is no reason to assume otherwise about multiple items such as 'bow, the head of the boat' (2.1.), 'fish bait' (2.1.), 'hermit crab' (6), 'flathead silverside' (4), 'two-spot red snapper' (4), 'bluefin trevally/skipjack' (4); the lack of attestations of these items in North Ryukyuan means high chances for them to have been inherited in Sakishima and Kyushu from a Common Kyushu-Ryukyuan ancestor.

Due to the aforementioned structural (sound change) and geographic/sociolinguistic concerns, the likelihood of the Kyushu-Ryukyuan vocabulary compared in this paper representing a layer inherited from a shared ancestor can be assessed as relatively high.

2.6. Summary

Map 1 shows the distribution of the attested alleged shared lexical innovations between Kyushu and Ryukyuan as discussed in the present paper. Altogether, there were 29 lexical comparanda that entered the final calculation as likely Common Kyushu-Ryukyuan proto-language items. If detected in at least topolect spoken in a specific modern prefecture, each comparanda gained that prefecture score 1.

Number of shared items

- ☐ 0
- ☐ 1-4
- ☐ 5-9
- ☐ > 25
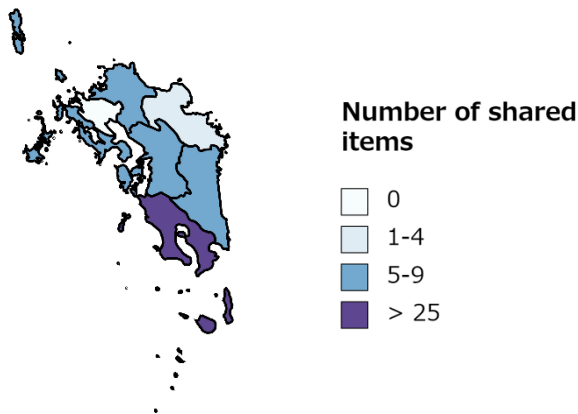
Map 1. Lexical innovations in Kyushu shared with Ryukyuan

The results show an extreme domination of the vocabulary shared between Ryukyuan, on the one hand, and the area of the Kagoshima prefecture, on the other: whereas the attested numbers in other prefectures did not exceed six, the count for the Kagoshima area is 28 out of maximum 29. The disparity between this number and the runner-ups (Fukuoka and Nagasaki with six) is too great to dismiss it as statistical error. Even taking into consideration that the disproportion may be heightened by a skew in the available lexicographic sources, with the relevant Kagoshima vocabulary being better documented than that of other prefectures on the one hand, and subtracting the non-exact comparisons on the other, the results for Kagoshima would still be a multiplication of those of other Kyushu prefectures. These results corroborate the postulation of the Kyushu homeland of the Ryukyuan speakers specifically in the area of the modern Kagoshima prefecture (matching the conclusion of Jarosz et al. 2022: 18), and to envision the communities speaking the shared Kyushu-Ryukyuan proto-language, Proto-Satsugū-Ryukyuan, as communities with a distinctive marine and seafaring culture.

At the same time, it is also noteworthy that for other areas, the amount of vocabulary shared with Ryukyuan is actually larger in the north prefectures – Fukuoka and Nagasaki – than in Kumamoto and Miyazaki, the two prefectures geographically adjacent to Kagoshima. This might be indicative of a non-linear spread of the proto-language of one order higher than Proto-Satsugū-Ryukyuan, the consequence being that the substratum lexicon of Miyazaki and Kumamoto bears no particularly closer relationship to Ryukyuan than that of Nagasaki (especially the remote islands like Gotō, Iki and Tsushima) and Fukuoka (especially the Chikugo area). More likely, however, the two northern prefectures might simply be relic areas, retaining more of conservative vocabulary than varieties in other regions (cf. discussion below). Either way, however, the differences between the numbers in topolects outside Kagoshima are minimal, which makes the risk of a statistical error resulting from a dataset skew/data availability is greater, and in turn invites a bigger dose of caution in drawing the conclusions.
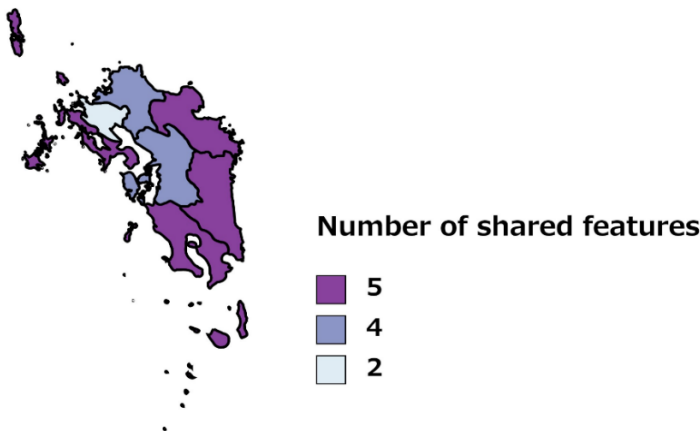
Map 2. Grammatical innovations in Kyushu shared with Ryukyuan

The optics become quite different in an examination of the shared grammatical features. Here, the features discussed in 2.4.[23], calculated as a total of 9, were assigned binary values per prefecture: 1 for the presence and 0 for the absence of the feature in question in any topolect of the given prefecture. The results are visualized in Map 2.

In contrast to lexical innovations, the distribution of shared grammatical features is considerably even. There are as many as four leaders: Kagoshima, Miyazaki, Ōita and Nagasaki (five points each), three close runner-ups in Fukuoka and Kumamoto (four features), and the outsider in Saga (two).

Although the overall results do support the Kyushu-Ryukyuan affinity, no particular area of exclusive Kyushu-Ryukyuan innovations can be identified. Not only does the Kagoshima/Satsuma or Satsugū area not display more shared features with Ryukyuan, but also all shared features except one[24] are also found elsewhere in Kyushu, eliminating possibilities for a cladistic subdivision along the lines of Satsugū-Ryukyuan.

Shared innovative features found in all or most of the Kyushu area can confidently be traced to a shared Kyushu-Ryukyuan ancestor, supporting Proto-Kyushu-Ryukyuan as a legitimate Japonic tree node. Similarly, features shared between Ryukyuan and those Kyushu areas which are not geographically closest to the Ryukyus (i.e. areas outside Kagoshima and Miyazaki) can be considered Proto-Kyushu-Ryukyuan relics in a representation of what Chambers and Trudgill (2004: 94) call "the relic pattern", observed when a "linguistic feature exists in two or more parts of the region but those parts are separated from one another by an area in which a different, or opposing, feature occurs". This kind of distribution "indicates a late stage in the displacement of a formerly widespread linguistic feature by an innovation. In earlier times, the feature which now occurs in isolated areas was also found in the in-between areas. Its status is now that of a relic feature, and the in-between areas show the progress of the innovation. Therefore, rather than positing a discontinuous subgrouping of Ryukyuan and Southern Kyushu – Kagoshima and Miyazaki – e.g. with the outlier northwestern islands of the Nagasaki prefecture alone, the relic pattern should be a more likely explanation behind the distribution of the features in question in Kyushu. Parallel observations apply to the distribution of shared lexical features discussed with Map 1.

Morphological comparisons provide thus no particular reason for a cladistic subdivision of the Kyushu-Ryukyuan node. Even more interestingly and quite surprisingly, if one can talk about any micro-patterns of exclusive shared innovations, they pertain to the areas of Fukuoka and Ōita. These northeastern regions, relatively distant geographically from the Ryukyus, have two features shared with Ryukyuan not observed elsewhere in Kyushu: the conditional marker *-(te)kara and the ability verb *woposu. This seems to imply a higher

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[23] The set includes Igarashi's (2023) findings about the shared *əi > *e development in the stems of vowel verbs. On the other hand, allative use of the *-(nə)kape marker was excluded from the calculation, since its range is fully contained within the range of the purposive use of the same marker, and chances are that these allative uses represent individual developments of the specific topolects (a result of a usual grammaticalization mechanism).

[24] Referring to the gerund/causal markers -seˑ ~ -ɕeˑ ~ -sei compared with the Ryukyuan instrumental *-ɕi, a comparison which in itself is not without controversy (Jarosz 2024).

probability of the ultimate Kyushu-Ryukyuan homeland being located in northeastern Kyushu, and thus encourages a revisit of Serafim's proposal (2003) rejected in Jarosz et al. (2022).

Morphological signals are therefore at odds with lexical in terms of Kyushu-Ryukyuan subclassification. The disparity can be explained by a theory that once they started to shift to Mainland Japanese after the migration of some of the speakers to the Ryukyus, the remaining Kyushu lects of the Satsugū-Ryukyuan node replaced and innovated their grammar to a degree its closer affinity with Ryukyuan cannot be detected anymore. This also leads to somewhat unexpected conclusions that although, as mentioned above, vocabulary has the reputation of being the more easily borrowed/replaced parts of a language system, the retention ratio of relevant features in the putative Satsugū-Ryukyuan node is unquestionably stronger precisely in lexicon and not in grammar.

The lack of morphological evidence in favor of the Satsugū-Ryukyuan node as well as a general scarcity of morphological Kyushu-Ryukyuan features identifiable as innovative implies that most of grammatical innovativeness observed in modern Ryukyuan may be no older than Proto-Ryukyuan, and that perhaps the linguistic distance of Proto-Kyushu--Ryukyuan at the time of its split from other Japonic proto-varieties was not as great.

Such a not-huge linguistic distance between the ancient South Japonic and Mainland Japonic varieties may have facilitated the scenario postulated in this paper, according to which the language spoken formerly in Kyushu had been a closer kin of Ryukyuan within the South Japonic subgrouping, which then gradually shifted into – or blended with – Mainland Japanese.

On the other hand, the pattern of lexical innovations retaining a thick layer in Kagoshima prefecture, whereas the innovation ratio in all other areas is many times smaller, suggests that the erstwhile Kagoshima innovations dating to the Satsugū-Ryukyuan period were not entirely uprooted by the language replacement of the indigenous Kyushu-Japonic by Central Mainland Japanese. The Kyushu area of what is identified here as the Satsugū-Ryukyuan group comprises geographically adjacent communities of the Satsuma, Ōsumi and Morokata regions which dwelt under comparable climactic and subsistence conditions, and possibly formed a close contact network which favoured diffusion of seafaring culture and the related vocabulary.

Based on the above combination of lexical and morphological evidence summarized by Maps 1 and 2, one can tentatively propose the following Kyushu lineage of the Ryukyuan parent languages: Proto-Kyushu-Ryukyuan > Proto-Satsugū-Ryukyuan > Proto-Ryukyuan, with a caveat that "parent languages" do not necessarily indicate a great linguistic distance and a breach in mutual intelligibility between, for instance, Proto-Satsugū-Ryukyuan and other Kyushu topolects of the time, or even between these ancient Kyushu topolects and Old Japanese.

Although the Kyushu members of all these South Japonic nodes became extinct/shifted to Mainland Japanese, this lineage is reflected in the modern Mainland Kyushu topolects as a substratum which we were able to examine in this paper.

3. Conclusions

In the present paper we tested linguistically the hypothesis according to which maritime knowledge reflected in the shared Kyushu-Ryukyuan lexicon supports the Kyushu--Ryukyuan subgrouping in the Japonic family tree. We highlighted a conspicuous number of shared lexical items between Ryukyuan and Kyushu dialects, suggesting a shared navigation culture, as well as ostensible common maritime subsistence and lifestyle patterns, which may have played an important role in the eventual spread of Ryukyuan languages in the Ryukyus. Furthermore, although further research is needed in order to strengthen this position, we mentioned a number of Kyushu-Ryukyuan morphological innovations that speak in favour of a genealogical subgrouping of Kyushu and Ryukyuan.

As a result, we postulate two levels of shared Kyushu-Ryukyuan ancestry within the Japonic cladogram: Proto-Kyushu-Ryukyuan/Proto-South-Japonic, which is the ancestor of all Kyushu and Ryukyuan topolects; and Proto-Satsugū-Ryukyuan, the direct ancestor of Proto-Ryukyuan, comprising the Satsugū area (modern Kagoshima and southern Miyazaki prefectures).

Although following the split of Proto-Ryukyuan, the remaining South Japonic topolects eventually shifted to Central Mainland Japanese, the shared Kyushu-Ryukyuan substratum is still retained in modern Kyushu topolects with a varying density, the degree of which can be hypothesized to indirectly reflect the genetic proximity between the specific topolect and Ryukyuan languages.

At the same time, one can emphasize that the ratio of shared Kyushu-Ryukyuan vocabulary in the examined sectors varies depending on the sector. There is a substantial number of uncontroversial Kyushu-Ryukyuan cognates in terms of seafaring technology (2.1.) and, in particular, fish names (Table 4). Although there are also relatively many likely cognates naming marine fauna other than fish (Table 6), the putative cognacy is made weaker by the non-exact correspondences of meaning or form. On the other hand, there are virtually no shared Kyushu-Ryukyuan developments observed in the names of marine flora (2.3.), and only few such developments in the vocabulary concerning cardinal directions and navigation (2.2.).

To contextualize these findings against a broader Japonic backdrop, Ryukyuan also has a significant number of vocabulary traceable to Proto-Japonic concerning seafaring technology (Table 1), cardinal directions/navigation (Table 2), marine fauna (Table 6), as well as marine flora (2.3.). This suggests that the seafaring and maritime culture of Proto-Ryukyuans was also firmly grounded in a broader Japonic-speaking culture, although it developed its own specific characteristics shared with Kyushu topolects, in particular those of the Satsugū area. These specific developments were likely fed by the habitation conditions of Satsugū--Ryukyuan speakers, which included warm, borderline subtropical climate and accordant marine fauna, coastal or near-coastal dwellings, and marine subsistence patterns. Furthermore, a lot of Ryukyuan vocabulary developments appear exclusive to Ryukyuan alone, a feature explicit not only in the original Ryukyuan seafaring technology vocabulary (2.1.) and names for the local flora and fauna (2.3.), but also, perhaps most tellingly, in the innovative Ryukyuan system of cardinal directions, which co-exists in variously proportioned mixes

with the inherited Proto-Japonic system (2.2.). These are all developments postdating the Japonic migration into the Ryukyus around the 9th century AD (cf. Jarosz et al. 2022: 7-8).

All in all, our results imply Kyushu-Ryukyuans, in particular Satsugū-Ryukyuans, to have been a community culturally integrated into general Japonic patterns, although with a strong original maritime/seafaring component induced by environmental factors.

To conclude, the analysis of lexical items related to marine fauna, wind patterns and directions suggests a stronger affinity between Kyushu and Ryukyuan topolects than between Ryukyuan and other Mainland topolects, which might be tentatively interpreted as the result of a shared ancestry in the past. At the same time, we propose Proto-Satsugū-Ryukyuan as the predecessor pre-Proto-Ryukyuan language that was still spoken in Kyushu in the first millennium AD. While the conclusions reached in this paper are still preliminary, it is also felt that a deeper exploration of lexicon related to maritime knowledge, as well as a closer look at other shared Kyushu-Ryukyuan linguistic features, will eventually prove rewarding.

Acknowledgements

Abbreviations

EMJ	Early Middle Japanese
EOJ	Eastern Old Japanese
PJ	Proto-Japonic
PR	Proto-Ryukyuan
PS	Proto-Sakishima
WOJ	Western Old Japanese

List of topolects with their corresponding languages and areas

Topolect	General location	Area and language
Abu	Western Honshu (Chūgoku)	Yamaguchi, Mainland Japanese
Aha	North Ryukyuan	Okinawa island, Kunigami
Aichi district	Tōkai	Aichi, Mainland Japanese
Aki	Shikoku	Kōchi, Mainland Japanese
Akune	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Akuseki	Kyushu	Tokara islands, Satsugū, Kagoshima, Mainland Japanese
Amagi	North Ryukyuan	Tokunoshima island, Amami
Ambō	Kyushu	Yakushima island, Satsugū, Kagoshima, Mainland Japanese
Amakusa	Kyushu	Amakusa island, Kumamoto, Mainland Japanese
Arie	Kyushu	Nagasaki, Mainland Japanese
Azuma	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Beppu Itajiki	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Beppu Tawaratsu-mida	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Bonōtsu	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Chikugo	Kyushu	parts of Fukuoka, Ōita, Saga and Kumamoto prefectures, Mainland Japanese
China	North Ryukyuan	Okinoerabu island, Kunigami
Fukumoto	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Fukuoka the city	Kyushu	Fukuoka, Mainland Japanese
Fukuyama	Kyushu	Ōsumi Peninsula, Satsugū, Kagoshima, Mainland Japanese
Furue	Kyushu	Yakushima island, Satsugū, Kagoshima, Mainland Japanese
Gotō	Kyushu	Gotō islands, Nagasaki, Mainland Japanese
Hachijō	Hachijō	Hachijō island, Hachijō language
Hamana	Tōkai	Shizuoka, Mainland Japanese
Hami	Kyushu	Ōsumi Peninsula, Satsugū, Kagoshima, Mainland Japanese
Hashima	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Hateruma	South Ryukyuan	Hateruma island, West Yaeyama
Hatoma	South Ryukyuan	Hatoma island, West Yaeyama
Hekikai	Tōkai	Aichi, Mainland Japanese
Henoko	North Ryukyuan	Okinawa island, Kunigami
Higashi Ichiki	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Hioki	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Hirara	South Ryukyuan	Miyako island, Miyako
Hiroshima	Western Honshu (Chūgoku)	Hiroshima, Mainland Japanese
Hisamatsu	South Ryukyuan	Miyako island, Miyako
Hita	Kyushu	Chikugo, Ōita, Mainland Japanese

Ibusuki	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Ichiki	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Ie	North Ryukyuan	Ie island, Kunigami
Ikema	South Ryukyuan	Ikema island, Miyako
Iki	Kyushu	Iki island, Nagasaki, Mainland Japanese
Imuta	Kyushu	Kamikoshiki island, Satsugū, Kagoshima, Mainland Japanese
Iojima	Kyushu	Iojima island, Satsugū, Kagoshima, Mainland Japanese
Issō	Kyushu	Yakushima island, Satsugū, Kagoshima, Mainland Japanese
Itoman	North Ryukyuan	Okinawa island, Kunigami
Itoshima	Kyushu	Fukuoka, Mainland Japanese
Iwamoto	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Izashiki	Kyushu	Ōsumi Peninsula, Satsugū, Kagoshima, Mainland Japanese
Izumi	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Kagoshima the city	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Kakeroma	North Ryukyuan	Kakeroma island, Amami
Kaimon	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Kametsu	North Ryukyuan	Tokunoshima island, Amami
Kamikoshiki	Kyushu	Kamikoshiki island, Satsugū, Kagoshima, Mainland Japanese
Karimata	Miyako	Miyako island, Miyako
Kasado	Chūgoku (western Hon-shu)	Kasado island, Yamaguchi, Mainland Japanese
Kasasa	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Kaseda	Kyushu	Ōsumi Peninsula, Satsugū, Kagoshima, Mainland Japanese
Kataura	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Kayō	North Ryukyuan	Okinawa island, Kunigami
Kikai	North Ryukyuan	Kikai island, Amami
Kimotsuki	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Kitaamabe	Kyushu	Ōita, Mainland Japanese
Kokubu	Kyushu	Ōsumi Peninsula, Satsugū, Kagoshima, Mainland Japanese
Komenotsu	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Koyu	Kyushu	Miyazaki, Mainland Japanese
Kuboizumi	Kyushu	Saga, Mainland Japanese
Kuma	Kyushu	Kumamoto, Mainland Japanese
Kumamoto the city	Kyushu	Kumamoto, Mainland Japanese
Kunigami	Kyushu	Tanegashima island, Satsugū, Kagoshima, Mainland Japanese
Kuninaka	South Ryukyuan	Irabu island, Miyako
Kurahashi	Chūgoku (western Hon-shu)	Kurahashi island, Hiroshima, Mainland Japanese
Kurima	South Ryukyuan	Kurima island, Miyako
Kurio	Kyushu	Yakushima island, Satsugū, Kagoshima, Mainland Japanese
Kurume	Kyushu	Chikugo, Fukuoka, Mainland Japanese
Kushi	North Ryukyuan	Amami Ōshima island, Amami

Kuwaura	Kyushu	Kamikoshiki island, Satsugū, Kagoshima, Mainland Japanese
Madomari	North Ryukyuan	Kume island, Okinawan
Magome-Ōdomari	Kyushu	Ōsumi Peninsula, Satsugū, Kagoshima, Mainland Japanese
Makurazaki	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Matsunoo	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Minamiamabe-Ueno	Kyushu	Ōita, Mainland Japanese
Minamikata	Kyushu	Nishiusuki, Miyazaki, Mainland Japanese
Minamikoma	Kōshin	Yamanashi, Mainland Japanese
Miyanoura	Kyushu	Yakushima island, Satsugū, Kagoshima, Mainland Japanese
Miyara	South Ryukyuan	Ishigaki island, East Yaeyama
Miyazaki	Kyushu	Miyazaki, Mainland Japanese
Nagahama	South Ryukyuan	Irabu island, Miyako
Nagasaki the city	Kyushu	Nagasaki, Mainland Japanese
Nagashima	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Naka	Chūgoku (western Honshu)	Shimane, Mainland Japanese
Nakachi	South Ryukyuan	Irabu island, Miyako
Nakagambara	Hokuriku	Niigata, Mainland Japanese
Nakama	North Ryukyuan	Amami Ōshima island, Amami
Nakijin	North Ryukyuan	Okinawa island, Kunigami
Nakima	North Ryukyuan	Okinawa island, Kunigami
Naze	North Ryukyuan	Amami Ōshima island, Amami
Nesebu	North Ryukyuan	Amami Ōshima island, Amami
Nishi Kasugai	Tōkai	Aichi, Mainland Japanese
Nishi Sonogi	Kyushu	Nagasaki, Mainland Japanese
Nobeoka	Kyushu	Miyazaki, Mainland Japanese
Ōita	Kyushu	Ōita, Mainland Japanese
Okatchugamizu	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Ōkawa	Kyushu	Chikugo, Fukuoka, Mainland Japanese
Oki	Chūgoku (western Honshu)	Oki islands, Shimane, Mainland Japanese
Ōmishima	Shikoku	Ehime, Mainland Japanese
Ongachi	North Ryukyuan	Amami Ōshima island, Amami
Origuchi	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Osai	North Ryukyuan	Kakeroma island, Amami
Ōsaka-Hiyoshi	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Oshikaku	North Ryukyuan	Kakeroma island, Amami
Ōsumi Peninsula	Kyushu	Satsugū, Kagoshima, Mainland Japanese
Ōtsuki	Shikoku	Kōchi, Mainland Japanese
Ōura-Kawabe	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Ōyano	Kyushu	Amakusa island, Kumamoto, Mainland Japanese

San	North Ryukyuan	Tokunoshima island, Amami
Sani	North Ryukyuan	Amami Ōshima island, Amami
Sakurajima	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Sasue	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Sate	North Ryukyuan	Okinawa island, Kunigami
Sato	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Satofure	Kyushu	Iki island, Nagasaki, Mainland Japanese
Satomura	Kyushu	Kamikoshiki island, Satsugū, Kagoshima, Mainland Japanese
Satsuma Peninsula	Kyushu	Satsugū, Kagoshima, Mainland Japanese
Sawada	South Ryukyuan	Irabu island, Miyako
Segami	Kyushu	Kamikoshiki island, Satsugū, Kagoshima, Mainland Japanese
Sesō	North Ryukyuan	Kakeroma island, Amami
Sesoko	North Ryukyuan	Okinawa island, Kunigami
Setsukawa	North Ryukyuan	Kakeroma island, Amami
Shibushi	Kyushu	Ōsumi Peninsula, Satsugū, Kagoshima, Mainland Japanese
Shika	South Ryukyuan	Ishigaki island, East Yaeyama
Shimahira	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Shimokoshiki	Kyushu	Shimokoshiki island, Satsugū, Kagoshima, Mainland Japanese
Shiraho	South Ryukyuan	Ishigaki island, West Yaeyama
Shiranuhi	Kyushu	Amakusa island, Kumamoto, Mainland Japanese
Shirinashi	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Shitoke	North Ryukyuan	Kikai island, Amami
Shuri	South Ryukyuan	Okinawa island, Okinawan
Shiiba	Kyushu	Miyazaki, Mainland Japanese
Sokei	North Ryukyuan	Okinawa island, Kunigami
Sukumo	Shikoku	Kōchi, Mainland Japanese
Suwatsuru	Kyushu	Ōita, Mainland Japanese
Taira	Kyushu	Kamikoshiki island, Satsugū, Kagoshima, Mainland Japanese
Takaoka	Kyushu	Morokata, Satsugū, Miyazaki, Mainland Japanese
Takara	Kyushu	Tokara islands, Satsugū, Kagoshima, Mainland Japanese
Takushima	Kyushu	Takushima island, Nagasaki, Mainland Japanese
Tamaki	Kyushu	Kumamoto, Mainland Japanese
Tanegashima	Kyushu	Tanegashima island, Satsugū, Kagoshima, Mainland Japanese
Tarama	South Ryukyuan	Tarama island, Miyako
Teuchi	Kyushu	Shimokoshiki island, Satsugū, Kagoshima, Mainland Japanese
Tōgō-Izumi	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Tokunoshima	North Ryukyuan	Tokunoshima island, Amami
Torisu	Kyushu	Satsuma Peninsula, Satsugū, Kagoshima, Mainland Japanese
Totsukawa	Kansai	Nara, Mainland Japanese
Tsuchihae	Kyushu	Miyazaki, Mainland Japanese

Tsushima	Kyushi	Tsushima island, Nagasaki, Mainland Japanese
Tsutsu	Kyushu	Tsushima island, Nagasaki, Mainland Japanese
Uka	North Ryukyuan	Okinawa island, Kunigami
Ukiha	Kyushu	Chikugo, Fukuoka, Mainland Japanese
Uku	Kyushu	Fukue island, Gotō islands, Nagasaki, Mainland Japanese
Uma	Shikoku	Ehime, Mainland Japanese
Urakuwa	Kyushu	Nakatōri, Gotō islands, Nagasaki, Mainland Japanese
Wadomari	North Ryukyuan	Okinoerabu island, Kunigami
Wakayama	Kansai	Wakayama, Mainland Japanese
Watari	Tōhoku	Miyagi, Mainland Japanese
Wan	North Ryukyuan	Kikai island, Amami
Yadon	North Ryukyuan	Amami Ōshima island, Amami
Yaizu	Tōkai	Shizuoka, Mainland Japanese
Yamatoma	North Ryukyuan	Amami Ōshima island, Amami
Yame	Kyushu	Chikugo, Fukuoka, Mainland Japanese
Yanagawa	Kyushu	Chikugo, Fukuoka, Mainland Japanese
Yonaguni	South Ryukyuan	Yonaguni island, Yonaguni
Yoro	North Ryukyuan	Yoro island, Amami
Yoron	North Ryukyuan	Yoron island, Kunigami
Yuwan	North Ryukyuan	Amami Ōshima island, Amami

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