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Navigation à proximité des îles Natuna et du Kalimantan occidental: Notes sur la « Carte de Zheng He » et quelques « rutters » Ming

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Sailing near the Natuna Islands and West Kalimantan: Notes on the “Zheng He Map” and Some Ming “Rutters”

Introduction

The so-called “Zheng He Map” or *Zheng He hanghai tu* 鄭和航海圖 (now *ZHHHT*), also known as the Mao Kun 茅坤 map, is among the best-studied works of traditional Chinese cartography.¹ Unfortunately, the date, origin and

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1. This article follows the modern edition called *Xinbian Zheng He hanghai tu ji* (1988). In rare cases, the facsimilized version published by Xiang Da is cited; see *ZHHHT*/Xiang Da. Recent bibliographies list many works on this map and navigation. See especially Zhu Jianqiu 2005: 98-107; same 2010: 20-23; Liu Ying et al. 2014: especially 97-101. There are also several surveys of traditional Chinese works on nautical issues and sea routes; some of them focus on the *ZHHHT*, others take a broader approach. Examples: Zheng Yijun 1985: especially 173, 191-234; Zheng Yijun 1991; Kuan Yuanzhi and Zheng Yijun 2008: 57-64 (these three works are similar); Wade 2013; Papelitzky 2021. – The *ZHHHT* is one of several sea charts related to China’s coast and the oceans. For old maps, see Liang Erping 2015, Fang Kun et al. 2016, Zhu Jianqiu et al. 2017, Tan Guanglian 2017. Lin Meicun 1011, 2015 and 2019 (2018) discusses cartographical categories and other points related to the *ZHHHT*, but not everyone will share his views. Among the earlier special studies investigating the *ZHHHT* are those by Fan Wentao 1943, Zhou Yusen 1959 and Xu Yuhu 1976. Mills 1970 made ample use of some pioneering investigations by Mulder, Pelliot, Duyvendak and others. These are all well-known titles; therefore, they do not appear in the bibliography. By contrast, “Western” scholars have rarely noticed Didier 2002. Among the most recent Chinese studies are several works by Zhou Yunzhong, cited below.

author(s) of this maritime document remain in the dark, but most scholars assume that its original version goes back to the early fifteenth century and that the *ZHHHT* is related to the voyages of Zheng He. The map shows the entire sea route from Nanjing and coastal China, via the shores of modern Vietnam and around the Malay Peninsula to the Indian Ocean, as far as the Arabian Peninsula and East Africa. In other words, it outlines what we now call the “Maritime Silk Route” with many of its branches, associated ports, islands, and other important landmarks.² Although the structure of the map is clear and the majority of all toponyms and nautical instructions on it are accurate, some questions related to specific regions and certain details still require a careful discussion, because there is disagreement among scholars on how to interpret them. One case is the area near modern Singapore; this includes the Riau and Lingga Islands. Lin Woling, basing his analysis on the *ZHHHT* and other sources, tried to find out which channels Zheng He’s fleets had used when sailing around the southern tip of the Malay Peninsula. He concluded that the Riau Channel was an important sailing corridor, but other scholars refuted his views.³

There are many more problems related to the geographical and nautical concepts underlying the *ZHHHT*. The present note draws attention to one such issue: to sailing from the area near southern Vietnam, via Kepulauan Natuna, to the area of Tanjung Datu, and from there, along the coast of West Kalimantan, to Kepulauan Karimunjawa and eventually to the region of Gresik and Surabaya on Java. However, in contrast to many other routes drawn on the map, this sailing corridor remains without comments. There are no instructions concerning compass bearings or the average duration of a voyage in terms of *geng* 更 or “watches” (often calculated as c. 60 *li* 里), nor can one find astronomical data in association with these itineraries.⁴ All we get is some islands and toponyms and the route itself (with one or two branches), drawn in the form of a broken line.

What are the reasons for this arrangement? Why are there no additional details for these sea lanes? One possible explanation could be that the author(s) of the map wanted to focus on the principal and most direct “avenue” connecting China, via the South China Sea, to the ports around the Indian Ocean. This was the so-called *xi hanglu* 西航路 or *Xiyang hangxian* 西洋航綫, i.e., the route

2. Some general ideas regarding the *ZHHHT* and the “Maritime Silk Route” in Ptak 2018.

3. Lin Woling 1999 is important for the analysis of certain toponyms such as Longyamen 龍牙門. For a critical work, see Chung Chee Kit 2013. A more balanced study is Kurz 2019. – Other problems related to the map are, discussed, for example, in Ptak 2019.

4. Briefly on the term *geng*: Mills 1970: 307. More elaborate notes: Didier 2002: 56–57. There are many Chinese studies on this concept. Zheng Yijun 1991 provides essential data. Recently some notes are also included in Liu Yijie 2017: 317–331.

leading to/or through the “Western Ocean” (Xiyang 西洋).⁵ Apparently, the segment from the area near modern Vietnam down to the east side of the Malay Peninsula was more important than sailing near the west side of Kalimantan. This could imply that the Javanese ports and even the Sunda Strait filled a subordinate position within the network of early Ming trading routes.

However, one can quickly put in doubt these suggestions. The *Qianwen ji* 前聞記, which outlines the itinerary of Zheng He’s seventh expedition, clearly indicates that the Ming fleet sailed from Champa to Java in 1432, with the winter monsoon. For this passage it needed circa 24 days. Probably some of the ships belonging to that armada made stopovers somewhere between Champa and Java, but there are no details. The fleet left Surabaya in July, with the summer monsoon, and proceeded in the general direction of Melaka and the Indian Ocean. The return voyage was of course different: From Melaka it sailed directly towards Pulau Condore and then, via Champa, back to China.⁶

Here, the crucial part is the outbound voyage. It is possible that, in order to reach Java, some of Zheng He’s vessels had chosen a route near the west side of Kalimantan. Probably the other Zheng He expeditions followed a near-to-identical pattern. One may add that earlier Chinese mariners had already acquainted themselves with sailing near the west side of Kalimantan. The fleet sent by Khublai Khan to Java in the 1290s is a famous example. It used that route, perhaps because it was the safest from South China to Java.⁷ Why then did the author(s) of the *ZHHHT* decide to “downgrade” this corridor by leaving out nautical instructions and other necessary details? Were the editor(s) or mapmaker(s) careless?

Two aspects come to mind. First, there are several editions of the *ZHHHT*. The ones based on the map in Mao Yuanyi’s 茅元儀 (1594–1640?) *Wubei zhi* 武備志 (1621) are widely distributed, while the version in *Nanshu zhi* 南樞志 (late Ming) is not so current. However, for the present study the issue of different editions is not very important. Indeed, Chinese colleagues have shown that the differences between the extant versions are negligible in many

5. Several studies deal with the segmentation of the oceans in traditional Chinese sources. Here are only three examples: Ptak 1998, 2001 and 2004.

6. *Qianwen ji*, 36b-38a. Translations in Pelliot 1933, 307-311; Mills 1970: 14-19; Didier 2002: especially 86-87. A good study combining nautical data derived from *ZHHHT*, *Qianwen ji* and other texts is Xu Shengyi et al. 2015. Older and general works on Zheng He also discuss the entry in *Qianwen ji*. One example: Zheng Yijun 1985: especially 229-230.

7. See, for example, Groeneveldt 1876: especially: 22, 25-26, 47; Mills 1970: 23, 89; Dars 1992: 341-343; Lo Jungpang 2012: 305-306; Bade 2013: especially 46-47, 71-81. Also see Zhou Yunzhong 2013: 157. – According to Zhou Yunzhong 2015a: 336, Chinese sailors began to use the route to Java, via the west coast of Kalimantan, more frequently from the late Song period onwards; he argues this had to do with the decline of Srivijaya.

ways. It also seems that the map in *Nanshu zhi* is technically inferior to the other versions. Moreover, the sailing routes discussed here are nearly identical in all available editions.⁸

The second point is more complicated. This concerns the spatial concept behind the category “Xiyang,” or Western Ocean, which changed in the course of time. From traditional texts we can tell that geographers held different opinions regarding the “border” between the Xiyang and the so-called “Dongyang” 東洋, or Eastern Ocean. According to the *Dongxiyang kao* 東西洋考 (now *DXYK*; prefaces 1617/1618) much of Kalimantan belonged to the sphere of the Eastern Ocean and the *dong hanglu* 東航路 (*Dongyang hangxian* 東洋航綫), or eastern route, which ran from Fujian to Luzon, the Sulu zone and beyond, with a branch following the coast of Sarawak to Brunei. Beyond that place began the area of the Western Ocean.⁹ Other texts, including some earlier material, push the “dividing line” between the western and eastern spheres to the Sunda Strait or to locations even farther west. This shows that much of the Natuna Sea with all its sailing routes formed a connective element between the two principal oceans and the two major north-south alleys, i.e., the core route of the western trade artery (via the east side of the Malay Peninsula) and the core route of the eastern system. No doubt, Zheng He’s fleets made ample use of that connective element; therefore, it was certainly necessary to show the Kalimantan route on the map, albeit without explanations.

Furthermore, one may ask whether this arrangement can tell us something about the date of the map. There is no clear answer to that question. Different spatial concepts existed in Zheng He’s times and throughout the sixteenth century. Assigning the *ZHHHT* to just one of these concepts – and thus to a specific period – would be inappropriate. Many other elements should enter a discussion on the possible date of our map. More generally, key works in world history are often surrounded by certain ambiguities; that also applies to the *ZHHHT*. Such ambiguities have their advantages. In the present case, they allow (or even urge) us to examine the toponyms and sea routes on the map not only in their own light, but also by comparing the relevant details with those found in other Ming works, and especially with the data available in nautical texts. Earlier studies have also followed such an approach.¹⁰

8. For comparisons between different editions of the *ZHHHT*, see Zhang Jian 2013, vol. 2: 233-252; Zhou Yunzhong 2007 and 2013: 69-86. For additional work: Zhou Yunzhong 2015b. – Most recently a new version of the map came to light at the Nanjing University Library. This coloured version, called *Tong waiguo tu* 通外國圖, seems to be a product of the Qing dynasty. My thanks to Dr. James K. Chin 錢江 for providing the relevant information.

9. *DXYK*, j. 5: 102.

10. Xu Yuhu 1976: especially 96-100, is an example: Xu cites from several sources, but in many cases offers no identification of the relevant toponyms. His study combines earlier work, among which is Xu Yuhu 1973 and 1975.

Map 1 A – Section of the Zheng He hanghai tu; see ZHHHT: 44-45.

Map 1 B – Section of the Zheng He hanghai tu; see ZHHHT: 44-45

One such study is a fine book by Zhou Yunzhong of which I made abundant use in the present article.¹¹ More specifically, my notes follow a “geographical orientation”; they move from north to south, i.e., from the sea near Vietnam to the Natunas, then to Kalimantan, and finally to Java. In doing so, I shall look at various place names and some physical features of the areas in question. The focus is on the *ZHHHT* and the principal intention is to establish a clearer picture of the relevant route segments shown on that map. However, in some cases the discussion turns to other sources as well, mainly for comparative reasons and for providing supportive evidence. Among these sources are the descriptions of sea routes in the following texts: *Xiyang chaogong dianlu* 西洋朝貢典錄 (now *XYCGDL*; preface 1520), the anonymous *Shunfeng xiangsong* 順風相送 (now *SFXS*; mostly Ming period), *Siyi guangji* 四夷廣記 (now *SYGJ*; completed c. 1601–1603?) and *DXYK*.¹²

Dongdong, Xidong, the Northern and Central Parts of the Natuna Islands

The starting point of our discussion is near the “twin islands” called Dongdong 東董 and Xidong 西董. The *ZHHHT* places them at some distance from the coast of modern Vietnam. Most scholars agree that these names represent Pulau Sapate (Sapatu; 9°59'N, 109°05'E) and Grande (Great) Catwick (10°05'N, 108°53'N).¹³ Pulau Sapate, to the southeast of the second island, is easily visible from afar because its highest elevation reaches more than one hundred meters. Portuguese *roteiros* regularly refer to it and the adjacent area. It is quite clear from these sources, as well as from Chinese works, that Pulau Sapate served as an important landmark. A brief paragraph in the so-called *Advertências para a navegação da Índia. Roteiros*, a collection of manuscripts, describes Pulau Sapate as a barren, round island (*ilheu*). Near to it is a small “rock” (*pedra*), identifiable as Petite (Little) Catwick. The Portuguese text also says that the top of Pulau Sapate (here

11. For a review of that book (Zhou Yunzhong 2013), see *Archipel* 89 (2015): 205–208.

12. Vol. 1 of the modern collection *LDHL* contains all the relevant material. A beautiful facsimilized version of the *SFXS* is available in Jiao Tianlong et al. 2015, vol. 2. Here, I usually refer to the *SFXS* edition prepared by Xiang Da and to Liu Yijie 2017 (this book also has the facsimilized text). Liu Yijie published several articles on the *SFXS*. One of them, Liu Yijie 2015, surveys past research on the *SFXS*. Regarding the *SYGJ*: The nautical parts of its *Haiguo guangji* section 海國廣記 are also in Zheng Hesheng and Zheng Yijun 1980: 306–327. More generally, for the *SYGJ* one may now consult Papelitzky 2015a and 2020: 30–31, 41–42, 183. The last work: 118–127, 148–151, contains two case studies, which make use of the *SYGJ*.

13. See, for ex., Han Zhenhua 1999: 405; *ZHHHT*: 49; Mills 1970: especially 195 no. 190; 224 no. 673; Mills 1974: 462. Zhou Yunzhong 2013: 153, cites Fang Hao 方豪, who identified Dongdong and Xidong wrongly. In other early work one finds similar errors. One example: Gerini 1909: 709, 710, 714–718, 724. – Some texts write Gatwick in lieu of Catwick.

Map 2 – Laut Natuna and West Kalimantan

ilheu should not refer to the rock) looks like the “hat of a mandarin” (*barete de mandarin*).¹⁴ Interestingly, the *SFXS*, certainly China’s most important work on the sea routes through Southeast Asia and the Indian Ocean, contains a comparable description: “Dongdongshan: from afar it resembles a silken hat” (東董山, 遠似紗帽樣).¹⁵ Besides that, we know that sailors tried to avoid the shallow waters to the west and northwest of that island, evidently because they considered these zones as dangerous, just as they tried to avoid the region farther north, known as the Baixos de Pulau Sissir (Cecir, etc.; various spellings).¹⁶

Here we may return to the *ZHHHT*. The sea route leading from the area near Dongdong and Xidong (I shall mostly stay with the Chinese names) towards the south, in the general direction of the Natuna Sea, is drawn in such a way that it passes these islands on their east side. By contrast, ships going to the area of modern Thailand and the Malay Peninsula proceeded along the west side of Dongdong and Xidong. The *DXYK* contains a written example for this second option: From Xidong vessels had to steer 195° (*danding*) and then 202.5° (*dingwei*), i.e., they would move towards the south-southwest, when heading for the said regions.¹⁷ The Portuguese also took the route near the west side of Dongdong and Xidong when commuting back and forth between Melaka and China. Only on rare occasions would they follow an “outer” course, which led from Pulau Condore (Côn Sơn; Kunlunshan 崑崙山, also other orthographs; located to the southwest of Pulau Sapate) to the South China Sea, and from an imagined point in the center of that space either towards the Philippines or directly northbound, towards Shangchuan 上川, Macau and/or Guangzhou 廣州.¹⁸ Clearly, the above confirms that Pulau Sapate/Dongdong marked an important location for navigation in late medieval and early modern times, even if Chinese and Portuguese pilots and sailors made use of this landmark in slightly different ways.

Regarding our map, two aspects raise questions. The first question concerns the geographical positions of Dongdong (Pulau Sapate) and Xidong (Grande Gatewick). Dongdong is to the southeast of Xidong. Strangely, the *ZHHHT*

14. Matos 2018: especially 152, 295-296; Manguin 1972: especially 80 (also n. 2 and there), 262. Manguin cites a modern source which compares the shape of this island to a shoe (*sapata*, *sapato* = Port. shoe). There are many more references to the area of Pulau Sapate in Portuguese texts, indicated in Matos and Manguin.

15. *SFXS*: 43; Liu Yijie 2017: 289; Zhou Yunzhong 2013: 153.

16. Manguin 1972: especially 80-81, 262.

17. *DXYK*, j. 9: 180. Recently, for Chinese sailing to the Gulf of Siam: Papelitzky 2015b. – Throughout the present article: Chinese compass directions always appear in brackets.

18. For a simple and useful presentation of this course, see Manguin 1972, maps 1 and 3. Also Matos 2018: 159-161.

indicates a reverse order. This means that, a ship sailing towards the south would pass Dongdong on its east side first, only then would Xidong come in sight. Surprisingly, the *SFXS* suggests the same sequence: In a description of the route from “*Cape Varella* (Lingshan 靈山) to Java”, Dongdongshan appears in *primo loco*, Xidongshan comes next.¹⁹ Apparently, something is wrong with this arrangement or with our interpretation. How should one solve the problem? One possibility is this: Sailors, as well as the authors of the *SFXS* and *ZHHHT*, took both islands as one cluster, without considering the “internal” setting of that zone.²⁰ Indeed, Chinese compounds carrying the characters for “east” (*dong*) and “west” (*xi*) always list the “east” first – hence the sequence *dongxi*.²¹ Perhaps this linguistic convention is responsible for the arrangement on the map and in *SFXS*. Alternatively, we may surmise the following: For ships passing Dongdong on its east side, Xidong did not matter very much; similarly, ships sailing along the principal trade axis, close to the Vietnam coast, paid little or no intention to Dongdong. These reasons, or just one of them, may explain the unexpected setting we encounter in some sources.

However, there is more to say. According to an old study by Groeneveldt, Xidong might represent the name Pulau Siantan, an island in the Anambas group.²² This is not very plausible: A ship approaching Kepulauan Anambas from the north would first reach Pulau Matak. Pulau Siantan is south of Pulau Matak and sailing directly from Matak to Siantan is dangerous because there are several reefs in that zone. Moreover, the distance between Dongdong and these islands is quite long. That in itself seems incompatible with the convention of presenting Dongdong/Xidong together, be it graphically as on our map, or verbally, as in *SFXS*. The only entry in *SFXS*, which clearly

19. *SFXS*: 43; Liu Yijie 2017: 289. The *SYGJ* (“*Guangzhou to Java*”) only mentions Dongdongshan; see vol. 101, 881a, and Cheng Hesheng and Cheng Yijun 1980: 314. For Lingshan (and variant forms): *GDNH*: 462–464, 1069; Manguin 1972, index under Varella. – The precise title of the entry in *SFXS* is “*Return voyage from Java to Lingshan: outbound course [from Lingshan]*”, which I shortened to “*Cape Varella to Java*”.

20. The combination Dong/Xidong (shan) in *DXKY*, j. 9: 180, and *SFXS*: 57–58 (“*Fujian to Java*”), 70 (“*Wuyu to Tuban, Jaratan*”), suggests such a cluster. For the *SFXS* also see Liu Yijie 2017: 214, 215. In some sources, especially of later periods, one finds Dongdang 東黨, Dongdong 東洞, Xidang 西黨, Xidong 西洞, etc.; see *GDNH*: 260, 262, 263–264, 267, 329, 331, 337. – Regarding the names in the title of the second *SFXS* entry: Wuyu 浯嶼 stands for Quemoy (Jinmen 金門), an island near Amoy (Xiamen 廈門). The Chinese name for Tuban is Duman 杜蠻 (variant forms in other sources). Jaratan for Raotong 饒潼 (also other identifications; see, for example *GDNH*: 598).

21. Interestingly, Linschoten tells us the Chinese would use the name Tomsitom, which is phonetically near to the modern compound transcription Dong/Xidong. There is also the name Chimstan Sitom. See, for example, Manguin 1972: 86 and n. 6 there; 265–266, map 3; Mills 1974: 462; Mills 1979: 80.

22. Groeneveldt 1876: 26; *GDNH*: 900. – A useful modern description of the area in question in *Sailing Directions*: 20–21.

separates Dongdong from Xidong, is the one describing the route from “*Cape Varella to Java*,” just mentioned above, but this entry does not specify the distance between both islands. In spite of these doubts, it is of course possible that ships proceeded from the area near Dongdong or even Pulau Condore directly to the Anambas Islands and from there to other destinations (we shall return to this possibility farther below).

The next aspect is more complex and requires a longer discussion. It concerns the fact that, according to the entry in *SFXS* just quoted, ships sailing from Cape Varella to Java passed Dongdongshan and Xidongshan on their west side, and not on the east side. The text clearly states the “proper sailing route” (*zheng lu* 正路) runs along west side of both islands. What does that mean? Here one may consider three further locations: Ma’anshan 馬鞍山, Talinyu 塔林嶼 and Xiwuqi 西蜈蚣. The same entry in *SFXS* places these islands to the south of Dongdongshan and Xidongshan, one after another, adding one should also pass them on the west side (just as Dongdong and Xidong).²³ Therefore, scholars have correctly suggested that they should be somewhere in the Natuna Archipelago, but if one investigates other early sources and the proposed identifications of these names, as well as several related toponyms, then many problems arise.

This draws our attention away from the *ZHHHT*, but it is necessary to go through the relevant material; only then can one understand the complicated “setting.” The *DXYK* may serve as a starting point. It lists Shilidashan 失力大山, Ma’anyu 馬鞍嶼 (not Ma’anshan!) and Talinyu. The sailing instructions given in that context suggest that the first two locations could be near the Malay Peninsula, while Talinyu should be somewhere in the Natuna Sea. Obviously, Mills arrived at a partly different conclusion: He tentatively suggested Pulau Natuna Besar (Great Natuna) for the first name, Pulau Midai for the second and Pulau Seraja for the third one.²⁴

Zhou Yunzhong was not satisfied with these and other proposals. He argued that in the entry quoted from *SFXS*, Ma’anshan is likely to represent Pulau Laut, the principal island in the North Natuna group, while Talinyu should stand for Pulau Natuna Besar (and not for Pulau Seraja). The latter is circa 50 kilometres to the south of Pulau Laut and by far the largest island of

23. *SFXS*: 43; Liu Yijie 2017: 289.

24. *DXYK*, j. 9: 180. Mills: 205 no. 348; 217 no. 550; 220 no. 609. Also see *GDNH*: 170 (Ma’anshan 4; Ma’anyu 馬鞍嶼 2), 285–286 (Shilidashan), 756 (Talinyu), which is of little help. – Note, Mills 1979: 81, 92, discussing the *SFXS*, suggests Pulau Subi Kecil for Talinyu. – Han Zhenhua 1999: 405, equates Shili(da)shan with Pulau Sarasan and Talinyu (Minnan: Taplim or Tahlina) with Kepulauan Tambelan; see there: 405, 407 and 465 n. 59 (for the Minnan transcriptions, see Xiamen daxue... 1982). – Malay chronicles, usually of later periods, rarely refer to the Natuna Sea and its islands in the fifteenth century. One exception is the *Hikayat Raja Raja Pasai*. See, for example, Ferrand 1913–1914: 666–667.

the entire Natuna Archipelago. There are high mountains on both Pulau Laut and Pulau Natuna Besar (also known as Bunguran) and one finds various reefs and mini-islets in their coastal waters. Sailing through such areas posed risks, while it was certainly not very difficult to identify the major locations with high elevations. Regarding Xiwuqi, we shall get back to this name later on.²⁵

To substantiate his proposals, Zhou Yunzhong also referred to a second entry in *SFXS*. This entry – “*Fujian to Java: return voyage*” – specifies the sailing directions and durations (in terms of *geng*) for different sections of a long northbound itinerary, again via the Natuna Sea. Here are some of the relevant details: (a) From Wuqiyu 蜈蚣嶼 to Talinyu (Pulau Natuna Besar): direction *danren* (345°), duration 5 *geng*; (b) from Talinyu to Ma’anshan (Pulau Laut): direction *renzi* (352.5°), duration 5 *geng*; (c) from there to Chikanshan 赤坎山 (Ké Ga on the south coast of modern Vietnam): direction *renzi* (352.5°), then *renhai* (337.5°), total duration 45 *geng*.²⁶ Wuqiyu (not to be confused with Xiwuqi) is new to us. Zhou Yunzhong suggests that Wuqiyu should be Pulau Subi Besar, the major island in the South Natuna group. Pulau Subi is less than 100 km to the southeast of Pulau Natuna Besar. Several Chinese entries in the *SFXS* describe Wuqiyu as a flat island, which is correct.²⁷ If

25. There are many short articles and notes on the Natuna Islands in the internet. For a printed article with some references to historical sources, see, for example, Franchino 1990. Archaeological studies also deal with the Natunas. However, such works, for example by Sonny C. Wibisono and John Miksic, are not of direct relevance to the present article and not listed here.

26. *SFXS*: 58-59; Liu Yijie 2017: 216, 443-444. Xiang Da, the editor of *SFXS*, omits a passage in that entry. Therefore, readers should consult Liu’s text. See also Zhang Rong and Liu Yijie 2012: 81 no. 17. More details in Zhou Yunzhong 2013: 155. Mills 1979: 81, combines the data in this entry of the *SFXS* with the data in another entry. For Chikan, see, for example, *GDNH*: 966; Mills 1970: 190 no. 106; Manguin 1972: 92 n. 5; 93 n. 1 and 3; 118 n. 3; map 3. The *SFXS* and other nautical works contain several references to Chikan. One source is the *SYGJ*, vol. 101, 881b-882b. This work records a sailing course partly similar to the one described in the *SFXS* entry. See also Zheng Hesheng and Zheng Yijun 1980: 314-315. There, Mabianshan 馬鞭山 is the same as Ma’anshan (also see *GDNH*: 170). The entry in *SFXS* quoted in our text mentions a reef at the southern end of Ma’anshan. The name of this reef is Maotoujiao 帽頭礁 (Gloria Reef?).

27. Zhou Yunzhong 2013: especially 157-158. Zhou cites the entry *Fujian to Java: return voyage* in *SFXS*. This entry says, from a close distance Wuqiyu resembles an olive. See *SFXS*: 58-59; Liu Yijie 2017: 216. Yuan sources refer to an island called Ganlanyu 橄欖嶼, literally “Olive Island.” According to Zhou, this name also points to Pulau Subi Besar. Moreover, he links two further names to that island: Niuqiyu 牛崎嶼 and Douqiyu 斗蜆嶼 (again found in Yuan sources). Other scholars proposed different locations. One early example: Gerini 1909: 714, equated Ganlanyu with the Tambelan Islands. The relevant entries in *GDNH* are more prudent; see 210 (Niuqiyu) and 840 (Ganlanyu). – For a brief description of Pulau Subi Besar, see *Sailing Directions*: 8.

one accepts Zhou's proposals, then the northbound route outlined in the said entry is quite clear: Pulau Subi – Pulau Natuna Besar – Pulau Laut – coast of modern Vietnam, near Ké Ga.

Notwithstanding, as was said earlier, there is some confusion in the literature on all the toponyms involved in the relevant texts. Franchino, referring to our own times, says the Chinese would use the name Ma'anshan for Pulau Natuna Besar (and not for Pulau Laut). Mills, citing the *SFXS*, also equated Ma'anshan with that island. This seems strange, because it implies the existence of two very different names for the same place: Shilidashan (*DXYK*, see above) and Ma'anshan. Regarding Wuqiyu, Mills identified this toponym with both Pulau Laut and Pulau Serasan (which is to the southeast of Pulau Subi). Needless to state, all these identifications are incompatible with the sequence just outlined above.²⁸

Besides that, we must consider other early sources. One work is the anonymous *Zhenwei* (*bian*) 鍼位(編). It is certainly older than the *SFXS*, but only some parts of it have survived in Huang Xingzeng's 黃省曾 (*xing* also read *sheng*; *zeng* also *ceng*) *XYCGDL*. Huang's book records the following: "From Cape Varella... it is 50 *geng* to the island(s) called Wuqi. To the west of the reefs at the end [of Wuqi] it is 5 *geng* to Maoshan. [After] 10 *geng* one sees the island(s) of Dongshelong, surrounded by round atolls and double islands." (靈山... 又五十更, 曰蜈蚣之嶼。由嶼尾礁而西, 五更平冒山。又十更望東蛇龍之山, 貫圓嶼、雙嶼之中...). Sonnendecker, who translated the *XYCGDL*, identified the combination "Wuqi zhi yu" with the Natuna Archipelago *in toto*, and Maoshan with Pulau Natuna Besar. Moreover, he cites Mills, who also thought that Maoshan should be Natuna Besar (a third name for that island!). Regarding Dongshelong, Sonnendecker mainly follows a suggestion in *GDNH*, which is wrong. We shall return to that problem farther below.²⁹

The above leaves us with at least four Chinese toponyms, which scholars have identified with the large island of Natuna Besar: Talinyu, Ma'anshan,

28. Franchino 1990: 50; Mills: 225 no. 689 (Pulau Laut); Mills 1979: 80, 81 (Pulau Serasan, Pulau Natuna Besar).

29. *XYCGDL*, Huang's preface: 8 (for the *Zhenwei*), j. shang: 18-19 (passage cited) and notes 3-5; Sonnendecker 2005: 30-31 and notes 116-118; Mills 1970: 207 no. 381. Zhou Yunzhong 2013: 159, also quotes from the *XYCGDL*. Note: Different authors punctuate the text differently. – For an early "Western" analysis of the relevant toponyms, see Gerini 1909: 710-714. Among other things, Gerini discusses the terms/names *yuanyu* and *shuangyu* (the latter in his book: *liangyu* 兩嶼), but he cannot explain them in a satisfactory way. It seems the authors of the *GDNH* considered both combinations as names; see there: 229 (Shuangyu, no. 3: possibly in the area of Lemukutan), 650 (Yuanyu, not identified). Other Chinese authors, who discussed the *XYCGDL*, offer different suggestions or avoid identifications. For an early example, see Zheng Yijun 1985: 185-186. Another example is in Han Zhenhua 1999: 405-406: Han associates "Wuqi zhi yu" with the Nansha qundao 南沙群島 (roughly: Spratly Islands) and Dongshelong with the Natuna group as a whole.

Maoshan and Shilidashan. As was said, if we follow the route established above, based on the findings of Zhou Yunzhong, then only one option remains acceptable: Talinyu = Pulau Natuna Besar. Regarding Shilidashan mentioned in *DXYK*, it was suggested that this name cannot stand for Natuna Besar. Regarding the “modern” use of Ma’anshan for that island, one may say the following: Chinese geographers and sailors used the name Ma’anshan for many locations; evidently, certain physical features of an island or mountain invited them to associate the place in question with a “horse saddle” (this is meaning of *ma’an*). Therefore, transferring such a name to Natuna Besar could be a recent phenomenon. As to Maoshan: We shall discuss this name in a different paragraph.

Two additional points may be of importance. First, the author(s) of the *Zhenwei* often placed the particle *zhi* behind a name. If we ignore these stylish insertions, then “Wuqi zhi yu” changes to “Wuqiyu”. This could then mean that Wuqi zhi yu/Wuqiyu stands for two things: for the entire Natuna Archipelago and/or for Pulau Subi Besar. Second, the total distance of 50 *geng* from Cape Varella to Wuqiyu (here evidently one island: Pulau Subi Besar) is roughly compatible with the distance of $15 + 30 = 45$ *geng* from Dong/Xidongshan (Pulau Sapate and Grand Catwick) to Dongshelongshan (Pulau Serasan; to the southeast of Pulau Subi Besar) recorded in a different entry of the *SFXS* (“*Fujian to Java*”). Again, we shall also discuss this last name and the implied itinerary below.³⁰

Admittedly, the above sounds confusing and things become even more complicated if one searches for the relevant names in early studies and the *GDNH* dictionary. This modern source tentatively identifies Maoshan with Pulau Serasan, just north of the sea strait now called Selat Serasan. It also says, Maoshan could be the same as Maosuomen 帽所門. Next, the *GDNH* tells us that Xiwuqi 西蜈蚣 – already mentioned above – would probably stand for the small island called “Seraja” (Pulau Seraya), which lies to the southwest of Pulau Subi Besar (one may recall: at one point, Mills had tentatively equated Talinyu with Pulau Seraya!). Finally, the *GDNH* refers to an island called Dongwuqi(shan) 東蜈蚣(山), suggesting this would again be Pulau Subi Besar, which is correct. The latter appears in the *SFXS* entry called “*Cape Varella to Java: physical features*.” This entry outlines a route from Dongwuqishan to Java, via Pulau Serasan and other locations on or near West Kalimantan. It also locates Maosuomen to the south of Dongwuqishan.³¹

30. *SFXS*: 57-58; Liu Yijie 2017: 214.

31. *GDNH*: 267, 337-338, 587, 771, 806-807; *SFXS*: 41 (“*Cape Varella to Java: physical features*”: Dongwuqishan and Maosuomen), 43 (“*Cape Varella to Java*”: Xiwuqi); Liu Yijie 2017: 288, 289. – Some early studies also deal with these and related toponyms. Gerini 1909: 710, suggests the following identifications: Wugongyu 蜈蚣嶼 (same as Wuqiyu) = “the northwesternmost of the Natunas, above the north

These suggestions require further explanations, one by one. First, the syllable *men* in the name Maosuomen could indicate a sea strait. Indeed, Maosuomen may refer to the sea between Pulau Seraya and Pulau Subi Besar, or it may stand for the space between the latter (or even Pulau Panjang; a small island near the southern shore of Pulau Subi Besar) and Pulau Serasan; the text leaves room for both interpretations. The first option could involve a north-south itinerary along the west side of Pulau Subi. If both these options are acceptable, then Maoshan, evidently an island, should point to a different location. It is unlikely to be identical with Maosuomen, and it cannot stand for Pulau Natuna Besar or Pulau Serasan; rather, it should represent a location “to the west of the reefs at the end [of Wuqi]” (see *XYCGDL*, above), i.e., either to the west/southwest of Pulau Subi or to the west of the entire Natuna group. In the first case, we may think of Pulau Seraya (however, Xiwuqi stands for that island); in the second case, one may perhaps associate the name element “Mao” with Pulau Malu. Again, this second case would imply the existence of a route along the west side of the South Natuna Islands. However, the distance of 10 *geng* from Maoshan to Pulau Serasan and the geographical position of Pulau Malu (to the southwest of Serasan!) pose questions; the distance is too long, the sailing route would follow a zigzag course. Clearly, this is not satisfactory, but presently there is no appropriate solution for the issue. The proposed identity of Maoshan with Maosuomen does not solve the distance problem. Moving Maoshan to the east side of Wuqishan is impossible, because the text requires us to search for a place “to the west of the reefs...” Considering these difficulties, one cannot rule out the possibility that there is something wrong with the *Zhenwei* fragment in *XYCGDL*.³²

Given the many names mentioned in the foregoing paragraphs, we should now try to summarize our findings, preliminary as they are (and partly based on the contributions provided by Zhou Yunzhong), before going on with the discussion. Here is what we get:

Ma'anshan 馬鞍山 = Pulau Laut

Talinyu 塔林嶼 = Pulau Natuna Besar

Wuqi zhi yu 蜈蚣之嶼 = Natuna Islands in toto (Kepulauan Natuna)

Xiwuqi 西蜈蚣 = Pulau Seraya

Wuqi yu 蜈蚣嶼 = Pulau Subi Besar/Natuna Islands in toto

Dongwuqi 東蜈蚣 = also Pulau Subi Besar

Maosuomen 帽所門 = sea space to the south/southwest of Pulau Subi Besar

Maoshan 冒山 = an island near Pulau Subi (?)

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end of Pulo Lāut”; 帽山 = Tokongboro; Dongshelong = Sarasān Island.

32. Zhou Yunzhong 2013: 159, also must have felt that; he points out that the distance of 10 *geng* is wrong.

Finally, we may also recall the following: As explained, the *SFXS* entry “*Cape Varella to Java*” suggests that ships sailing between Java and the coast of Central Vietnam could pass the Natuna Islands (especially Talinyu, i.e., Pulau Natuna Besar) and the “twin set” of Dongdong (Pulau Sapate) and Xidong (Grande Gatewick) on their west side. Next, the area of Chikan (Ké Ga) is to the northwest of Dongdong/Xidong. Third, the sailing directions for the Natuna segment in the entry “*Fujian to Java: return voyage*” point to the north-northwest; they seem to be quite accurate because sailors had to consider strong winds and currents, which would not always make it plausible to steer directly towards the north (in the direction *danzi*, or 360°).

In view of all this, it makes sense to assume the existence of two Chinese sailing corridors from the Vietnam coast down to the Natuna/Subi region and Northwest Kalimantan (and in the other direction). The starting point for one route was to the east of Dongdong/Xidong (as shown on the *ZHHHT*). The second route began in the waters to the west of these islands (according to the relevant passages in *SFXS*). One may add: The starting point of the route described in *XYCGDL* is near Lingshan, or Cape Varella. Therefore, as in the case of our map, this seems to suggest that ships passed Dongdong/Xidong on the east side, and not on the west side. Finally, both the *ZHHHT* and the fragmentary *Zhenwei* seem to be older than the *SFXS*, which could mean that the route shown on the *ZHHHT* is older than the ones described in *SFXS*; but whether this was really so, is an open issue.

Dongshelong, Shawupi, Tonggushan, Wannianyu

Our next issue concerns the “ramifications” of the southbound route near the coast of Vietnam. According to the *ZHHHT*, it was possible to leave the principal (coastal) “avenue” *before* reaching Dongdong. This means a ship had to pass across the southern section of the (partly imagined) zone called Baixos de Pulau Sissir by the Portuguese (see above). However, the map does not allow us to determine the exact starting point of this branch, which led towards the south or south-southeast. For the sake of convenience, we shall label this intersection “point A.” The map also records a second bifurcation – here called “point B” –, again near Pulau Sapate. B appears directly to the east of that island; it marks the beginning of two alternative routes towards the Natuna region and Northwest Kalimantan, in continuation of the previous segment. Both routes pass four islands, two of which have names; one route goes around their east side, the other passes them on the west side. Farther to the south, the two branches merge back into one major “avenue.” This is “point C.”³³

33. Some facsimilized versions show three unnamed islands. However, the extra island is not clearly drawn. The Nanjing map shows two islands in all, both with names. – Note: The editors of the *ZHHHT*: 47, made no distinction between the two sailing courses from B to C. They simply drew a line from north to south, which runs

The two islands with names are Dongshelong 東蛇籠 and Shawupi 沙吳皮. In the previous chapter, we had already discussed several names related to the Natuna group, but these two names are new. To the south or southeast of the Dongshelong-Shawupi emsemble, the map shows a large island; this is Kalimantan. On its northwestern (?) section we see a mountain called Tonggushan 銅鼓山 (an identical name refers to a mountain on Hainan). Farther to the south, again on the mainland of Kalimantan, one finds Wannianyu 萬年嶼.

Some of the above toponyms do not appear in earlier sources (given that the *ZHHHT* in its present form goes back to the early Ming period). Naturally, this has led to many questions. The table below summarizes the more important suggestions regarding the “identity” of these names:

	Xiang Da ³⁴	J. V. G. Mills ³⁵	<i>ZHHHT</i> ed. ³⁶	Han Zhenhua ³⁷	<i>GDNH</i> ³⁸
1 Dongshelong	unclear	Tg. Datu	Serasan I.	Natuna Is.	Tg. Datu, Tg. Api ?
2 Shawupi	same as 1	Merundung	Merundung	Subi Is.	Merundung
3 Tonggushan	unclear	Mt.Asu Ansang	Belau Tunggal	Mt. Kinabalu	Mt. Asu Ansan or Mt. Niu
4 Wannianyu	unclear	Muri I.	Pontianak	Borneo	Pontianak area or Muri I.

As one can see from the table, certain proposals are not compatible with the information given on our map – unless we suppose the *ZHHHT* contains serious errors. To begin with, as Dongshelong and Shawupi appear within a cluster of islands, the first name cannot stand for Tanjung Datu and/or Tanjung Api on the mainland of Northwest Kalimantan. Nevertheless, the *GDNH* dictionary lists many similar toponyms, offering the conclusion that we are looking at several capes, including Tanjong Sirik, which is at some distance to the east of Tanjung Datu. These explanations appear under an entry for Dongxisheluoshan 東西蛇羅山. They rest on a brief description in the *SFXS*, which summarizes a sailing route from “*Pulau Tioman* (Ningpan 亭盤, near

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through the waters between Pulau Natuna Besar and Pulau Subi Besar.

34. *ZHHHT*/Xiang Da, index: 20, 23, 38, 39.

35. Mills, 1970: 215 no. 526; 224 nos. 671 and 677; 280; Mills 1974: 456, 458, 460, 462-464, 468; Mills 1979: 80, 82.

36. *ZHHHT*: 47, 52

37. Han Zhenhua 1999: 405-407. Han adds: Contrary to what the *ZHHHT* suggests, the real route does not pass Tonggushan and Wannianyu!

38. *GDNH*: 124 (Wannianyu), 266-268, 336, 339, 1057 (Dongshelong, etc.), 455, 458 (Shawupi, etc.), 701-702 (Tonggushan).

the east coast of the Malay Peninsula) to *Brunei*.” From that description we learn that a ship following a course of 97.5° (*yimao*) reaches Linneinuoshan 林哪喏山 (also Linlaonuoshan 林嘮喏山; third character also *ruo*) in the Anambas Islands, a voyage which takes 15 *geng*. From there, after another 25 *geng*, still proceeding in the same direction, one sights a large “mountain” in the east; its Chinese name is Dongxishelongshan (*long* 龍 in lieu of *luo*), foreigners call it Danrong Dushan 單戎獨山. The *GDNH* correctly identifies the last toponym with Tanjung Datu, following earlier suggestions.³⁹

As expected, Zhou Yunzhong provides some comments on all this. First, following an article by Zhang Rong and Liu Yijie, he corrects the character *luo* in the name Dongxisheluoshan to *long* 龍. He also rejects the proposal of the *GDNH* editors to identify Linnei/laonuoshan with Pulau Tokong Malang Biru, thinking that Pulau Airabu (Ayerabu) in the southern section of the Anambas Islands would be a better option for this place.⁴⁰ However, he seems to overlook one aspect: There are some mini-islets to the south and southwest of Pulau Airabu, including Pulau Bawah. These are further candidates for Linnei/laonuoshan.

Here we may return to Dongshelong. Besides equating Dongxishelongshan with Cape Datu, the *SFXS* suggests the following (again in its description of the route from “*Pulau Tioman to Brunei*”): Sailing from that point towards the northeast (direction *danyin*, 60°), one sees Danrong Laomeishan 單戎嘮梅山, the foreign name of which is transcribed as Danrong Silishan 單絨絲立山. For the return voyage, the text gives Danrong Laomeishan (*rong* now with rad. 30). Furthermore, at a distance of 20 *geng* (direction *danshen*, 240°) from that place, there is Xishelongshan 西蛇龍山. Mills and other scholars have identified Danrong Silishan with the phonetically similar name Tanjung Sirik, which is indeed to the east of Tanjung Datu. Regarding Xishelongshan, the *GDNH* proposes Tanjung Api, to the southwest of Tanjung Datu. It also says one may read the form Dongxishelongshan as a compound reference to *Dongshelongshan* (Tanjung Datu) and *Xishelongshan* (Tanjung Api). Mills made a different proposal: He thinks Dongxishelongshan and Xishelongshan should both stand for Tanjung Datu.⁴¹ However the *SFXS* does not place the characters

39. *GDNH*: 267-268 (Dong/Xisheluoshan), 496-497 (Linnei/laonuoshan), 541, 1057 (Danrong Dushan); *SFXS*: 84-85; also there 58, 234 (Dongshelongshan; *long* is the correct version) and 256 (Danrong Dushan); Xiang Da did not identify Dongshelong, Danrong Dushan and Linnei/laonuoshan. See further Liu Yijie 2017: 214, 238. Earlier identifications, for example, in Mills 1979: 80, 82; Mills 1974: especially 458.

40. Zhou Yunzhong 2013: 159. Mills 1974: 458, correctly gives “Tung Hsi Shê lung mountain.” Mills 1979: 82, also identifies Linneiruo/Linlaoruo with Pulau Airabu. – For a modern description of Tokong Malang Biru, Pulau Airabau, Pulau Bawah and other nearby areas, see *Sailing Directions*: 19-20.

41. *GDNH*: 267-268, 339. Also see references in n. 39, above. Mills 1974: 458, 460, 462. See further Mills 1979: 80, 82, 93. – The *XYCGDL* has Dongshelong zhi shan,

danrong (*tanjung* = cape) in front of the form *Xishelongshan*. Therefore, this name may stand for an island; it does not necessarily point to a cape.

Things become even more confusing if one considers several other names all of which appear in the *GDNH* entry on *Dongxishelongshan*: (1) *Donglongshe* 東龍蛇, (2) *Dong sheluo* 東蛇羅, (3) *Donglongshe* 東隴蛇, (4) *Xilongshe* 西龍蛇, (5) *Xilongtuo* 西隴陀, (6) *Tuolongshan* 陀龍山, (7) *Shelongshan* 蛇龍山, (8) *Shashelong* 殺蛇龍, (9) *Longsheshan* 龍蛇山, (10) *Longsheyu* 龍蛇嶼. Discussing these names would lead away from the main intention of the present study. Suffice it to say, some of them, as for example (2) in *SFXS* (which should be corrected to *Dongshelong* 東蛇龍), seem to stand for different locations.⁴² In other cases certain characters look similar, which may explain alternative name forms. While much of this is irrelevant to us, some points require attention. Zhou Yunzhong thinks the character *sha* 杀 (short form of first character in no. 8) resembles the character *dong* 东 (short form of first character in the name on our map). Therefore, *Shashelong* and *Dongshelong* should stand for the same place. For this he mainly relies on the *SFXS* entry “*Cape Varella to Java: physical features*” already quoted above. It starts with *Dongwuqishan* (Pulau Subi) and then lists *Shashelong*. Moreover, to the east of the latter one finds *Tonggu(shan)*, to its west lies *Shahupiyu* 沙湖皮嶼. Here the sea is shallow, but the principal sailing route passes through that area. Following this is a brief description of *Tonggushan*.⁴³ Clearly, the sequence of names in this entry reminds of the arrangement shown on the *ZHHHT*.

Zhou Yunzhong provides further details. He identifies *Shashelong*/*Dongshelong* with Pulau Serasan (above we had already referred to that island), believing that one should substitute *dong* by *sha*, because *Shashelong* is phonetically close Serasan.⁴⁴ He also refers to a second entry in *SFXS* (“*Fujian to Java*”), which mentions *Wuqiyu* 蜈蚣嶼 (there: Pulau Subi Besar). From *Wuqiyu*, sailing “in the direction *dansi* (150°) for 4 *geng*, one passes *Dongshelongshan*; there are three islets to [its] north, in the middle are mountains/islands, one is [called] *Daguishan*. The large mountain/island in the southeast is *Tonggushan*. Entering the ‘gate’, the depth is 15 *tu*; seen

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as quoted above; Sonnendecker 2005: 31 n. 118, provides a confusing comment based on *GDNH* and Mills 1970.

42. For *Dongsheluo/long* in *SFXS*, see 84 there; Zhang Rong and Liu Yijie 2012: 82 no. 38 (correct name); Liu Yijie 2017: 238, 491 (correct name). The *GDNH* offers special entries for many of the names listed here; these entries usually direct readers to the long note on *Dongxisheluo*shan. In some cases, additional sources are given.

43. *SFXS*: 41-42 (cited here), 70-71 (a related entry – “*Wuyu to Tuban, Jaratan*” – with less accurate data; there: *Shahupi*, without *yu*); Liu Yijie 2017: 215, 288; Zhou Yunzhong 2013: 157-158. As expected, *GDNH*: 347, links the description in *SFXS* to the area of *Tanjung Datu*.

44. According to Liu Yijie 2017: 289, *sha* is wrong, *dong* is correct. However, Liu provides no elaborate discussion.

from nearby, [this] is a reef; to both sides of the ‘gate’ it is all (a) small flat island(s) called Shahuyu, which one should pass at the eastern side” (用單已針四更船使過東蛇龍山，北邊有三個小嶼，內有大山，一個是大龜山，東南大山是銅鼓山。入門打水十五托，近看是坤身，門中二邊都是小嶼平平，號名沙湖嶼，使往東邊過。⁴⁵

This description is quite correct: there are some islets to the northeast of Pulau Serasan. The name Daguishan should stand for the central elevation of that island; it reaches a height of more than 400 meters. The reference to Tonggushan is ambiguous. One may be tempted to associate it with a location inside the Serasan “setting”, but if one accepts a broad reading, then it may simply mean something like “[At a distance], towards the southeast, [is] a large mountain...”. *Men/gate* refers to the Strait of Serasan to which we shall return in the next paragraph.

Shahupiyu, evidently the same as Shawupi on our map, should stand for the Sembuni reefs (Karang-karang Sembuni; different spellings). Zhou Yunzhong links the element *sha* 沙 to the meaning of *karang* (reef, sandbank), but *wupi* (Minnan: *ggnoo-pe*) is less easy to explain. Phonetically it is quite far from the form “buni.”⁴⁶ Be that as it may, both Serasan and Sembuni belong to the southern section of the Natuna Archipelago. Together with Pulau Subi Besar they form a complex chain of reefs and islands, which stretches across the sea in a diagonal fashion, from northwest to southeast. Sembuni is at the southeastern end of that chain. If one accepts these explanations, then some of the earlier suggestions shown in the table above become invalid. Shawupi in particular cannot be Pulau Merudung and Dongshelong has nothing to do with the various capes along the coast of Kalimantan. However, is this really so?

Let us get back to points “B” and “C” on the map. The northern segments of the two routes, which start at point B, cross through a larger space without islands. The eastern course assumes the form of a large arc. Dongshelong, Shawupi and two (or three) unnamed islands, all close to each other, appear near the last third of both routes. If one transfers these impressions to a modern map, then we may say the following: Point B seems to be much too close to Pulau Sapate. One would expect that point to be far away from the continent, i.e., nearer to Pulau Laut or Pulau Natuna Besar, but the map does not record these two islands (given that Dongshelong is really meant to be Pulau Serasan). We may then explain the arc-like form of the eastern route in the following way: It passed the east side of Pulau Laut and Pulau Natuna Besar at quite

45. *SFXS*: 58; Liu Yijie 2017: 214 (almost identical punctuation); Zhou Yunzhong 2013: 158. – For *tuo*, usually “fathoms,” see, for example, Didier 2002: 63. One *tuo* is circa 1.70 meters.

46. Zhou Yunzhong 2013: 160. Earlier research often gives different identifications for Shahupi and Shawupi. One example: Gerini 1909: 710, 714, proposed Pulau Subi. Also Han Zhenhua 1999: 406.

some distance. Therefore, these islands do not appear on the map. Ships only came close to the Natuna group near Pulau Subi Besar and/or Pulau Serasan. Furthermore, as was said, there are several islets to the northeast of Pulau Serasan; the unnamed locations on the map could represent this area. Finally, near the Sembuni region, which is another dangerous zone, one had to adjust the sailing direction by 90 degrees. The ship would then move towards the southwest and pass through the Selat Serasan.⁴⁷

Two observations may be added to the above. First, in the middle of that strait, to the southwest of the Sembuni reefs, one finds Pulau Merudung. Other locations near that area are Pulau Malu (South Haycock), a mini islet over 140 meters high (we had already mentioned that island), and the so-called Malu reefs (Karang Karang Malu). Tanjung Api, on the mainland of Kalimantan, is about 20 kilometers to the southeast of these reefs. The question is whether the change in direction really implied that a ship had to pass the Sembuni reefs on their eastern and southern sides. Was it possible to take a “shortcut” by going around Pulau Serasan, again on its southeastern side? If so, then Shahupiyu/Shawupi could point to Malu or Merudung. However, phonetically both these names have nothing in common with the Chinese toponyms; this should be a strong argument for confirming that in most (if not in all) cases Shahupiyu/Shawupi must stand for the Sembuni reefs.

The second observation concerns the northern section of the arc-shaped eastern route on the map. According to the *SFXS* entry “*Fujian to Java*” (already quoted above), the southbound route begins near Dong/Xidongshan, somewhere near point B on our map. From there, “taking [the direction] *bingwu* (172.5°) for 15 *geng*, [then] *danwu* (180°) for 30 *geng*, one reaches Dongshelongshan. [Yet], sailing at a great a distance [from the latter], [where] the depth is 40 *tuo*, one is ‘low’ and may not see [Dong]shelongshan; there will only be the Wuqiyu, [many of which] are flat; seen from nearby, they form a long chain of reefs.” (用丙午十五更，用單午三十更取東蛇龍山。遠過打水四十托，低不見蛇龍山，只是蜈蚣嶼生得平平，近看坤身相連。). Although the translation of the term *di* (low) and of the last section may not be entirely correct, the itinerary from Dongdong to Pulau Serasan, especially the minor adjustment of the sailing direction after 15 *geng*, seems to involve a route whose shape comes close to the form of an arc.⁴⁸

The interpretation presented above rests on the assumption that Wuqiyu must refer to the entire Natuna Archipelago (or its southern segments);

47. For a modern description of this area and Selat Serasan, with several islands and reefs scattered across that strait, see *Sailing Directions*: 9-10. In certain respects, later editions of that text are clearer than the original first version mostly used here.

48. *SFXS*: 57-58. Identical directions and durations appear in another entry of *SFXS*; see 70 there. However, the parts that follow differ in both entries. See also Liu Yijie 2017: 214, 215. One may note: Modern authors punctuate this text in various ways.

Map 3 – Northwest Kalimantan

otherwise, the sequence of names would make no sense. The next part of the same entry, quoted near note 45, also mentions Wuqiyu. Readers will remember, in that case Wuqiyu clearly points to Pulau Subi Besar. One may add: The *SYGJ* of the late Ming period contains a very similar description. It gives the same directions, but wrongly records 3 *geng* in lieu of 30 *geng* for the itinerary to Tuolongshan 陀龍山 (which is the same as Dongshelongshan). Interestingly, the passages referring to Wuqiyu are left out; this saves us from the trouble of associating that name with two different entities – the entire Natuna group and Pulau Subi Besar. Finally, the *SYGJ* has Shachaopi 沙潮皮 in lieu of Shahuyu; Shachaopi is again located in the nearby sea strait.⁴⁹

⁴⁹. *SYGJ*, vol. 101: 881a; Zheng Hesheng and Zheng Yijun 1980: 314 (the punctuation is not always correct).

We still have to identify the toponym Tonggushan. Yet, before dealing with this name, we must briefly return to the sea routes shown on our map, i.e., the ones from point B to point C. So far, we have discussed the eastern “avenue.” Most likely, the second route was more direct and somewhat shorter; at least the *ZHHHT* does not indicate an arc-shaped itinerary. Hence, may we say that it passed *all* islands and reefs in the Natuna Archipelago on their west side as suggested by the route in the *SFXS* entry “*Cape Varella to Java*” (see above, near note 23)? Should we link it to the route described in the *SFXS* entry “*Fujian to Java: return voyage*” (see near note 26)? There is no final answer to this question. Projected on a modern map, a (near-to-)straight line from point B towards the south, in the *danwu* direction (180°), more or less along a longitude of circa 109° E, would put Pulau Natuna Besar on the west side of that route, while Pulau Subi Besar would appear on its east side. In other words, such a line would run through the space between both these islands. Earlier, when discussing the names Maosuomen and Maoshan we had already alluded to the possibility of such a north-south corridor near the west side of Pulau Subi Besar, i.e., slightly to the east of Pulau Seraya. If this is acceptable, then we are looking at two “systems”: one or several routes ran along the west side of all the Natunas, a further route went through these islands in a north-south direction. This leads to another question: Should we associate point C on the map, placed at some distance from the southwestern exit of Selat Serasan, with all these itineraries or just with one of them? My guess is that point C is related to the last option. Indeed, we may tentatively assign it to circa 1°20'N to 1°40'N (i.e., south of Pulau Muri, also called St. Petrus; 1°54'N, 108°38'E). There is a simple reason for that assumption: The southern starting point for the routes described in the two entries “*Cape Varella to Java*” and “*Fujian to Java: return voyage*” is a location called Shierzishan 十二子山 (we shall discuss this name below). The *ZHHHT* also records Shierzishan, but there the name appears much to the south of Wannianyu and thus to the south of point C. Clearly, Shierzishan has nothing to do with point C. In fact, this point must be farther to the north, near the latitude of Tonggushan.

The names Tonggushan and Wannianyu take us back to the table above. We shall consider Tonggushan first. Identifying it with Mount Kinabalu in Sabah makes no sense; this distant location has nothing to do with our topic. Mount Niu is in Northwest Kalimantan; it is far inland and certainly not always visible from the sea. Tanjung Api could be a candidate for Tonggu(shan), but there is no phonetic relation between the local and the Chinese name. In sum, these three options do not help us to identify the toponym in question. Here, then, we may turn towards the area south of Tanjung Api. “Below” that cape the coast of Northwest Kalimantan is quite flat. Nevertheless, about two or three kilometres southwest of Tanjung Api one finds Tanjung *Munguresak*. The syllables printed in italics sound similar to Tonggu; is this cape a candidate for Tonggushan? Farther south, we see minor elevations to the east of Tanjung

B(e)limbing; this includes the mountains known as Gunung Asu Ansang, Gunung Belau Tunggal and Bukit Se Tengah (all three: different spellings). These three are still to the north of the assumed point C. Again, the syllables printed in italics are phonetically similar to the sequence Tonggu. Zhou Yunzhong thinks the Tengah option should be the most plausible one. The principal reason for that assumption is that this mountain (1°46'N, 109°21'E; hight 245 meters) is closer to the sea than the other two mountains.⁵⁰

Yet, one entry in the *SFXS*, “*Wuyu to Tuban, Jaratan*,” may not support the proposed identification of the toponym Tonggu(shan) with Bukit Se Tengah. The passage in question reads: “... one sees Longsheshan (Pulau Serasan); to the east and west are large and small islands, [this] is Tonggushan. [Upon] entering the ‘gate’ (Selat Serasan), the depth is 15 *tu*; seen from nearby, it is all reefs; inside the ‘gate’ is a small island called Shahupi (Sembuni)” (...見龍蛇山; 東西邊有大小山, 是銅鼓山。入門打水十五托, 近看都是昆崙, 門中有一小嶼名沙湖皮...).⁵¹ Here Tonggushan seems to be a name for several *shan* (mountains and/or islands), unless 是銅鼓山 means something like “[among which] is Tonggushan.” The problem is that this entry is incomplete; some phrases are missing, which becomes evident when one compares the text with the entry “*Fujian to Java*” cited farther above (near note 45) and the related passages in *SYGJ*.⁵² Therefore, we should not rely on it for our interpretation.

What, then, does Tonggushan stand for? Admittedly, there is no precise answer. From a “phonetical” point of view, each of the three names mentioned above – Gunung Belau Tunggal, Bukit Se Tengah and Tanjung Munguresak – is a plausible option. My suggestion is that we should give preference to the last name. There is a simple reason for that: When sailing through the Serasan Strait from north to south one sees this location first, before the other places come in sight. Furthermore, Tanjung Api and Tanjung Munguresak are so close to each other that sailors may not have made a clear distinction between these capes. Perhaps they even used the name of the latter for the former, which would imply that Tonggushan could stand for both places.

Here we can move to the next name on our map: Wannianyu. This toponym appears on Kalimantan “proper,” more precisely, on the south side of a bay or river mouth. Near the name Wannianyu the *ZHHHT* shows a mountain. Therefore, Wannianyu cannot stand for Pulau Muri or another major island in the sea, far from the coast. Perhaps, then, we should search for it in the

50. Zhou Yunzhong 2013: 160-161. *ZHHHT*, p. 52: Tonggushan = Gunung Belau Tunggal. For the mountains and the area around them, also see *Sailing Directions*: 27-28.

51. *SFXS*: 70-71. Liu Yijie 2017: 215, punctuates: “Longxishan dong, xibian...” This seems to imply that several *shan*, including Tonggushan, are on the west side of the Sembuni reefs. Tonggushan should be to the east. *Kunshen* is the same as 坤身, 崑崙, 鯤身, *kunxin* 坤辛, etc. (several other spellings).

52. For the *SYGJ*, see vol. 101, 881a; Zheng Hesheng and Zheng Yijun 1980: 314.

area around modern Pontianak (Kundian 坤甸 in Chinese). A related name, Wanniangang 萬年港, mentioned in the *Daoyi zhilüe* 島夷誌略 (now *DYZL*, prefaces 1349 and 1350), could refer to this region and may even be identical with Wannianyu. The mountain shown on the map, it was also argued, might then stand for the Gunung Ambawang (which is quite far from Pontianak!).⁵³

Today, the greater part of modern Pontianak spreads along the southern bank of a river branch in the Kapuas delta and there is a long flat island near the mouth of this river branch (Sungai Kapuas Kecil). More islands are found in the main sections of the delta, but in late medieval times the landscape was certainly different from what it is now. Besides that, the navigability of all these channels differs between dry and wet seasons. Another point concerns the possible relation between both the names Wannianyu and Wanniangang: Can they really stand for the same location? Does *yu* mark an island near or in the delta? Should we interpret *gang* as a reference to a bay or natural port? Scholars expressed different views on all this; some specialists even suggested a phonetical relation between the combination “Wannian” and the toponym Brunei.⁵⁴ However, that does not help us to define the geographic position of Wannianyu.

Records of more recent times list the name Pulau Pontianak. The proposal to identify Wanniangang with the area of Pontianak or the city itself may lead one to associate “Pontianak Island” with Wannianyu, but this island is not in the Pontianak region; it is a mini islet much farther to the north, not too far from Pemangkat. South of that town, which sits on the southern bank of a river, one finds the Gunung Gajah; in front of Pemangkat (Pemangkat) one sees Tanjung Batu.⁵⁵ Although Pulau Pontianak is at some distance from Mount Gajah and a major river mouth or bay, such as the one shown on the *ZHHHT*, there are just as many arguments for equating Wannianyu with that mini islet, as there are for equating it with some location near modern Pontianak, or with yet another place.

53. See *DYZL*: 342, and the detailed explanations, there, by Su Jiqing: 343 n. 1. Su cites earlier work and translations. He also refers to the list of countries in the *Nanhai zhi* 南海志 (see there, j. 7: 45-47) of the early fourteenth century. This list, discussed in several studies, contains additional toponyms related to Kalimantan. However, the question of names representing Kalimantan/Borneo, Brunei, the Pontianak region and other locations on the island remains an extremely difficult issue. Even such “common” toponyms as Boni 淳泥 (also in the *DYZL*) have led to discussions. Generally, for traditional Chinese references to and descriptions of various locations on Kalimantan, one may now consult recent research by Johannes L. Kurz; see especially Kurz 2013 and 2014. – For Gunung Ambawang, see *ZHHHT*: 52; *Sailing Directions*: 28, 33.

54. For all this, see, for example, *ZHHHT*: 52; *GDNH*: 124. For a modern description of the Kapuas delta, see *Sailing Directions*: 31-32.

55. For Pulau Pontianak: *Sailing Directions*: 28. Note: Different sources give different coordinates for this island.

Map 4 – P. Kabung and P. Lemukutan

A further proposal comes from Zhou Yunzhong, who cites a related passage from the *SFXS* entry “*Fujian to Zhaowa*.” Zhou links this passage to Pulau Lemukutan and Pulau Kabung, believing that Wannianyu could also stand for these islands.⁵⁶ In terms of latitude, Lemukutan and Kabung are “between” Pemangkat (north) and the old polity of Mempawah (south); the Pontianak region is much farther to the south. To the southeast of these islands, very close to the coast of Kalimantan, one finds Pulau Semesak (various spellings) and a mini-islet called Pulau Tempurung. However, as was said, the *ZHHHT* shows no island

⁵⁶ Zhou Yunzhong 2013: 162; *SFXS*: 58; Liu Yijie 2017: 214-215. A similar passage is in *SYGJ*, vol. 101, 881a-b; Zheng Hesheng and Zheng Yijun 1980: 314. For a modern description of the area, see *Sailing Directions*: 30.

near Wannianyu.⁵⁷ Furthermore, the text in *SFXS* remains vague; there are no names at all and one can relate certain passages to different sites. This makes the identification of Wannianyu with the islands in the Kabung region rather difficult.

Only one element may support Zhou's suggestion – not in regard to the map, but in regard to the compass bearings in the *SFXS* entry “*Fujian to Zhaowa*”: From Shahupi a ship must follow the direction *danding* (195°) for 7 *geng* to reach the area in question (Pulau Kabung, etc.). Thereafter, steering 187.5° (*dingwu*) for 4 *geng*; it will make Jilongyu 雞籠嶼 (we shall discuss this name below). From Jilongyu, still proceeding in the *dingwu* direction for another 10 *geng*, Jiaolanshan 交蘭山 (Pulau Gelam) will come in sight (Jiaolanshan is very far to the south, near the southwestern “edge” of Kalimantan; we shall also return to that island below).⁵⁸ This means that the distance between Shahupi (the reef zone in the Selat Serasan) and the unidentified area was shorter than the distance between the latter and Pulau Gelam. Hence, the unnamed area described in *SFXS* could indeed refer to Pulau Kabung and the adjacent islands near the westernmost point of Kalimantan, Tanjung Batu Belat. In other words, probably we are looking at two different concepts: the route shown on the *ZHHHT* passes Wannianyu – Pulau Pontianak in the Pemangkat region, a location near modern Pontianak, or a different site (?) –, the one in *SFXS* leads around Pulau Kabung and other nearby islands.

Elsewhere Zhou Yunzhong suggested, we may search for Wannianyu somewhere near the northern shore of the Teluk Benkolan (Bankalan). This is a large bay with mostly shallow waters. He argued that the landscape in that area changed in the course of time, just as in other sections of Kalimantan's coastal belt. Indeed, probably the long island now called Pulau Panjang was still a submerged zone at around 1400 or it was much smaller than it is today. Thus, Wannianyu could be inside the bay and Wanniangang might be a location farther inland. Yet, this is just a possibility and not more than that.⁵⁹

57. Near Pulau Semesak is the mouth of the Sungai Raya; slightly to its north (not south) is the Gunung Bunga. This is partly in line with the features recorded on our map. However, in this case, as in the proposal to equate Wannianyu with Pulau Kabung and Pulau Lemukutan, one would expect these islands to appear on the *ZHHHT*, near Kalimantan, which is not the case. – Several narrations refer to the history of different polities along the coast of Kalimantan; that includes Mempawah, Sambas, Sukadana, etc. See, for example, Schulze 1991 and 2004. Here, I shall not look at this material. Generally, these texts do not say very much about the fifteenth century, but some scholars of Islam believe that Chinese Muslims had settled there in the early fifteenth century.

58. Sources as in note 56. The punctuation of the entry in *SFXS* differs slightly in modern texts. *SYGJ*, vol. 101, 881a-b, gives *wu zhen* 午針 for the course from Jilongshan to Gelam. One can compare the southbound voyage outlined in *SYGJ* and *SFXS* with the descriptions of the return voyage in both sources. See *SYGJ*, 881b-882b; Zheng Hesheng and Zheng Yijun 1980: 314-315; Liu Yijie 2017, 216; *SFXS*: 58-59 (there, a passage is missing; see n. 26 above).

59. Zhou Yunzhong 2015a: 380-381, for additional suggestions.

The *SFXS* has one more entry that we must consider here. This is the entry called “*Wuyu to Lawe*.”⁶⁰ Lawe (Lawi, Lawai, etc.), written Laowei 老維, was near the mouth of the Kapuas River, south of Pontianak. Tomé Pires refers to the “Ylha de Laue” and Portuguese *roteiros* also mention it. Modern maps record Pulau Laut, an island in the delta; this must be Laowei.⁶¹ However, silting certainly had a strong impact on the physical shape of the nearby area; therefore, one cannot exactly determine the precise location of “Port Laowei” (老維港口) in Ming times. It also seems that Lawe only became important from the late fifteenth century onwards because we rarely hear of it in earlier sources. Nevertheless, one may ask whether Wannianyu had something to do with this ancient anchorage.

The other toponyms mentioned in the same entry of *SFXS* (and related to the central and eastern sections of the Laut Natuna), lined up from northwest to southeast, are Xiandanshan 仙丹山, Qiyu 七嶼 and Longjiaoshan 隴膠山. Mills identified them with Pulau Mendarik (at the northwestern extremity of Kepulauan Tambelan), Pulau Lemukutan and – splitting up Longjiaoshan – with Pulau Damar and Pulau Setinjan (or Sitanjam; both to the south of Lemukutan). The *GDNH* suggests different locations or offers no explanation.⁶² There is no clear solution for these names and one may not feel comfortable with the proposal for Qiyu, because above we had already encountered another proposal for Lemukutan and the islands in its neighbourhood. Also, the description of the route in this entry of the *SFXS* has nothing to do with the *ZHHHT*; it just confirms that ships would cross the Natuna Sea from the east coast of the Malay Peninsula to the west coast of Kalimantan.

We may now summarize the findings in the foregoing paragraphs. The names recorded on the *ZHHHT* stand for the following places:

Dongshelong = Pulau Serasan

Shahupi = Sembuni reefs

Tonggushan = probably Tanjung Munguresak; less likely Gunung Belau Tunggal, Bukit Se Tengah

Wannianyu = near Pontianak or Pulau Pontianak?

60. *SFXS*: 72-73; Liu Yijie 2017: 219-220.

61. The latest modern edition of the *Suma Oriental* is the one by Rui M. Loureiro. See there, especially 234-235. For possible references to Lawe in Arabic works, see, for example, Tibbetts 1979: 255.

62. Mills 1979: 80, 86-89. *GDNH*: 284 (Xiandanshan, not identifiable; possibly in the Tambelan Islands), 515, 569, 834 (Qiyu, near the Kapuas River mouth, but not identifiable), 982 (Laowei = Laut; perhaps the same as Luoweishan 羅帷山). However, also see below: In the context of Huang Xingzeng's *XYCGDL*, Mills equated Luoweishan with Pulau Datu.

The eastern route from B to C seems clear, as had been explained; it enters the Selat Serasan from the east. In all likelihood, the western route ran through the area between Pulau Natuna Besar and Pulau Subi, while other itineraries passed along the west side of all Natuna Islands. Point C should be slightly to the north of Wannianyu.

Shierzishan, Jialimada, Jiaolanshan, Jiliwen and Java

The *ZHHHT* records a cluster of islands near the southwestern section of Kalimantan, far to the south of Wannianyu. There are eleven islands in all; six of them are to the west of the sailing route leading from point C to the south, five are to the east of that alley. The map indicates no alternative route in the immediate vicinity of these islands. From the said cluster, the route continues directly towards Kepulauan Karimunjawa. Near the latter, it merges with another sailing course (point D). This second “avenue” is connected to a set of further routes (points E and F), one of which runs through the Natuna Sea at some distance from Kalimantan. In fact, the map suggests that it was possible to proceed back and forth between the Karimunjawa Archipelago and the many “offshore” islands near the coasts of modern Cambodia and southeastern Vietnam. The distribution of these islands on the *ZHHHT* poses many problems, but this is beyond the scope of the present study. It may be sufficient to state that the southern segment of the long itinerary from the waters near Vietnam “down” to points F, E and D bypassed Pulau Pejantan and/or Kepulauan Tambelan on the west side. While this is an assumption, it is beyond doubt that the routes from Shierzishan towards the Natuna Islands (recorded in *SFXS* and *SYGJ*) were different from the route through D, E and F.⁶³

We shall now look at the line between points C and D and the eleven islands to the southwest of Kalimantan. Seen from north to south, this route passes two unnamed islands first; then it runs along a location called Shierzishan 十二子山; finally, it passes two more places without names. As was mentioned, all these islands lie on the west side of that route. Jialimada 假里馬達 appears “behind” Shierzishan and the latter two islands. Therefore, it is not directly “adjacent” to the main sailing corridor. Four of the islands placed on the opposite side of this route, i.e., on its eastern side, are also without names. At the left (southern) end of that cluster is Jiaolanshan 交蘭山. Fortunately, this toponym and the name Jialimada appear in several sources and one can easily identify them: Jialamada stands for Pulau Karimata, the principal island of Kepulauan Karimata; Jiaolan represents Pulau Gelam, as was already mentioned. One may add: The *DYZZ* of the Yuan period and Fei Xin’s 費信 *Xingcha shenglan* 星槎勝覽 (now *XCSL*) of the early Ming period contain separate descriptions of both islands.⁶⁴

63. Portuguese *roteiros* also refer to this area, mainly in the context of sailing from Pulau Aur to Makassar. See, for example, Matos 2018: 119-123.

64. *DYZZ*: 202-204, 248-250; Groeneveldt 1876: 115; Rockhill 1915: 261-263; *XCSL*,

Map 5 – Pulau Karimata and Adjacent Islands

Regarding Shierzishan and the first two unnamed islands, our map places these three to the northeast of Pulau Karimata. This suggests that we are looking at some islands in the two groups called Kepulauan Panebangan (also Penebangan) and Kepulauan Pelapis. It also means that the sailing route shown on the *ZHHHT* runs through the space between Pulau Maya and the said islands (and not through the so-called Greig Channel between the Panebangan and Pelapis groups). The other two islands on the map – i.e., the ones in front of Pulau Karimata – resist a clear identification. Perhaps they represent the two groups called Kepulauan Gurung and Kepulauan Layah; in this case, the sailing route still follows the coast of Kalimantan. Another possibility is that it crossed the sea between the Gurung and Layah groups almost diagonally, from the northeast to the southwest; if so, then the two islands on the map would stand for Kepulauan Gurung and some small island(s) to its south-

qianji: 9-10, *houji*: 11-12; Mills/Ptak 1996: especially 41-42, 92-93 (and sources cited in both works). Generally, there are many orthographic variants of both names. For instance, in *SYGJ*, vol. 101, 882a (Zheng Hesheng and Zheng Yijun 1980: 315), Karimata appears as Jialimada 澗里馬打. More names in *GDNH*: especially 713-714, 944, 964. We shall discuss some of them below.

southwest, for example Pulau Bakung Besar, Pulau Gresik, etc. Such an option could also explain two further aspects: First, the four unnamed islands to the east of our sailing course would then represent various locations from Pulau Meledang (Melandang; in the Layah group) down to Pulau Papan and Tokong Perangin. Second, a ship passing through this island world would not sail close to the Kalimantan coast; it would not even sail through the so-called Teluk Sukadana, the large bay in front of the Sukadana area. If so, it is hardly surprising that on the *ZHHHT* the coast of Kalimantan is drawn in such way that it turns away from the main sailing route. However, there is one weak point: The distance between the islands south of Kepulauan Layah and Jiaolan (Gelang), as shown on our map, is much too short.⁶⁵

What else can one say? First, a variant form of the name Shierzishan already appears in the *Lingwai dai da* 嶺外代答 (1178) of the Song period. This source uses the form Shierzishi 十二子石, literally “Twelve Boy Stones.” It associates these rocks or islands with a sailing corridor from Java to the northwest. Moreover, “ships passing them, will meet [other vessels] near Pulau Aor, [which reach that place via] a route from Srivijaya (near Palembang?)” (舟過十二子石，而與三佛齊海道會(合)於竺嶼之下。). Although the Chinese text seems clear, there are different interpretations. Here are some examples: Netolitzky, Yang Wuquan and others identified Shierzishi with Karimata Island. Su Jiqing suggests Pulau Sarutu (Serutu). Almonte translates: “... ships, after crossing twelve stones, arrive below Sanfoqi via a convenient sea route toward the Zhu Islands.” These proposals raise doubts.⁶⁶

Second, Zhou Yunzhong provides further suggestions regarding the name Shierzishan and some of the problems surrounding it. Nevertheless, one of his own proposals – this name should represent Pulau Panebangan – is not fully acceptable, because the element “twelve” in the Chinese appellation points to a group of islands and not just to a single location. Therefore, Kepulauan Panebangan is the better option for Shierzishan on the *ZHHHT*. Indeed, some of the islands to the west and south of Pulau Maya are rocky structures with high elevations; probably the element “stone” in the Chinese toponym derives from this feature.⁶⁷

65. The discussion in Zhou Yunzhong 2013: 162-163, presents some related details, but does not consider all the sailing options. For a modern description of the many islands and sea straits in the area to the west and south of Pulau Maya, see *Sailing Directions*: especially 73, 77-78.

66. *Lingwai dai da*, j. 3: 126, 128 n. 7 and 8; Netolitzky 1977: 55; Su Jiqing in *DYZZL*: 203-204 n. 1; Almonte 2020: 184-185. – For earlier interpretations, see, for example, Hirth and Rockhill 1970: 24 and n. 3 there; Phillips 1886: 40, maps; Gerini 1909: 712 (Shierzishan = Pulau Serutu); Zheng Hesheng and Zheng Yijun 1980: 244 (Shierzishan = Karimata); Han Zhenhua 1999: 407 (Shierzishan = Kepulauan Tambelan; Zhuyu = 竹嶼 in *XYCGDL* = an island in the northern section of the Tambelan group).

67. Zhou Yunzhong 2013: 162-163. – For other identifications, also see *GDNH*: 106, 964.

The third point concerns the graphic presentation of Shierzishan. As was mentioned, the modern edition of the *ZHHHT* shows eleven islands. However, in some facsimilized editions an additional unnamed island, or at least a fragment of such a place, appears near the left side (south) of Jiaolanshan. It thus seems that the name Shierzishan encouraged the mapmaker(s) to draw twelve islands on the map, evenly distributed to the west and east of the north-south route.⁶⁸ This arrangement seems to confirm that the compound Shierzishan stood for an ensemble of islands, possibly for the entire island world in the region near Pulau Maya and from there “down” to Gelam, with Pulau Karimata and Pulau Gelam being the most important constituents of the “total setting.” Here one may also cite the opening phrase of the Karimata chapter in *XCLS*:⁶⁹ “This land (Karimata) and Gelam Islet gaze across each other, being in the middle of the sea” (其地與交欄山相望海洋中). Perhaps such concepts were current in the times of Zheng He. That in turn might explain the “proximity” of both islands on the *ZHHHT*. In other words, the mapmaker(s) took the idea for granted, combining it with the early concept of Shierzishan.

The newly discovered Nanjing version of the *ZHHHT* presents the area differently: It places four islands to the west side of our route: The northern island bears the name Shierzishan. Karimata is split into two places; the left one remains unnamed; it could be Pulau Serutu. Another unnamed island appears in front of these two. Gelam is the only place east of the sailing corridor and the relative distance between Karimata and Gelam is now longer. This seems more realistic than the one provided by the “conventional” versions of the *ZHHHT*, but it may simply have to do with a different understanding of the concept behind Shierzishan, or it could be purely accidental.

The following paragraphs are a bit more complicated. They lead away from the earlier spatial concepts and require us to proceed in two steps: First, we have to review the “relation” between Jialimada (Karimata) and Shierzishan; thereafter we must consider other locations as well, including Gelam. The starting point is, once again, the name Shierzishan. It appears in three entries of the *SFXS*. The first passage, taken from the entry “*Wuyu to Tuban, Jaratan: return voyage reconsidered*,” refers to a northbound voyage:⁷⁰ “Karimata – from a distance it resembles a hat; to the southwest is a small island, [here] the depth is 15 *tu*. [From there], steering 345° (*danren*) for five *geng* (north-northwest),

68. See, for example, the map available in *Yingya shenglan* (ed. by Wan Ming); less evident in *ZHHHT*/Xiang Da, 45. – There are other cases, where the mapmaker(s) adjusted certain graphical features to a name. One example is Xijiaoshan 犀角山, literally “Rhinoceros/Buffalo Horn Mountain,” in the Gulf of Siam. See *ZHHHT*: 44, 51. Generally, for Chinese sailing routes to the area of modern Thailand, see Papelitzky 2015b and 2020: 117-127.

69. Mills/Ptak 1996: 92; *XCSL*, *houji*: 11.

70. *SFXS*: 71; Liu Yijie 2017: 217.

one sights Shierzishan. From afar, one sees two or three [islands], from a closer distance six or seven. They look similar: The large mountain(s)/island(s) is (are) high in the east [and] low in the west. Also, one island has reefs. Having gone around [it] at the southern [side], [one eventually finds] a reef in the north, similar to a sail; bird excrements make the top of the mountain(s)/island(s) appear white, [which] serves as a point [of orientation]. [Leaving this area], ... after 45 *geng* one makes Ké Ga.” (假里馬，遠看帽樣；西南有一小嶼，打水十五托。用單壬五更見十二子山；遠看二三個，近看六七個；看相似，有大山東高西低。又一嶼有老古石，南邊過，北邊有礁似帆樣；鳥屎汙白頂山為準。... 四十五更取赤坎。). Here, Jialima should be Jialimada (Karimata). If indeed so, and if Shierzishan represents the Panebangan and/or Pelapis Islands, then the direction is wrong and the distance (5 *geng*) is too long, because Karimata and Pelapis/Panebangan are close to each other. Moreover, Karimata is not an entity subordinated to Shierzishan. Mills tried to solve the problem by suggesting that Shierzishan could be the “Burung Islands.” With the latter he seems to mean an area to the south-southwest of Pulau Lemukutan and not Pulau Burung (now usually Pulau Gurung) to the east-southeast of Pulau Panebangan, but in either case the geographical position is incompatible with the direction given in the Chinese text.⁷¹

The second entry (“*Fujian to Zhaowa: return voyage*”) gives the name Jiamashan 假馬山. It practically lists all the details mentioned above, up to the sequence “six or seven [islands],” but shortens the distance from Jiamashan to Shierzishan to 3 *geng*. This is more realistic than the distance in the previous entry; yet, it still seems to be quite long. The distance to the next location, Pulau Subi Besar (Wuqiyu), is 15 *geng*; from there to Pulau Natuna Besar it is another 5 *geng* (this was already mentioned above). The “white mountain” appears in both entries; it must refer to a major elevation within the Shierzishan (or nearby?), visible from afar, but one cannot identify it.⁷²

The third entry (“*Wuyu to Tuban, Jaratan: return voyage*”) records the name Jialima, but not Shierzishan. From Jialima, one reaches Wuqiyu after 15 *geng*, steering 360° (*danzi*).⁷³

The fourth entry (“*Cape Varella to Java*”) mentions Shierzishan in the context of a southbound itinerary: From afar these islands appear as high mountains; there are two small islets in the east and two in the west; to the south are two reefs; the sailing route runs along the east side. The next place in the text is new to us: Zhenlima 真里馬. “Seen from a distance, Zhenlima resembles a hat (*mao* 帽). There is an island in the west; from this place, steering

71. Mills 1979: 81, 92. Also Mills 1970: 216 no. 545: 280.

72. *SFXS*: 58-59; Liu Yijie 2017: 217-218. As was said, Xiang Da omits an important passage. Liu’s version is correct. See also there: 443-444, facsimilized text. Zhou Yunzhong 2013: 162-163, follows Xiang Da’s text.

73. *SFXS*: 71; Liu Yijie 2017: 217.

165° (south-southeast), one goes to Jialima... [Regarding] Jialima, there are six major islands [with] high [peaks]. To the west of the central “gate” (or strait) one sees a big [rock] (?)” (真里馬，遠看帽樣。西邊有一嶼，用單丙去假里馬... 假里馬，有大嶼六箇，高多；中央門西邊看中有塊大。).⁷⁴

Without doubt, the above entries confirm the existence of a route, which ran from Shierzishan across the Natuna Sea, along the west side of the Natuna Islands. Above, we had already addressed this issue. However, Zhenlima is a problem. According to the fourth entry, this island resembles a “hat”; two other entries associate the same attribute with Jialima/Jiamashan (Karimata). Also, Jialima/Jiamashan cannot be identical with Zhenlima, because the last entry distinguishes between these two. Further doubts arise from the fact that the setting described in the fourth entry is similar to the descriptions of Shierzishan in the first two entries, but it assigns certain elements to different locations.

Where, then, was Zhenlima? The compass direction mentioned in the fourth entry above suggests that this island could be somewhere to the north or north-northwest of Jialima/Karimata. Zhou Yunzhong noticed this. He mentions Pulau Olar (Ular), which is to the west-northwest of Karimata, but proposed to identify Zhenlima with Pulau Buan (Boewan), an island to the north-northeast of Karimata; this proposal is not compatible with the *danbing* direction.⁷⁵ Also, a sailing route via Pulau Buan would imply a zigzag course: It would run along the east (or west?) side of Shierzishan (Panebangan and Pelapis Islands) in a southwestern direction; near Pulau Buan it would turn to the southeast and pass a reef off eastern Karimata; from there it would continue in the general direction of Gelam. Clearly, this sounds complicated and there must be something wrong here. Moving Zhenlima farther to the northwest or north, for example to Pulau or Kepulauan Leman, does not help us either. From there one would need to steer 180° (*danwu*) to reach Pulau Karimata; this route would not pass the Panebangan and Pelapis Islands (Shierzishan).⁷⁶ Another question concerns the “division” between *Zhenlima* and *Jialima*, literally “True Lima” and “False Lima.” *Jialima* must be a phonetic transcription of the name Karimata. Probably sailors invented the version *Zhenlima* based on the name *Jialima* because the first island was similar to the latter.⁷⁷ However, this is an assumption and not more than just that. Moreover, Karimata is a large place. So, one wonders why a small island received a related name. The “hat-like” similarity is not convincing. In sum, *Zhenlima* remains a mystery.

74. *SFXS*: 43; Liu Yijie 2017: 289. The last phrase is not very clear.

75. Zhou Yunzhong 2013: 164.

76. Xiang Da states that *Zhenlima* should be north of Karimata, but he gives no precise location. He also confirms that *Jialima* is *Jialimada* (various orthographs). See *SFXS*: 246, 249-250. According to *GDNH*: 642, *Zhenlima* is Pulau Pelapis, which seems wrong.

77. See Zhou Yunzhong 2013: 164.

Here we must look at several other points. The *SFXS* (entries “*Patani to Timor*”; “*Wuyu to Sukadana*” and “*return voyage*”) records further names. Two of them, Jiningmata 吉寧馬踏 and Jiningma’na (last character also *nei*) 吉寧馬哪, are usually equated with Pulau Karimata or the entire Karimata group.⁷⁸ Another name, Zhuyu 竹嶼, appears in close association with Jiningma’na. Gerini identified Zhuyu with Pulau Temayu, about 25 km south-southeast of Lemukutan. Mills suggested Zhuyu could be Masa Tiga (Pulau Mayatiga), west of the Teluk Nuri, near the coast of Kalimantan; later he stated it would stand for Pulau Meledang in the Layah Islands. Pulau Mayatiga is to the northeast of the Karimata Islands. According to the bearing given in *SFXS*, Zhuyu should be to the southeast of the latter. Meledang lies east-northeast of Pulau Karimata, or perhaps we should say it is to the east of the entire Karimata group; this comes at least close to the direction indicated in the Chinese text; therefore, the Meledang option sounds better, if it is acceptable at all. The *GDNH* repeats the first proposal by Mills, adding that Zhuyu could also be Pulau Maya near the Sukadana coast. Danwulan zhoufu 淡勿蘭州府, a third name mentioned in the entry “*Wuyu to Sukadana*,” may stand for the Tambelan Islands, and Randanshan 然丹山, a fourth toponym, could be Pulau Pejantan.⁷⁹ However, these suggestions are at best courageous guesses.

The *DXYK*, already quoted above, reports the following: From Talinyu (Pulau Natuna Besar), sailing 127.5° (*chenxun*; east-southeast) for 30 *geng*, one reaches Jiningma’nashan 吉寧馬哪山 (supposedly Karimata). Thereafter, steering 150° (*dansi*) for 7 *geng* and then 165° (*danbing*; south-southeast) for 6 *geng*, one makes Wulidongshan 勿里洞山 (usually Belitung).⁸⁰ Clearly, these directions make no sense; even extremely strong currents and winds cannot explain them. In fact, Belitung is to the southwest of Karimata, not

78. See *SFXS*: 70, 72; Liu Yijie 2017: 218, 253. The *GDNH* equates these names and many other names with Karimata; see especially 325 (Jiningmana/ta), 964. See also Mills 1979: 80, 86. Su Jiqing and others thought that two early toponyms – Hulumentou 胡蘆漫頭 (in *Zhunfan zhi*) and Hulumentou 呼蘆漫頭 (*Nanhai zhi*) – might also stand for Karimata; see his comment in *DYZL*: 203 n. 1. The *GDNH*: 498, 572-573, is more careful.

79. *SFXS*: 72; Liu Yijie 2017: 218-219; Gerini 1909: 711; Mills 1970: 187 no. 59 (Jiningma’na); 191 no. 129 (Zhuyu); Mills 1979: 80, 87, 88, 92 (Randanshan, Danwulan, Zhuyu); *GDNH*: 351 (Zhuyu: no. 4), 729 (Danwulan; the “suffix” *zhoufu* seems to stand for the seat/capital of that polity), 776 (Randanshan); Han Zhenhua 1999: 407 (Zhuyu, an island in the Tambelan group). Another place, Siyangyan 已養顏, to the west of Danwulan, is also unexplained; see *GDNH*: 158. Mills 1979: 80, 92, equates Siyangyan with Randanshan. Finally, there is Sandashi zhoufu 三嗟氏州府, identified with the Sambas sultanate in *GDNH*: 126-127, 134. – For a modern description of the Teluk Nuri (and the nearby Teluk Sukadana, south of Pulau Maya), as well as the places around it, see *Sailing Directions*: especially 75-77. For Pulau Pejantan, see 14 there.

80. *DXYK*, j. 9: 180.

to the southeast. Simply put, if one accepts the compass bearings, then Jiningma'nashan cannot be Karimata and Talinyu cannot stand for Pulau Natuna Besar. In sum, as in the case of Zhenlima, one cannot exactly define the location of Jiningma'na(shan).

Finally, we can turn southwards, from Karimata and the adjacent area to Gelam. The first text to consider is the fragmentary entry in *XYCGDL*. The route specified in that work leads from Dongshelong (Pulau Serasan) to "Luowei zhi shan" (羅嶠之山). From there it is 5 *geng* to Zhuyu (Mayatiga, Meledang?); after 4 more *geng* one reaches "the island(s) of Jilong zhi yu" (鷄籠之嶼); after 10 *geng*, Gelam (now Goulam 勾欄) comes in sight. Again, we are faced with new toponyms. Mills identified Luowei with Pulau Datu, an island about 70 kilometers west-northwest of the Kapuas delta, and Jilong with Karimata. This could imply a zigzag course, which seems doubtful.⁸¹

Jilong, literally "chicken cage," is an important entity. The *SYGJ* also mentions an island with that name: Jilongyu 鷄籠嶼. South of it, at a distance of 10 *geng* (direction *wu* 午), is Gelam (now Meilanshan 美蘭山); directly north of the latter one finds another small island which "looks like Jilongyu" (是鷄籠嶼樣). It is not clear whether the similarity relates to the shape of both islands, the "real" one and the small one, or whether the author simply intended to compare the small island to a round (?) "chicken cage." In the first case, the name Jilong could be a phonetical rendering of Kelang or a similar name. However, it cannot stand for Gelam, because Meilanshan stands for that island. The return voyage follows a different arrangement: From Gelam one goes to Jialimadashan 假里馬打山 (direction *guizi*, 7.5°, then *dangui*, 15°), not to Jilongyu. Thereafter one proceeds to Wuqiyu (also see above).⁸²

The *SFXS* records the name Jilong(yu) (Xiang Da changes 鷄 to 雞) in four entries. The one called "*Wuyu to Tuban, Jaratan*" provides the same information that one also finds in *SYGJ*, but sets the distance from Jilongyu to Gelam (now Selanshan 色蘭山) at 14 *geng*. For the return voyage from Gelam (again Selanshan) to Jialima 假里馬 it calculates 10 *geng*. The directions are the same as those given in *SYGJ*. They point to the north-northeast, which makes no sense. This also becomes evident from the entry "*Wuyu to Tuban, Jaratan: return voyage reconsidered*," which corrects the relevant data: Now

81. *XYCGDL*, j. shang: 18; Sonnendecker 2005: 31; Mills 1970: 187 no. 55; 204 no. 334; *GDNH*: 466 (Jilongyu = Karimata). – In another context, Mills identified Jilongyu with Pulau Datu; see Mills 1979: 80, 86. – Han Zhenhua 1999: 406, sees a phonetical relation between (Pulau) Laut and Luowei; however, the Minnan pronunciation should be similar to "Lowi." Gerini 1909: 711, equated Jilongyu with Pulau or Kepulauan Gurung to the northeast of Karimata, halfway between Pulau Meledang and the Pelapis Islands, and Luoweishan (written 羅尾山 in his book) with "the northwesternmost island of the Tambelan group." Zheng Hesheng and Zheng Yijun 1980: 294 (Zhuyu is near Sumatra; Jilongyu north of Lingshan!)

82. *SYGJ*, vol. 101, 881b, 882a; Zheng Hesheng and Zheng Yijun 1980: 314-315.

the directions are *danren* (345°) and *renzi* (352.5°), both point to the north-northwest, and the distance from Gelam to Jialima is 15 *geng*. Finally, in the entry “*Fujian to Java: return voyage*,” two small islands (not one island) near Gelam have the “appearance of (a) Jilong (Island)” (似鷄籠樣). Xiang Da concludes from all this that one cannot identify Jilongyu; he just says Jilongyu is *near* Gelam, evidently he means the Jilong-like island(s). Zhou Yunzhong links Jilongyu to Pulau Meledang in the Layah Islands.⁸³

What, then, can one say in conclusion? First, the physical similarity between Jilongyu and the “Jilong-like” island(s) makes one think of another “pair”: Zhenlima and Jialima. Zhenlima and Jilongyu are in the north; one southern island is “false” (*jia*), the other is an “imagined” entity (resemblance). Is there such an intended parallelism? Second, some of the distances given above, as well as the corrected directions in *SFXS*, suggest that Jilongyu (mostly recorded in the context of southbound voyages) and Jialimada/Jialima (passed on the return voyages) were roughly in the same geographical position. This could support the old assumption that all these toponyms stand for the same island: Pulau Karimata. If one wishes to accept that, then a further assumption may be in place: The many names used for certain locations may point to different Chinese sailing traditions. Each group used a particular set of toponyms. We should probably also try to see the Zhenlima problem in that light.

At the end of this chapter we still have to briefly examine the case of Gelam. As was mentioned, the *ZHHHT* calls this place Jiaolanshan 交蘭山; other Ming records use the forms Jiaolanyu 交蘭嶼, Jiaolanshan 交欄山, etc. According to some early sources, the island had “high” mountains and supplied forest wood used for building ships. In the 1290s, when the Mongol fleet sailed to Java, some members of the expeditionary forces stranded there; this is a familiar story. Scholars also believe that merchant vessels sailing back and forth between China and Java regularly passed Gelam due to its exposed position near the southwestern corner of Kalimantan. However, two aspects raise questions. First, Gelam is a flat island without high elevations. Second, the *DYZZ* claims it had a rich fauna, with bears, deer and other wild animals. This cannot be correct because the total area of Gelam is quite small. Su Jiqing tried to solve the issue by arguing that skins and furs came from the jungles of Kalimantan and were sold on the island. Zhou Yunzhong offers a different view: He suggests that some six hundred years ago the name Jiaolan (Goulan etc.) stood for Mount Kelampai (and not for Gelam). This rests on the assumption that this mountain, which is inland, originally formed a separate island. Clearly, landscapes change over time, but Zhou’s hypothesis sounds far-fetched, especially because Chinese texts tell us that the waters near Gelam were quite deep. The *SFXS* in particular records depths of 18 and 20 *tu*.⁸⁴ Put

83. *SFXS*: 42, 58, 71, 271; Liu Yijie 2017: 216, 217-218, 288; Zhou Yunzhong 2013: 164.

84. See, for example, *DYZZ*: 248-250; Rockhill 1915: 261-262; Zhou Yunzhong 2013:

differently, silting is a gradual process; so, if Mount Kelampani was still an island in the times of Zheng He and the sixteenth century, it certainly had no deep-water anchorage suitable for ocean-going vessels; in other words, ships would rather approach Gelam.

Besides that, one may also think of other explanations for the descriptive elements found in *DYZL*. One possibility is that sailors made no clear distinction between Pulau Gelam and Pulau Bawal, which is nearby and larger than Gelam. The highest elevation on Bewal rises to circa 90 meters and perhaps this island once supported a rich animal world.⁸⁵ A further question concerns the reliability of our sources: Ming descriptions of Gelam (with the exception of brief references to that island in nautical works) usually go back to the entry in *DYZL*. This book contains many inaccuracies. Hence, the author probably simply committed an error when telling readers that Gelam had high mountains and wild creatures. In sum, it is perhaps better to remain prudent: Jiaolanshan, as shown on the Zheng He map, is very likely to represent Pulau Gelam.

From the west side of this island the sailing route drawn on the *ZHHHT* leads towards Kepulauan Karimunjawa. Near the north coast of these islands, at point D, it merges with another traffic artery and then continues to Java, via point G. The shape of the Java coast suggests that the route ends near Surabaya or Gresik, as was mentioned. Both these places appear in several works related to Zheng He's voyages.⁸⁶ The unnamed islands north of that area must represent Madura and some adjacent places; the one to the right of point G should be Pulau Bawean. While Pulau Bawean was not important in the context of Ming trade, sources of that period frequently mention Kepulauan Karimunjawa. Scholars are familiar with the most common Chinese names for these islands: Jilimen 吉利門/吉利門/吉里門 and Jiliwen 吉里問. The first version is also the one recorded on our map. The other versions appear in the *SFXS* and various texts of the *lishi dili* 歷史地理 or ethnographic genre. Xialaiwu 遐來勿, a further name, is unlikely to stand for Karimunjawa. According to Su Jiqing, this toponym of the Yuan period, found in *DYZL*, represents the Klabat region on Sulawesi.⁸⁷

165-167; *SFXS*: 42.

85. Gerini 1909: 712, also thought the Chinese included Pulau Bawal in the entity called Jiaolanshan. Groeneveldt erroneously identified Jiaolan/Goulán with Belitung; see Groeneveldt 1876: especially 32. Several scholars followed him. – For a modern description of Pulau Gelam and Pulau Bawal, see *Sailing Directions*: 81.

86. Only one well-known example: Mills 1970: 86, 89-90 and notes; *Yingya shenglan*: 15, 17, 18 and notes.

87. *DYZL*/Fujita, 27b (comment by editor); Su Jiqing in *DYZL*: 93-95 n. 1; *GDNH*: especially 323-324, 965. Rockhill 1915: 122-123, leaves Xialaiwu unidentified.

Concluding Remarks

The above shows that Chinese sailors used several sailing routes between the continental sections of Southeast Asia and the west side of Kalimantan. The northern starting point of the routes drawn on the *ZHHHT* and investigated in this paper is Dongdong, or Pulau Sapate. There are two courses, which lead from there towards the south. Although Pulau Laut and Pulau Natuna Besar do not appear on the map, both routes passed these islands and perhaps Zheng He saw them from afar. The route along the east side of all the Natunas turned southwest near the Sebumi reefs and took sailors through the Serasan Strait. The other itinerary followed the south or west side of the Natunas; in all likelihood it led ships through the sea between Pulau Natuna Besar and Pulau Subi. Somewhere near the southern exit of Selat Serasan, both routes merged again and then continued along the coast of Kalimantan, down to the areas of Karimata and Gelam. Thereafter ships proceeded to the region of Surabaya and Gresik, via the northside of the Karimunjawa group.

Besides these routes, the *XYCGDL*, *SFXS*, *SYGJ* and *DXYK* record further itineraries. Some of them crossed the sea to the south/west of the sailing courses shown on the *ZHHHT*, but in many cases the relevant toponyms remain obscure, which makes it difficult to reconstruct all the relevant details. However, the general impression is that Chinese navigators became more flexible in the course of time. The sea surrounded by Kepulauan Riau, Kepulauan Lingga, Pulau Bangka, West Kalimantan, Kepulauan Natuna and Kepulauan Anambas is dotted with small islands and reefs, but Ming sailors gradually acquainted themselves with this highly complex world.

One may enrich the panorama drawn above by also considering sailing via Belitung. If one transfers the routes shown on the *ZHHHT* to a modern map, it becomes evident that there was a direct and very fast itinerary from the islands near the southeastern tip of modern Vietnam down to Belitung. This route, certainly also used by Zheng He's ships, passed the Anambas Islands on their east side and the Tambelan Islands as well as Pulau Pejantan on their west side (these islands do not appear on the map, as had been said). Near Belitung it ran through the Gaspar Strait from where it continued towards the southeast, i.e., once again in the direction of Surabaya/Gresik, this time via the south side of Kepulauan Karimunjawa. Another branch led from the Gaspar Strait towards the Sunda Strait.

Besides recording these north-south itineraries, the *ZHHHT* marks a route along the south side of Belitung and Bangka. Many texts, including Portuguese *roteiros*, also refer to such an "avenue," which connected the area of modern Singapore with the Sunda Strait and Java.⁸⁸ Furthermore, the lines drawn on our map suggest that there was a sailing course from northern Java, via the

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88. See, for example, Matos 2018: 66-76.

north side of the Karimunjawa group, to the north side of Belitung. However, one may question the practical use of such an itinerary.⁸⁹ Finally, the modern edition of the *ZHHHT* indicates that it was possible to proceed from Surabaya/Gresik to the Singapore area, again via the north side of Karimunjawa. This route bypassed Belitung and Bangka on the north side. Its existence depends on the short connection between points E and F. Some facsimilized editions of the *ZHHHT* do not support the idea because the link between E and F is not clearly visible on them, or even missing altogether.⁹⁰ Be that as it may, Portuguese texts outline a similar itinerary, but the route taken by Portuguese vessels was farther to the north: it ran from Pulau Aur via Pulau Karimata and Kepulauan Karimunjawa to Makassar.⁹¹

One more aspect is important: The shape of Kalimantan's coastal landscape changed over time. Although the details remain in the dark, one may guess that many reefs and sandbanks, river deltas and other features were quite different some six hundred years ago. Zheng He's vessels, so it seems, sailed through various dangerous zones densely packed with all kinds of obstacles. This suggests that pilots knew these areas well. Later texts contain references to the depth of certain spaces. Perhaps a more experienced scholar should try to link the relevant figures to the ongoing debate on the size of Zheng He's "treasure ships." The simple question is would China's admirals manoeuvre huge ships with a substantial draught through these spaces near the Kalimantan coast. Was it safer for the so-called "treasure ships" to move along the more direct route which passed the Anambas and Tambelan Islands (not shown on the map) and continued through the Gaspar Strait down to Java? We do not know for sure, but the answer is probably no, because sailing through the Gaspar Strait also posed certain risks. So, then, the safest sailing course must have been the one which led to the Tambelan region and Pulau Pejantan and then from there, "diagonally," through the Karimata Strait to the Karimunjawa group (via points F, E and D). Indeed, this was probably the most important avenue for Chinese ships sailing back and forth between the coastal waters of modern Vietnam and Java.

It is not quite clear which route of these north-south connections was the oldest one, and which one came into use in later periods, after Zheng He. However, many non-Chinese sources suggest that Chinese sailors had gone to very distant areas.⁹² Therefore, we may safely assume these sailors were

89. Han Zhenhua 1999: 411. Han correctly points out that the lines on the map even suggest the possibility of going from Java to Belitung and returning to Java via a different route. Again, one may ask, what the purpose of such an itinerary would be.

90. Here one may also consider the Nanjing map.

91. Matos 2018: especially 119-123.

92. Lombard 1990, vol. 2: 45-48, presents such evidence from early texts. Since then several other authors have found more evidence.

familiar with the many islands in and around the Laut Natuna from early times onward. Besides that, one may also argue that Zheng He's ships were not as heavy as we often tend to think. If they were smaller, they were certainly able to move across shallow waters and pass through narrow channels. In this case, the choice of routes may not have mattered very much. As was mentioned, more research is needed to disentangle these and other problems related to individual itineraries recorded in Ming sources, the draught of ships, the capacity of bays and ports to provide shelter to major fleets, and the possibility of obtaining large quantities of fresh water and provisions from small offshore islands en route to major destinations.

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