

RUDN Journal of World History ISSN 2312-8127 (Print), ISSN 2312-833X (Online)

2025 Vol. 17 No. 3 420–439 http://journals.rudn.ru/world-history

Вестник Российского университета дружбы народов. Серия: ВСЕОБЩАЯ ИСТОРИЯ

DOI: 10.22363/2312-8127-2025-17-3-420-439

EDN: SHQZBO

Research article / Научная статья

Four Santa Elena monuments from Balancan museum, Tabasco, Mexico

¹Institute of Ethnology and Anthropology, *Moscow, Russian Federation*²Russian State University for the Humanities, *Moscow, Russian Federation*³National Research University Higher School of Economics, *Moscow, Russian Federation*⁴Anthropological Research Contributions (ARC), *Littlerock, California, USA*⊠ servepr@gmail.com

Abstract. The relevance of the research topic is due to the fact that the corpus of hieroglyphic inscriptions of Santa Elena, located in the municipality of Balancan in the territory of the modern state of Tabasco, is not large, and most of the references to its rulers are taken from the texts of other monuments. The inscriptions analyzed in the study have not previously been fully introduced into scientific circulation. The aim of this study is to analyze the Santa Elena epigraphic inscriptions from the Balancan Museum and to place them in the general context of the political history of the Wa...a[?] kingdom (also known as Wa-"Bird") during the Classic period. The new documentation of these monuments made by Bruce Love in 2019 (nighttime photography) and Sergei Vepretskii in 2024 (photogrammetric models) has revealed previously unknown data on the political history of Santa Elena. We managed to prove that these inscriptions report on a war against Palenque (probably in 611), and on possible connections between Santa Elena and Kanu[?]l at the turn of the 6th and 7th centuries. Considering the new information in the context of data obtained from other hieroglyphic inscriptions, we offer a preliminary reconstruction of the dynastic sequence of Santa Elena in the 6th and 7th centuries.

Keywords: Ancient Maya, Classic period, epigraphy, political history, Santa Elena

Contribution. Vepretskii S.V. — documentation (photogrammetry of Santa Elena monuments), epigraphic analysis, writing the text of the article, preparation of the illustrations; Beliaev D.D. — epigraphic analysis, editing the text; Davletshin A.I. — epigraphic analysis, editing the text; Love B. — mastermind of the study, documentation (photographing Santa Elena monuments), editing the text.

Conflicts of interest. The authors declare no conflicts of interest.

Article history: Received: 10.02.2025. Accepted: 20.04.2025.

[©] Vepretskii S.V., Beliaev D.D., Davletshin A.I., Love B., 2025



This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License https://creativecommons.org/licenses/by-nc/4.0/legalcode

For citation: Vepretskii SV, Beliaev DD, Davletshin AI, Love B. Four Santa Elena monuments from Balancan museum, Tabasco, Mexico. *RUDN Journal of World History.* 2025;17(3):420–439. https://doi.org/10.22363/2312-8127-2025-17-3-420-439

Четыре монумента Санта-Элены из музея Баланкан в штате Табаско, Мексика

С.В. Вепрецкий¹ , Д.Д. Беляев^{2,3} , А.И. Давлетшин² , Брюс Лав⁴

 1 Институт этнологии и антропологии, *Москва, Российская Федерация* 2 Российский государственный гуманитарный университет, *Москва, Российская Федерация*

³Национальный исследовательский университет «Высшая школа экономики», *Москва, Российская Федерация*

⁴Организация «Достижения в антропологических исследованиях» (ARC), Литторок, Калифорния, США

⊠ servepr@gmail.com

Аннотация. Актуальность темы исследования обусловлена тем, что корпус иероглифических надписей Санта-Элены, археологического памятника, расположенного в муниципалитете Баланкан на территории современного штата Табаско, не велик, а большинство упоминаний о его правителях взято из текстов других памятников. Анализируемые надписи ранее не были полноценно введены в научный оборот. Цель исследования — проанализировать эпиграфические надписи Санта-Элены из музея Баланкан и рассмотреть их в общем контексте политической истории царства Ва...а, также известного как Ва-«Птица». Новая документация данных памятников, осуществленная Брюсом Лавом в 2019 г. (ночные фотографии со вспышкой) и Сергеем Вепрецким в 2024 г. (фотограмметрические модели), позволила выявить ранее неизвестные данные о политической истории Санта-Элены. Удалось доказать, что среди прочего данные надписи сообщают о войне против Паленке (вероятно, в 611 г.) и возможных связях Санта-Элены и Канульского царства на рубеже VI и VII вв. Рассматривая полученную информацию в контексте сведений из других иероглифических надписей, мы предлагаем предварительную реконструкцию династической последовательности Санта-Элены в VI–VII вв.

Ключевые слова: древние майя, классический период, эпиграфика, Санта-Элена, политическая история

Вклад авторов. Вепрецкий С.В. — документация (фотограмметрия монументов Санта-Элены), эпиграфический анализ, написание текста статьи, подготовка иллюстраций, оформление статьи для публикации; Беляев Д.Д. — эпиграфический анализ, редактирование текста статьи; Давлетшин А.И. — эпиграфический анализ, редактирование текста статьи; Лав Б. — вдохновитель исследования, документация (фотографирование монументов Санта-Элены), редактирование текста статьи.

Заявление о конфликте интересов. Авторы заявляют об отсутствии конфликта интересов. **История статьи:** поступила в редакцию 10.02.2025; принята к публикации 20.04.2025.

Для цитирования: *Vepretskii S.V., Beliaev D.D., Davletshin A.I., Love B.* Four Santa Elena Monuments from Balancan Museum, Tabasco, Mexico // Вестник Российского университета дружбы народов. Серия: Всеобщая история. 2025. Т. 17. № 3. С. 420–439. https://doi.org/10.22363/2312-8127-2025-17-3-420-439

Introduction

Four large stone monuments from the Maya site of Santa Elena are displayed in the Dr. José Gómez Panaco Museum in Balancan (Tabasco, Mexico). They look like panels and their size is comparable to stelae (Fig. 1). Their exact archaeological context is unknown, although they are said to come from the ballcourt [1. P. 37]. The monuments under discussion are labeled *lápidas* "stone slabs" in Spanish, additionally specified as A, I, II and III in the museum register. The photos of all four monuments were published in a recent paper by Gullermo Bernal, where he uses different numbering and calls them Lápidas 1, 2, 3 and 4 [2. P. 139–145]. Lápida A is also known as Monument 1 [3. P. 37; 4. P. 575; 5. P. 25; 6. P. 249] and Stela from Santa Elena [7. P. 107], Lápida III as Panel 4 and Lápida I as just Panel [3. P. 37]. Since there is no accepted nomenclature for all four monuments, we suggest to designate them as Monument 1 for Lápida A, and Monuments 2, 3 and 4 for Lápidas I, II, III¹.

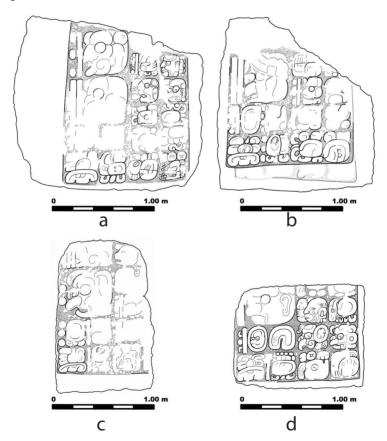


Figure 1. Santa Elena Monuments from Balancan Museum: a — Monument 1; b — Monument 2; c — Monument 3; d — Monument 4 Source: Drawings by S.V. Vepretskii.

422

¹We are grateful to Yuriy Polyukhovych and Matthew Looper for clarifying some issues connected to the old nomenclature.

Preliminary drawings of Monuments 1, 2 and 4 were made by Nikolai Grube [3. P. 37]. For the moment the most thorough analysis of the inscription of Monument 1 was realized by Yuriy Polyukhovych in his PhD dissertation [4. P. 575]. It also included the complete drawing that shows much more details than Grube's sketch. Later Polyukhovych and his colleague Maksym Styuflyaev prepared an extensive study of Santa Elena dynastic history that still remains unpublished [8].

In 2019, Bruce Love visited the museum and made the night photographs of the monuments with oblique light. These photographs accompanied by the drawings by Sergei Vepretskii were published online as Volume 12 of Contributions to Mesoamerican Studies [9]. During his visit to the museum in 2024 Sergei Vepretskii took his own photos to create the 3d models using the method of photogrammetry. The new documentation revealed important and previously unrecognized details that we would like to discuss in this paper.

Description

The panels represent the lower parts of once larger monuments that were of rectangular shape and carved on one side. Monument 1 is 1.83 m in height and 1.96 m in width, Monument 2 is 1.80 m in height and 1.57 m in width, Monument 3 is 1.60 m in height and 1.04 m in width and Monument 4 is 1.05 m in height and 1.32 m in width. The texts are arranged in two double columns with Long Count glyphs written in larger blocks. Only the final blocks have survived from the Long Count, which makes it possible to calculate how many lines of the inscription have been lost. With the Initial Series Introductory Glyph (ISIG) the original inscription could have contained 14 rows of smaller hieroglyphic blocks. In this case the original size of each monument could have been about 4 m in height and 2 m in width (Fig. 2).

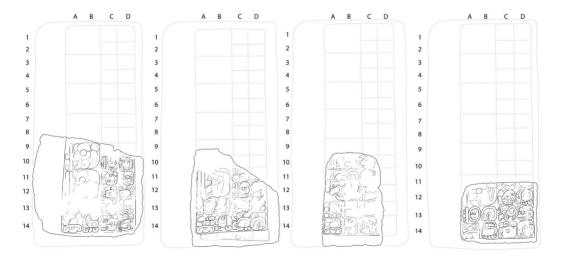


Figure 2. Possible reconstruction of the original shape of Santa Elena monuments *Source:* Drawings by S.V. Vepretskii.

Monuments 2 and 4 could be considered as palimpsests since they were both recarved and contain the remains of the earlier inscriptions. Four eroded blocks that have formed part of the older text are visible under the lower row of Monument 2 (see Fig. 1b). The erosion on Monument 4 shows vertical and horizontal lines that could be the marking lines between the earlier hieroglyphic blocks (Fig. 3). This gives a reason to suggest that all four monuments were recarved in antiquity, but in the case of Monument 1 and 3 the remains of the older inscriptions did not preserve.

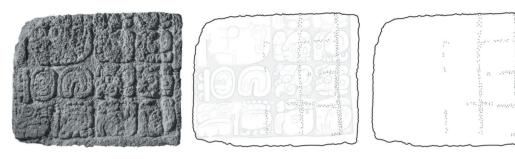


Figure 3. The remains of the earlier inscription on Monument 4 *Source:* Photograph by Bruce Love, drawings by S.V. Vepretskii.

Inscriptions

Each of the text started with a Long Count date, followed by the Tzolk'in, the 9-days series and Lunar Series. It is very unlikely that these dates could correspond to the events at the end of each text. Even if other supplementary series were present in the original inscriptions, there is still enough space for the other dates. All calculations related to these dates will be discussed in the next paragraph. Here we will focus on the epigraphic information written in columns C and D.

Monument 1 has the largest number of preserved hieroglyphic blocks in the final part of the inscription. The Santa Elena emblem glyph in pC12 implies that the preceding blocks contained the name of a ruler. The first discernible block in the sequence is pC10 showing the logogram 'AJ followed by a horizontal palm sign with uncertain element on top of it and the syllabogram ji below (Fig. 4a). Such palm frequently attested in the inscriptions and could represent K'AB, "hand", if it stays without additional elements or be part of logograms K'AL, "to hold", having a polished stone on top, and 'BEL, "to carry", if there is a water lily. Alexandre Tokovinine [personal communication, 2022] suggested to us that the syllable ji below the hand could indicate the rare expression K'AL-MAY-ji, k'al mayij, "gift-

² For the recent interpretation of the meaning of this verb see [10].

³ The reading proposed by Marc Zender during the workshop of 11th Annual Maya at the Lago Conference in 2022 [11].

presentation?", connected to some kind of ritual and attested in the inscriptions of Palenque (Fig. 4b, see [12. P. 41]). Together with the Sun God K'ihnich in pD10 most likely it refers to a nominal phrase 'Aj K'al Mayij K'ihnich.

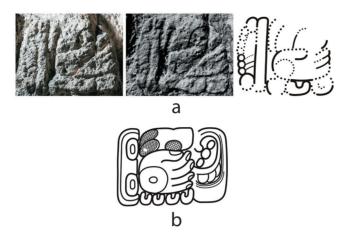


Figure 4. 'AJ-K'AL?-MAY?-ji, Santa Elena Monument 1, pC10 — a; **'u-K'AL-MAY-ji-ja**, Palenque Temple XVIII jamb, B18 — b

Source: Photograph by B. Love, 3d model and drawings by S.V. Vepretskii.

The text continues with another nominal expression started with syllabogram **nu** followed by the head of a feline in pC11, and a damaged sign followed by the head of the Rain God *Chaahk* in pD11 (Fig. 5a). Simon Martin [13. P. 79–80] and Yuriy Polyukhovych [4. P. 128, 575] independently concluded that it was the name *Nu*²n *Hiix Lakam Chaahk*, also attested in the inscription on House C hieroglyphic stairway from Palenque (Fig. 5b).

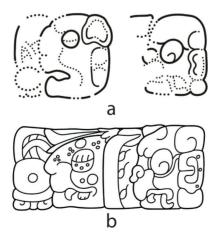


Figure 5. The examples of the name *Nu'n Hiix Lakam Chaahk*: a — **nu-HIX- [LAKAM]-CHAK**, Santa Elena Monument 1, pC11-pD11; b — **nu-HIX-LAKAM-CHAK**, House C hieroglyphic stairway from Palenque, G4-H4 *Source: a* — Drawing by S.V. Vepretskii; b — Drawing by Y. Polyukhovych [16].

Another person is mentioned in the last three blocks. pD13 is very eroded, only the syllable ne can be discerned in the final position of the block. pC14 contains yo-'OL-ma-ta that all together refers to a Palenque ruler 'Ajen Yo'l Mat. This interpretation is supported by the Palenque emblem glyph K'UH-BAK-²AJAW, k'uhul Bakal ²ajaw, written in the final block [14. P. II-16; 15. P. 161; 7. P. 109; 4. P. 128, 575; 6. P. 249, 263; 16. P. 10]. The phrase expressing the connection between the Santa Elena and Palenque rulers is expected in pD12. The star element written above the eroded main sign (Fig. 6) has to relate to socalled "star war" glyph that according to the contexts designates military defeat (for the most recent overview see [6. P. 208–209; 17]). Syllable va at the end of the block is used to spell the temporal deictic enclitic -iiy. Thus, we can assume that heavily damaged pC13 could have contained either ²u-too²k' pakal, "his army, forces", or ²u-ch'ee²n, "his city", if the glyph below the star represented a toponym. Due to the fact that the main sign in pD12 has a semicartouche typical for the KAB element in a full variant of the "star war" glyph the first interpretation seems more plausible. In any case it was [?]Ajen Yo[?]I Mat who suffered from this military defeat.

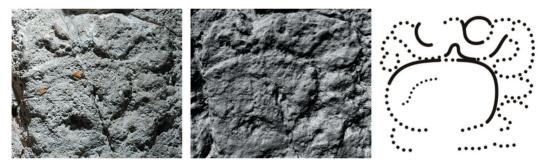


Figure 6. The "star war" glyph on Santa Elena Monument 1, pD12 Source: Photograph by B. Love, 3d model and drawing by S.V. Vepretskii.

The first preserved block on Monument 2 (pC11) could have contained a predicate that started with the syllable i on the left and may have featured the syllable i below. The first one is likely to the proclitic i-, "then", while the second one to the thematic suffix -VVy marking change-of-state intransitive verbs [18. P. 40]. The next visible block pC12 contains number 9 or 7 followed by an animal head and the syllable **wa** below it. Some details are visible in pD12-pD13, but the major part is heavily eroded.

The last two blocks contained a glyph sequence **ya-**²**AJAW-wa TE**², *yajawte*² (Fig. 7a), the military title that is commonly written with the possessive ²*u*-, "his, her, their" [19]. There are two contexts when *yajawte*² could be written in the final position of the title: following the so-called *Katun*-age, and in the rare title *Chih Cha*² *yajawte*² that appears on the House C hieroglyphic stairway from Palenque, Yaxchilan Lintel 21 (Fig. 7b, c; see [20. P. 130]) and the Tepeu 1 painted bowl from

Namaan (Fig. 7d; see [21. P. 167]). Taking into account that the right part of the block pD13 resembles the elements of metate glyph CHA? [22] we incline to the second interpretation.

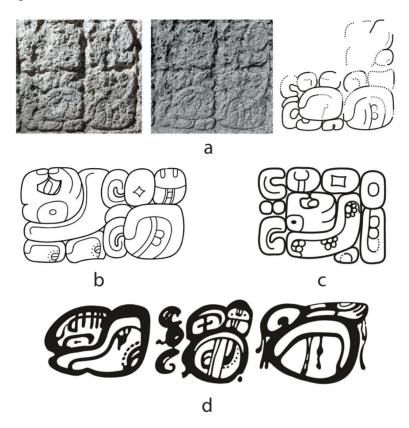


Figure 7. The examples of Chih Cha² yajawte² title: a — ...-CHA²? ya-²AJAW TE², Santa Elena Monument 2, pD13-pD14; b — chi-CHA²-ya-²AJAW-TE², House C hieroglyphic stairway from Palenque, G1-H1; c — chi-CHA²-ya-²AJAW TE², Yaxchilan Lintel 21, D1; d — chi-CHA² ya-²AJAW TE², Tepeu 1 painted bowl, L-N Source: a — Photograph by Bruce Love, 3d model and drawing by S.V. Vepretskii; b — Drawing by Y. Polyukhovych [16]; c, d — Drawing by S.V. Vepretskii.

Monument 3 is the most damaged. The column D is completely lost. Nevertheless, some details of the other blocks are visible, although identifications are somehow uncertain. The elements in the right upper part of pC11 resemble the **ja** syllabogram that could indicate a verb, likely, passive form of CVC roots. The lines in the left part of pC12 part look like the logogram AJ followed by a possible palm sign with the additional elements above and below it. The same set of glyphs is written in pC10 on Monument 1. The final visible details can be seen in pC14 where there is a possible emblem glyph with the main sign showing the head of some creature, probably a snake.

The beginning of the final sentence of Monument 4 is lost. It was some action connected to a person whose name or title was written in pC12. The main sign shows a human head with an ear plug of a particular kind with a three-part element below

and a mask encircling the mouth. It is preceded by the syllable 'a functioning as initial phonetic complement to the following logogram that will be discussed below.

In the following passage it is said that this event was sanctioned by Santa Elena ruler (*u-kabjiiy* in pD12). His name is written in pC13-pD13 and could be read as WITZ'-K'IN-ni CHAK, Witz'K'iin Chaahk (Fig. 8a). We have no data on this ruler from the other sources, but there is at least one more example of the same name connected to Santa Elena. On Piedras Negras Panel 12 the scene depicts three captives taken by Yokib lord Yaat Ahk ca. 514 CE. One of the captives is accompanied by the emblem glyph of Santa Elena and is called Witz' K'iin Chaahk (Fig. 8b). This name has been erroneously read as K'iin Witz' Chaahk in previous publications [23. P. 147; 24. P. 24]. Due to the fact that the sign K'IN is written on the panel in a ligature with WITZ' the reading order was unclear. The new example from Monument 4 makes it possible to determine the correct reading sequence. The text ends with Santa Elena emblem glyph and bakab title.

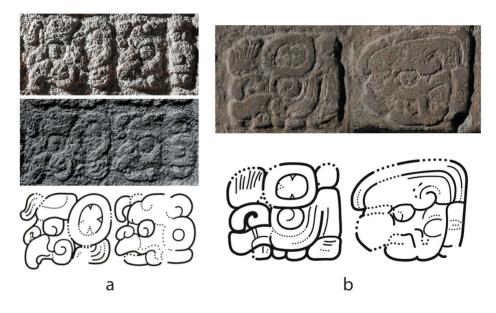


Figure 8. The examples of the name *Witz' K'iin Chaahk*: *a* — Santa Elena Monument 4, pC13-pD13; *b* — Piedras Negras Panel 12

Source: a — Photograph by Bruce Love, 3d model and drawing by S.V. Vepretskii; b —Photograph by Atlas Epigráfico de Petén project, CEMYK, 2015, with the permission of National Museum of Archaeology and Ethnology of Guatemala, drawing by S.V. Vepretskii

Chronology

The mention of [?]Ajen Yo'l Mat on Monument 1 allows to determine the approximate chronological context of these inscriptions. This Palenque king ruled for a short period from 605 till 612 CE and thus the event connected to him should have happened within this seven-year span. The installation of these monuments,

in turn, should be sought in the first decades of the 7th century. The starting dates did not correspond to the period endings and could have been related to any event in the past, even very retrospective. They occupied more than a half of the original inscriptions and were arranged identically: the Long Count ended in pA11-pB12, the Tzolk'in day was written in pA13, 9-days series in pB13-pA14 and Lunar Series starting in pB14 and ending on the missing part of the monuments (Table 1). The following shows the results of our calculations of the starting dates, considering all available coefficients, and falling on the 6th — early 7th century.

The written coefficients of the first dates

Table 1

Mon.	Long Count	Tzolk'in	9-days Series	Lunar Series
1	?.?.8.10	?	[G8]	20 huliiy
2	?.?.?.10	8 Ok	G1	23 huliiy
3	?.?.?.15.2	3 lk′	G5	5 huliiy
4	?.?.?.5	6 Chikchan	G8	5 huliiy

Source: Compiled by S.V. Vepretskii.

The 9-days series helps to identify the possible month coefficients in the Long Counts, where they were not preserved. Two final coefficients of the Long Count and the Tzolk'in number will lead to the set of possible dates for each monument except Monument 1, where the Tzolk'in is eroded. The starting block of the Lunar Series shows how many days have passed since the beginning of the lunar month. Using the algorithm of calculating of the real position of the moon in the sky for each day [25. P. 337–345] it is possible to compare the result with the written data. Considering that the majority of lunar dates in Maya inscriptions coincide with the real position of the moon with a possible deviation of 1–3 days [Ian Naumenko, personal communication 2022] it is possible to reduce the number of the dates in the set.

The coefficient of 10 days in the Long Count and G1 on the Monument 2 indicate two possible options for the month number — 0 or 9. The Tzolk'in day 8 Ok along with the known Long Count coefficients leads to the set of 20 possible dates on the chosen interval. The written number of the moon days 23 coincides with 5 dates in the set within the expected error from 1 to 3 days (Table 2). The date on Monument 3 contains 15 months and 2 days in the Long Count, the Tzolk'in day 3 Ik' and 5 days from the beginning of the lunar month. It leads to a set of 11 dates, three of which coincide with the written data of the moon (Table 3). 10 days of the Long Count on Monument 4 and G8 of the 9-days series could correspond either to 6 or to 15 months. The Tzolk'in day is 6 Chikchan and the written moon day number is 5. It gives the set of 21 possible dates on the chosen period and five of them match with the moon data (Table 4).

Table 2

Table 3

The calculation of the starting date on Monument 2. Coincidences with the Lunar Series are highlighted in bold

Long Count	Calendar Round	Gregorian	Real moon
9.3.7.9.10	8 Ok 8 Sek	03.07.502	10
9.3.14.0.10	8 Ok 18 Kej	28.11.508	17.4
9.4.0.9.10	8 Ok 3 Wo	26.04.515	24.5
9.4.7.0.10	8 Ok 13 Ch'en	21.09.521	2.5
9.4.13.9.10.	8 Ok 3 K'ayab	17.02.528	9.6
9.5.6.9.10	8 Ok 18 Mak	10.12.540	24
9.5.13.0.10	8 Ok 3 Sip	08.05.547	1.2
9.5.19.9.10	8 Ok 13 Yax	03.10.553	8.3
9.6.6.0.10	8 Ok 3 Kumk'u	29.02.560	14.9
9.6.12.9.10	8 Ok 8 Yaxk'in	27.07.566	21.9
9.6.19.0.10	8 Ok 18 K'ank'in	22.12.572	28.9
9.7.5.9.10	8 Ok 3 Sotz'	20.05.579	6.2
9.7.12.0.10	8 Ok 13 Sak	15.10.585	13.8
9.7.18.9.10	8 Ok 3 Wayeb	12.03.592	20.6
9.8.5.0.10	8 Ok 8 Mol	08.08.598	28.2
9.8.11.9.10	8 Ok 18 Muwan	04.01.605	5.9
9.8.18.0.10	8 Ok 3 Sek	02.06.611	13
9.9.4.9.10	8 Ok 13 Kej	28.10.617	20.6
9.9.11.0.10	8 Ok 18 Pop	25.03.624	27.1
9.9.17.9.10	8 Ok 13 Ch'en	21.08.630	5.1

Source: Compiled by S.V. Vepretskii.

The calculation of the starting date on Monument 3.
Coincidences with the Lunar Series are highlighted in bold

Long Count	Calendar Round	Gregorian	Real moon
9.3.7.15.2	3 lk′ 0 Sak	23.10.502	4
9.4.0.15.2	3 lk′ 15 Yaxk′in	16.08.515	18.4
9.4.13.15.2	3 lk' 10 Sotz'	08.06.528	3.3
9.5.6.15.2	3 lk′ 5 Pop	01.04.541	17.6
9.5.19.15.2	3 lk′ 5 Pax	23.01.554	2.3
9.6.12.15.2	3 lk′ 0 Mak	16.11.566	16.2
9.7.5.15.2	3 lk' 15 Ch'en	09.09.579	0.5
9.7.18.15.2	3 lk′ 10 Xul	02.07.592	14.6
9.8.11.15.2	3 lk′ 5 Sip	26.04.605	29
9.9.4.15.2	3 lk' 5 Kumk'u	17.02.618	14
9.9.17.15.2	3 lk' 0 Muwan	11.12.630	28.3

Source: Compiled by S.V. Vepretskii.

Table 4

The calculation of the starting date on Monument 4. Coincidences with the Lunar Series are highlighted in bold

Long Count	Calendar Round	Gregorian	Real moon
9.3.7.15.15	6 Chikchan 3 Sak	26.10.502	18
9.3.14.6.5	6 Chikchan 13 Kumk'u	23.03.509	13.8
9.4.0.15.5	6 Chikchan 18 Yaxk'in	19.08.515	21.1
9.4.7.6.5	6 Chikchan 8 Muwan	14.01.522	28.3
9.4.13.15.5	6 Chikchan 13 Sotz'	11.06.528	6
9.5.0.6.5	6 Chikchan 3 Kej	07.11.534	13.5
9.5.6.15.5	6 Chikchan 8 Pop	04.04.541	20.5
9.5.13.6.5	6 Chikchan 18 Mol	31.08.547	27.9
9.5.19.15.5	6 Chikchan 8 Pax	26.01.554	5.5
9.6.6.6.5	6 Chikchan 13 Sek	23.06.560	12.3
9.6.12.15.5	6 Chikchan 3 Mak	19.11.566	19.6
9.6.19.6.5	6 Chikchan 8 Wo	16.04.573	25.8
9.7.5.15.5	6 Chikchan 18 Ch'en	12.09.579	3.7
9.7.12.6.5	6 Chikchan 8 K'ayab	07.02.586	10.1
9.7.18.15.5	6 Chikchan 13 Xul	05.07.592	17.5
9.8.5.6.5	6 Chikchan 3 K'ank'in	01.12.598	24.6
9.8.11.15.5	6 Chikchan 8 Sip	29.04.605	2.1
9.8.18.6.5	6 Chikchan 18 Yax	25.09.611	9.8
9.9.4.15.5	6 Chikchan 8 Kumk'u	20.02.618	16.7
9.9.11.6.5	6 Chikchan 13 Yaxk'in	18.07.624	24.3
9.9.17.15.5	6 Chikchan 3 Muwan	14.12.630	1.9

Source: Compiled by S.V. Vepretskii.

The eroded Tzolk'in day on Monument 1 does not allow to use the same system of calculation, because it will lead to more than a hundred possible variations. Given the mention of 'Ajen Yo'l Mat, the starting date is not expected to be later than 612. To reduce the set, we will consider the variants from 9.8.0.0.0. to 9.8.19.4.6 (death of 'Ajen Yo'l Mat). The Long Count contains 8 months and 10 days, while the moon days coefficient is 20. There are 19 possible dates on the chosen time span and 4 of them correlate with the written moon data (Table 5). However, in this case one cannot be sure that the original date could not be earlier.

Table 5

The calculation of the starting date on Monument 1. Coincidences with the Lunar Series are highlighted in bold

Long Count	Calendar Round	Gregorian	Real moon
9.8.0.8.10	6 Ok 13 K'ayab	10.02.594	12
9.8.1.8.10	2 Ok 8 K'ayab	05.02.595	18.1
9.8.2.8.10	11 Ok 3 K'ayab	31.01.596	23.8
9.8.3.8.10	7 Ok 18 Pax	25.01.597	29.5
9.8.4.8.10	3 Ok 13 Pax	20.01.598	5.9
9.8.5.8.10	12 Ok 8 Pax	15.01.599	11.4
9.8.6.8.10	8 Ok 3 Pax	10.01.600	16.9
9.8.7.8.10	4 Ok 18 Muwan	05.01.601	22.4
9.8.8.8.10	13 Ok 13 Muwan	31.12.601	27.9
9.8.9.8.10	9 Ok 8 Muwan	26.12.602	3.7
9.8.10.8.10	5 Ok 3 Muwan	21.12.603	9.2
9.8.11.8.10	1 Ok 18 K'ank'in	15.12.604	14.9
9.8.12.8.10	10 Ok 13 K'ank'in	10.12.605	20.3
9.8.13.8.10	6 Ok 8 K'ank'in	05.12.606	26
9.8.14.8.10	2 Ok 3 K'ank'in	30.11.607	2.5
9.8.15.8.10	11 Ok 18 Mak	24.11.608	8.1
9.8.16.8.10	7 Ok 13 Mak	19.11.609	14
9.8.17.8.10	3 Ok 8 Mak	14.11.610	20
9.8.18.8.10	12 Ok 3 Mak	09.11.611	25.6

Source: Compiled by S.V. Vepretskii.

Problematic sign on Monument 4

The logogram of a human head with an ear plug of three-part element below written on Monument 4 (Fig. 9a) should be discussed separately. The same sign is attested on the Puerto Barrios Altar and on the hieroglyphic stairway from El Resbalon. On the altar this sign forms part of the personal name and is written with the additional headband that likely represents another glyph [26. P. 144]. The full name also contains the logogram **K'AK'** and the syllabogram **la** below the human head (Fig. 9b) that could be both the final complement for the logogram under discussion and the *-Vl* suffix deriving adjectives from nouns. In the second case it likely relates to the word *k'ahk'*. In El Resbalon the sign is preceded by **SAK** logogram [27], but the context is unclear (Fig. 9c).

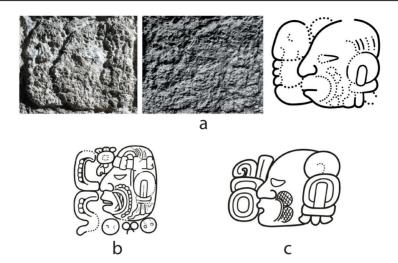


Figure 9. The examples of the "mask-head" sign with a particular earring: $a - {}^{7}a-X$, Santa Elena Monument 4, pC12; b - K'AK'-X+?-Ia, Puerto Barrios Altar, G4; c - SAK-X, El Resbalon Hieroglyphic Stairway 3, CX9

Source: a - Photograph by B. Love, 3d model and drawing by S.V. Vepretskii; b, c - Drawing by S.V. Vepretskii.

There are two similar signs that can be compared with this logogram. The first shows the head with the mask and the same ear plug, but contains the additional knot element below the chin of the head. It is attested in five nominal phrases. Tonina Monument 160 mentions the death of Kanu'l ruler in 505 CE [28. P. 96]. His name consisted of two blocks, the first of which was damaged, and the second contained the sign under discussion (Fig. 10a). The Early Classic plate from Naranjo preserved in the Boston Museum of Fine Arts (K5458) mentions the mother of Naranjo ruler K'ihnich Tajal Chaahk [29. P. 160]. Her name started with 'IX logogram and was followed by the same head glyph and XAK? logogram⁴ (Fig. 10b). The same sign closes the nominal phrase of a local ruler on Mural 7 from La Sufricaya [30. P. 246] and Güija Lake plaque [31. Fig. 4]. Only the ear elements are visible in the main inscription on the plaque (Fig. 10c), however the full variant with the mask and the knot appears in the headdress of the figure depicted on the other side (Fig. 10d). The final example attested so far comes from serpentine plaque from Ethnological Museum of Berlin (Fig. 10e, see [32. Fig. 96f]). Here it is written after SIJ-ja and also has to refer to a personal name. The ear plug looks unusual in this example, although the inner lines follow the same pattern as in the other cases.

The second sign similar to what we see on Monument 4 represents the head with the same mask, but without the knot or the ear plug and is attested in different contexts on two ceramic pots and the shell from private collection. It closes a sequence of titles enjoyed be *Ahal Chan K'ihnich* and is preceded by number 31 on the vase K1837 (Fig. 11a). Estrada-Belli and Tokovinine [33. P. 14] associated this vessel with Chochkitam and proposed that this glyph must be the proper royal

⁴The reading of T533 as **XAK** was proposed by Albert Davletshin in 2017.

title of local rulers. The same sign contains the 'a initial complement and is followed by **li-bi** on K8088⁵ (Fig. 11b). It also forms part of a personal name **KAL-lo-ma CHAN-X**, *kalo'm chaa'n X*, in the inscription on the Early Classic conch shell trumpet from the private collection [35. P. 391–392]. This example also features zigzag parallel lines in the head (Fig. 11c).

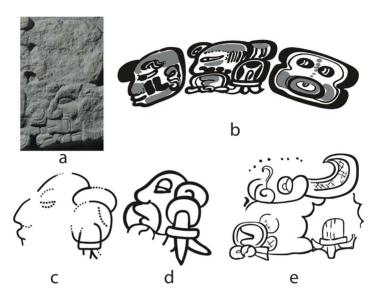


Figure 10. The examples of the "mask-head" sign with the ear plug and the knot below the chin: a - ...-SAK?-X, Tonina Monument 160, C29–C30; b - 'IX-X-XAK?, the Early Classic Naranjo plate, K5458, M-O; $c - G\ddot{u}ija$ Lake plaque, B3.; $d - G\ddot{u}ija$ Lake plaque, the glyph in the headdress; e - SIJ-ja-X, Serpentine plaque from Etnologisches Museum Berlin Source: Photograph and drawings by S.V. Vepretskii.

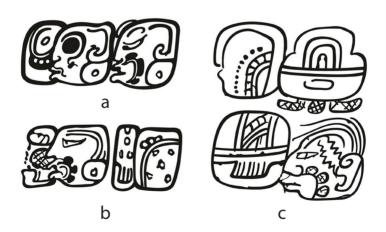


Figure 11. The examples of the "mask-head" sign: a — **20–11 X**, unprovenanced vessel, K1837, M-N; b — 7 **a-X li-bi**, unprovenanced vessel, 8088, K-L; c — **KAL-lo-ma CHAN-X**, Early Classic conch shell trumpet from the private collection, A4-A5

Source: Photograph and drawings by S.V. Vepretskii.

⁵ Christophe Helmke [34] suggested that the *-lib* suffix derives place-names from noun roots.

We assume that the examples discussed above represent different variants of the same logogram that could have started with ${}^{7}a$. The exact reading value and the corresponding lexical meaning are unknown, but according to its clause-final position on Monument 4 it likely represents a title.

Discussion

The information described above allows to determine general contexts of the four texts. Nu'n Hiix Lakam Chaahk mentioned on Monument 1 has to be the same person connected to the attack against Palenque in 599 CE [15, P. 159–160; 4. P. 128; 16. P. 10]. This assault was sanctioned by Sky Witness, the lord of $Kanu^{\gamma}l^{6}$, and is described on Palenque House C hieroglyphic stairway as ch'a[h]k[ai] Lakam Ha^{γ} , "Lakam Ha^{γ} was destroyed". It is unclear which role the Santa Elena ruler played in this event, his name follows the sign sequence 'i-PAS-ja 'u-?-'AN, 'ipahsaj ²u-? ²a²n, "his ... image was uncovered". In this action he was accompanied (y-²itaaj) by ²Itzam Kokaaj Bahlam from Yaxchilan. The exact meaning of this phrase is unclear (for the possible interpretation see [16. P. 10–11]), however, it is assumed that both rulers took part in this military campaign as allies of Kanu'l [6. P. 265; 16. P. 10]. It should be also noted that in the inscription on Palenque stairway Sky Witness bares the title Chih Cha[?] yajawte[?]. The same title we can see on Santa Elena Monument 2 that may indicate that this text also mentions him. Some lines in pD12 resemble the shape of the nominal glyph of Sky Witness, however the poor preservation makes it difficult to be certain.

It was previously proposed that sometime after this attack Santa Elena has fallen under the influence of Palenque. This was based on a different interpretation of Santa Elena Monument 1. The action connected to *Nu³n Hiix Lakam Chaahk* was perceived as his possible accession under the auspices of [?]*Ajen Yo²l Mat* [14. P. II-16; 15. P. 161; 7. P. 109; 4. P. 128, 575; 6. P. 249, 263; 16. P. 10]. Now it became clear that the confrontation continued.

The mentions of two participants in the aggression of 599 CE suggests that these Santa Elena monuments could be devoted to this particular military campaign against Palenque. We do not know when it started, but it could have been terminated in 611 CE, when Palenque was attacked by Scroll Serpent. In this case the event sanctioned by Witz' K'iin Chaahk on Monument 4 could also have had a martial connotation connected to the same campaign. This ruler can be considered as either the predecessor or the successor of Nu'n Hitx Lakam Chaahk in Santa Elena dynasty, however there is still a chance that he was just a representative of the royal family. Importantly, the k'uhul epithet is absent in the emblem glyph of Santa Elena, so we cannot be sure that the person who bore it was a representative of the ruling dynasty.

⁶ It is still unknown whether this person was the same Sky Witness, who ruled before Scroll Serpent. It is likely to suggest that it was his namesake from the royal line of *Kanu'l*.

Conclusion

Redocumentation of Santa Elena hieroglyphic inscriptions from Balancan museum provides important new data on the dynastic history of this middle-range Maya polity of the Western region in the Middle Classic (ca. 600–650 CE). This period is generally badly known because of the scarcity of the inscriptions at Piedras Negras, Palenque and Yaxchilan and other important regional centers.

The inscription on Monument 1 with the reference to the "star war" probably is the most important of all four sculptures. It demonstrates that contrary to the traditional view there was no alliance between Palenque and Santa Elena during the reign of *Ajen Yo'l Mat* between 605 and 611 CE. Quite the reverse, both polities continued to be in conflict since 599 CE, and again the luck was on Santa Elena's side. Although it is not specifically attested who was the main actor of the defeat of Palenque, we suggest that it was backed by *Kanu'l* power. Given the uncertainty with the date, we cannot even exclude that it is the same 611 CE war event recorded in the text of the Temple of Inscriptions at Palenque when Lakamha was destroyed by Scroll Serpent.

Good relations between Santa Elena and *Kanu'l* are also confirmed by the possible mention of 'Maguey Metate' placename on the Monument 2. The same title appears on Palenque House C hieroglyphic stairway associated with *Kanu'l* person in 599 CE, quite close to the date of Santa Elena monuments under discussion.

Santa Elena dynasty is one of the less known Maya royal houses of the Classic period. It's history is mainly known from the inscriptions of neighboring sites (Palenque, Piedras Negras, Yaxchilan and La Corona). The inscription of Monument 4 confirms the pattern of royal names with *Chaahk* formant noted previously by various scholars. The clear order of the elements of the nominal glyph of Santa Elena ruler on Monument 4 (WITZ'-K'IN-ni CHAK) proves the correct reading of this name that previously was transcribed as *K'iin Witz' Chaahk*.

At least five Santa Elena dynasts — Witz' K'iin Chaahk I (ca. 514 CE, Piedras Negras Panel 12), Nu'n Hiix Lakam Chaahk (ca. 600 CE, Palenque Hieroglyphic Stairway), Nu'n Ujol Chaahk (ca. 659 CE, Palenque Temple of the Inscriptions and Palenque Hieroglyphic Stairway), ... K'iin Lakam Chaahk (ca. 708 CE, Piedras Negras Stela 8) and Pay Lakam Chaahk (ca. 751 CE, Yaxchilan Lintel 16) use Chaahk theonym, probably to underline peculiar relations to Rain God or his specific version called Lakam Chaahk ("Great Chaahk"). The identification of Witz' K'iin Chaahk II helps us to fill the gap in dynastic sequence in the second half of the 6th century or, more probably, in the first half of the 7th century.

References / Список литературы

1. Perales R, Mugarte J. Arqueología de superficie en Santa Elena, Tabasco. In: Vargas E, editor. *Seis ensayos sobre antiguos patrones de asentamiento en el área Maya*. Mexico City: UNAM, Instituto de Investigaciones Antropológicas; 1995. p. 27–52.

- 2. Bernal Romero G. El señorío de Resaca-Santa Elena, Tabasco y sus conflictos con Palenque (599–664 d.C.). In: Bernal Romero G, Esparza Olguín O, editors. *Guerras, jerarquías políticas y poder en la sociedad maya clásica*. Mexico: UNAM; 2020, p. 125–162.
- 3. Grube N, Martin S, Zender M. Palenque and its Neighbors. *The Proceedings of the XXVIth Maya Hieroglyphic Workshop, 13–14 March 2002*. Transcribed and edited by Phil Wanyerka. 2002.
- 4. Polyukhovych YY. Politiko-dinastichna istoria derjavi maya Bakal za materialami korpusu epigrafichnikh jerel Palenque (Lakamha') [Political and Dynastic History of the Maya State of Baakal According to the Sources of the Epigraphic Corpus of Palenque (Lakamha')] [PhD dissertation]. Kyiv: Taras Shevchenko National University of Kyiv; 2012. (In Ukrainian). Полюхович Ю.Ю. Політико-династична історія держави майя Баакаль за матеріалами корпусу епіграфічних джерел Паленке (Лакамха') : дис. на здобуття наук. ступеня к.і.н. Київ, 2012. (на укр. яз.)
- 5. Bernal Romero G. Desciframiento del logograma T1067, WAN, "codorniz". Implicaciones para la historia de la dinastía Kan y el señorío de Santa Elena, Tabasco. Reportes de Investigación Epigráfica del Centro de Estudios Mayas, № 3; 2016.
- 6. Martin S. *Ancient Maya Politics: A Political Anthropology of the Classic Period, 150–900 CE.* Cambridge: Cambridge University Press; 2020.
- 7. Bíró P. The Classic Maya Western Region: A History. Oxford: Archaeopress; 2011.
- 8. Polyukhovych Y, Styuflyaev M. Between Scylla and Charybdis: Wars Between Santa Elena, Palenque, and the Snake Kingdom in the Sixth and Seventh Centuries. Glyph Dwellers, Report 64; 2020. (In press)
- 9. Love B, Vepretskii S. *Corpus Volume 12: Santa Elena Monuments in Balancan Museum, Tabasco*. Contributions to Mesoamerican Studies; 2022. Available from: https://brucelove.com/corpus/corpus-volume-012 [Accessed 10 Apr 2025].
- 10. Zender M. K'ahlaj sakhuun tu'baah 'the crown was held above him': revisiting a classic Maya coronation ceremony. Paper presented at: Institute of Maya Studies; 2016 May 18; Davie, FL.
- 11. Freidel D, Guenter S, Kelly MK, Zender M. The Inscriptions of El Perú-Waka', Petén, Guatemala. In: *Workshop on the 11th Annual Maya at the Lago Conference*; 2022 May 1.
- 12. Stuart D. *The Inscriptions from Temple XIX at Palenque: A Commentary*. San Francisco: Pre-Columbian Art Research Institute; 2005.
- 13. Martin S. *Maya Warfare and Politics: New Data and Perspectives*. Workbook for the Maya Hieroglyphic Weekend: October 4–5, 2003. Cleveland university: K'inal Winik Cultural Centre; 2003.
- 14. Grube N, Martin S, Zender M. *Palenque and its Neighbors. Notebook for the XXVIth Maya Hieroglyphic Forum at Texas.* Austin: Maya Workshop Foundation, University of Texas at Austin; 2002.
- 15. Martin S, Grube N. *Chronicle of the Maya Kings and Queens: Deciphering the Dynasties of the Ancient Maya*. London: Thames and Hudson; 2008.
- 16. Sanchez Gamboa Á, Polyukhovych Y, Cuevas García M, Herbert LL, Krempel G. The Hieroglyphic Stairway of House C, Palenque, Chiapas: New Approaches. *Mexicon*. 2020;42(1):7–11.
- 17. Markianos-Daniolos D. JOM: A Possible Reading for the "Star War" Glyph? *Text Database and Dictionary of Classic Mayan.* 2021; Research Note 25. https://doi.org/10.20376/IDIOM-23665556.21.rn025.en
- 18. Lacadena A, Davletshin A. Grammar of Hieroglyphic Maya. Workbook for Advanced Workshop at 23rd European Maya Conference, Brussels, October 29–31, 2013.
- Lacadena A. Títulos militares en los textos jeroglíficos mayas del periodo Clásico. Paper presented at: 8º Congreso Internacional de Mayistas; 2010 August 8–13; Mexico City, Mexico.

- 20. Grube N. El Origen de la Dinastía Kaan. In: Nalda E, editor. *Los Cautivos de Dzibanché*. Mexico City: Instituto Nacional de Antropología e Historia; 2004. p. 117–131.
- 21. Hellmuth NM. Monster und Menschen in der Maya-Kunst: eine Ikonographie der alten Religionen Mexikos und Guatemalas. Graz: Akademische Druck-und Verlagsanstalt; 1987.
- 22. Stuart D. A Possible Sign for Metate. *Maya Decipherment*. 2014. Available from: https://mayadecipherment.com/2014/02/04/a-possible-sign-for-metate/ [Accessed 28 Mar 2024].
- 23. Beliaev D, Galeev Ph, Vepretskii S. Las inscripciones jeroglíficas monumentales en la exposición permanente del Museo Nacional de Arqueología y Etnología. In: Beliaev D, de Leon M, editors. *Informe Técnico de Piezas Arqueológicas Museo Nacional de Arqueología y Etnología. Guatemala: Dirección General de Patrimonio Cultural y Natural y el Departamento de Monumentos Prehispánicos y Coloniales*; 2016, p. 171–215. EDN: RYUEKS.
- 24. Looper M. *MHD References Materials 4: Preliminary Lists of Proper Names*. Glyph Dwellers, Report 74; 2022. Available from: http://glyphdwellers.com/pdf/R74.pdf [Accessed 15 Apr 2025].
- 25. Meeus J. Astronomical Algorithms. 2nd ed. Richmond (VA): Willmann-Bell, Inc.; 1998.
- 26. Vepretskii S. Identifying the Provenance of Puerto Barrios Altar. *Arqueología Iberoamericana*. 2020;(46):141–146. EDN: NAYWVE. Available from: https://www.laiesken.net/arqueologia/pdf/2020/AI4615.pdf [Accessed 15 Apr 2025].
- 27. Carrasco R, Boucher S. Las Escaleras Jeroglíficas del Resbalón, Quintana Roo. In: *Primer Simposio Mundial sobre Epigrafía Maya*. Guatemala: Asociación Tikal; 1987. p. 1–21.
- 28. Tokovinine A. *Place and Identity in Classic Maya Narratives*. Studies in Pre-Columbian Art and Archaeology, No. 37. Washington, D.C.: Dumbarton Oaks Research Library and Collection; 2013.
- 29. Estrada-Belli F, Tokovinine A. A King's Apotheosis: I conography, Text, and Politics from a Classic Maya Temple at Holmul. *Latin American Antiquity*. 2016;(27):149–168. https://doi.org/https://doi.org/10.7183/1045-6635.27.2.149
- 30. Estrada-Belli F, Tokovinine A, Foley JM, Hurst H, Ware GA, Stuart D, et al. Maya Palace at Holmul, Peten, Guatemala, and the Teotihuacan "Entrada": Evidence from Murals 7 and 9. *Latin American Antiquity*. 2009;20(1):228–259. https://doi.org/https://doi.org/10.1017/S1045663500002595
- 31. Houston SD, Amaroli P. *The Lake Güija Plaque*. Research reports on Ancient Maya writing. No. 15. Washington, D.C.: Center for Maya Research; 1988.
- 32. Grube N, Gaida M. *Die Maya: Schrift und Kunst im Ethnologischen Museum Berlin*. Berlin: SMB DuMont; 2006.
- 33. Estrada-Belli F, Tokovinine A. Chochkitam: A New Classic Maya Dynasty and the Rise of the Kaanu'l (Snake) Kingdom. *Latin American Antiquity*. 2022;(33):713–732. https://doi.org/https://doi.org/10.1017/laq.2022.43
- 34. Helmke C. The –n-ib and –l-ib suffixes in Ch'olan languages and Ancient Maya writing. In: Kettunen H, Vázquez López VA, Kupprat F, Vidal Lorenzo C, Muñoz Cosme G, Ponce de Leon MJ, editors. *Tiempo detenido, tiempo suficiente: Ensayos y narraciones mesoamericanistas en homenaje a Alfonso Lacadena García-Gallo*. Vol. 1. Wayeb Publications; 2018. p. 415–478.
- 35. Beliaev DD. Appealing to the Gods and ancestors: Ancient Maya conch shell trumpets as ritual instruments. *Stratum plus*. 2020;(6):387–399. (In Russ.). https://doi.org/10.55086/sp226387399 EDN: YAORKU Беляев Д.Д. Обращаясь к богам и предкам: горны из морских раковин как ритуаль-
 - *Беляев Д.Д.* Ооращаясь к оогам и предкам: горны из морских раковин как ритуальные инструменты у древних майя // Stratum Plus. 2020. № 6. С. 387–399. https://doi.org/10.55086/sp226387399 EDN: YAORKU

Information about authors:

Sergei V. Vepretskii — PhD (history), researcher, Department of America, Institute of Ethnology and Anthropology, 32a Leninsky Avenue, Moscow, 119334, Russian Federation; junior researcher and teacher Knorozov Mesoamerican Centre, Russian State University for the Humanities, 6 Miusskaya square, bldg. 3, Moscow, 125047, Russian Federation, e-mail: servepr@gmail.com ORCID: 0000-0003-2550-6799. SPIN-code: 3257-6233.

Dmitri D. Beliaev — PhD (history), assistant professor, Knorozov center for Mesoamerican studies, faculty of history, Russian State University for the Humanities, 6 Miusskaya square, bldg. 3, Moscow, 125047, Russian Federation; senior research fellow, International Centre of Anthropology, National Research University Higher School of Economics, 21/4 Staraya Basmannaya ulitsa, bldg. 3, Moscow, 105066, Russian Federation, e-mail: lakamha@mail.ru ORCID: 0000-0002-6609-2302. SPIN-code: 4705-6569.

Albert I. Davletshin — PhD (history), chief research fellow, Institute for Oriental and Classical Studies, Russian State University for the Humanities, 6 Miusskaya square, bldg. 3, Moscow, 125047, Russian Federation, e-mail: aldavletshin@mail.ru ORCID: 0000-0003-1080-5614. SPIN-code: 6568-9377.

Bruce Love — PhD (anthropology), Anthropological Research Contributions (ARC), 29709 104th Street, Littlerock, California 93543, USA, e-mail: brucelove9@gmail.com

Информация об авторах:

Вепрецкий Сергей Викторович — кандидат исторических наук, научный сотрудник Отдела Америки, Института этнологии и антропологии РАН, Российская Федерация, 119334, Москва, Ленинский проспект, д. 32а; Москва, Ленинский проспект, д. 32а; младший научный сотрудник и преподаватель Мезоамериканского центра имени Ю.В. Кнорозова исторического факультета, Российский государственный гуманитарный университет, Российская Федерация, 125047, Москва, Миусская площадь, д. 6, корп. 3, e-mail: servepr@gmail.com ORCID: 0000-0003-2550-6799. SPIN-код: 3257-6233.

Беляев Дмитрий Дмитриевич — кандидат исторических наук, доцент Мезоамериканского центра имени Ю.В. Кнорозова исторического факультета, Российский государственный гуманитарный университет, Российская Федерация, 125047, Москва, Миусская площадь, д. 6, корп. 3; старший научный сотрудник Международного центра антропологии, Национальный исследовательский университет «Высшая школа экономики», Российская федерация, 105066, Москва, ул. Старая Басманная, д. 21/4, стр. 3, e-mail: lakamha@mail.ru ORCID: 0000-0002-6609-2302. SPIN-код: 4705-6569.

Давлетшин Альберт Иршатович — кандидат исторических наук, старший научный сотрудник Института восточных культур и античности, Российский государственный гуманитарный университет, Российская Федерация, 125047, Москва, Миусская площадь, д. 6, корп. 1, e-mail: aldavletshin@mail.ru ORCID: 0000-0003-1080-5614. SPIN-код: 6568-9377.

Лав Брюс — PhD по антропологии, исследователь, организация «Достижения в антропологических исследованиях» (ARC), 29709, Литтлрок, 104 улица, Калифорния 93543, США, e-mail: brucelove9@gmail.com