The mysterious dates of Stela 19 of Seibal

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The mysterious dates of Stela 19 of Seibal

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Fig. 1: The authors in Seibal, August 2009. Photo by Jens Rohark

The Maya site of Seibal is famous for being one of the few Maya sites in the south of the Maya lowlands which has not collapsed at the end of the Classic Maya period as most of the other sites have, but instead experienced a short but notable period of growth, due to applying a strategy of adaptation to a new political landscape. The change of style of the iconography and even in the hieroglyphic writing is proof of that.

One of the most mysterious stelae of Seibal is stela 19. On the front side appears a duck-billed wind god impersonator who scatters incense. His skirt consists of several strips of cloth – an element which also appears on other late stelae of Seibal. The person, probably a ruler, stands on eight blocks of hieroglyphs. The glyph blocks in the center have all been partially or completely effaced which has led to confusion among the Maya experts.
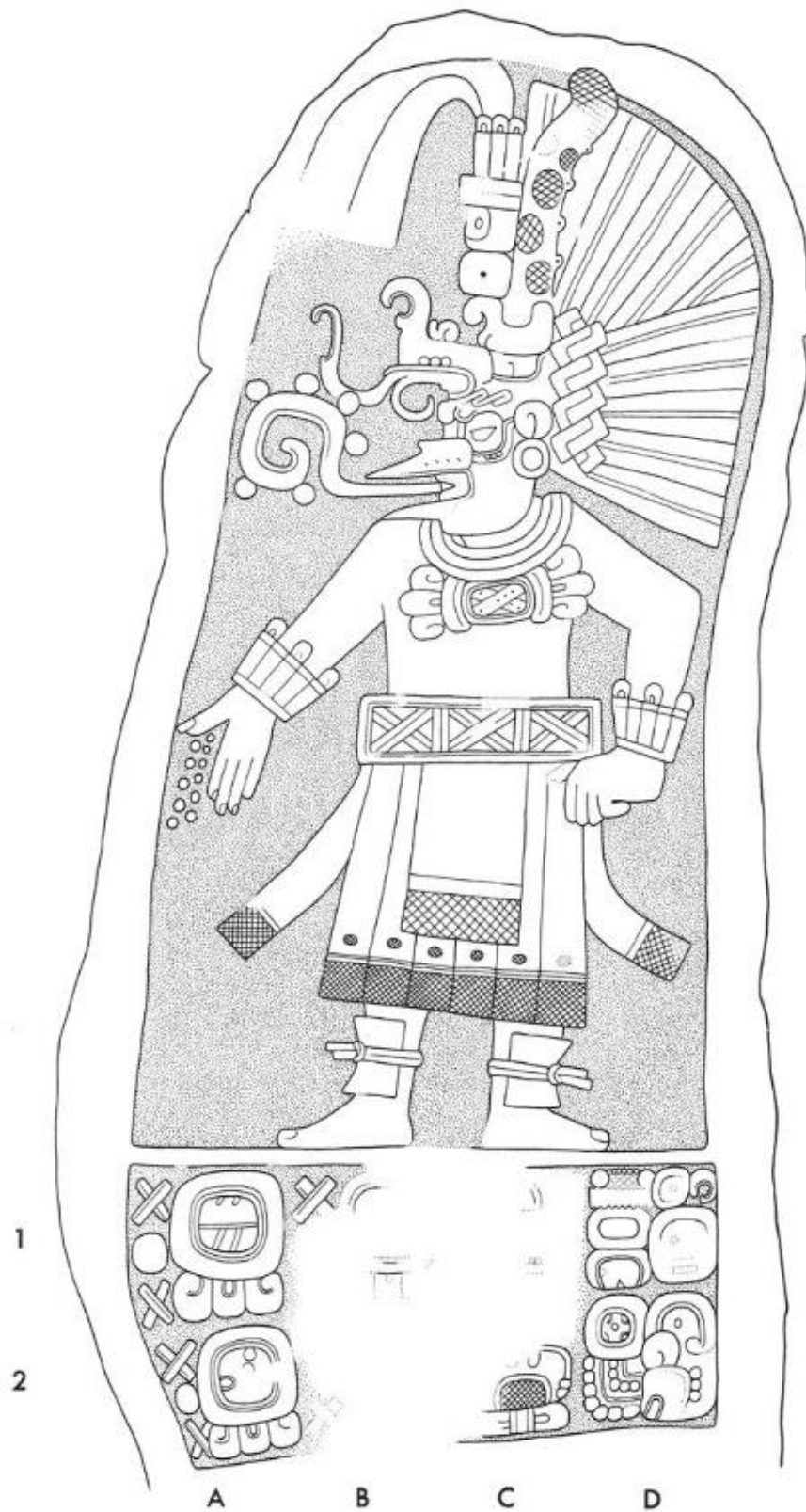
Fig. 2: Seibal, stela 19. Drawing by Ian Graham, from *Corpus of Maya Hieroglyphic Inscriptions, Vol. 7, Part 1, Seibal*.

Judging from the iconographic motif, which shows a scattering rite, we should expect a round *k´atun* date, a date which occurs every 20 years and has zero on the three last Long Count positions. The stela is clearly Terminal Classic style. This means that possible *k´atun* dates would be the following:

Long Count date	Calendar Round date	Gregorian date	Julian date
10.0.0.0.0.	7 Ajaw 18 Sip	15 March 830 AD	11 March 830 AD
10.1.0.0.0.	5 Ajaw 3 K´ayab	30 November 849 AD	26 November 849 AD
10.2.0.0.0.	3 Ajaw 3 Keej	17 August 869 AD	13 August 869 AD
10.3.0.0.0.	1 Ajaw 3 Yaxk´in	04 May 889 AD	30 April 889 AD
10.4.0.0.0.	12 Ajaw 3 Woh	20 January 909 AD	16 January 909 AD

Fig. 3: Terminal Classic Long Count dates.

More specifically, Bryan Just places this stela near the *k´atun* date 10.3.0.0.0. This means that we should expect to find a Calendar Round date of 1 Ajaw 3 Yaxk´in; or, if it were 20 years earlier or later, 3 Ajaw 3 Keej or 12 Ajaw 3 Woh, respectively.

Looking at the inscription, we see that it does not start with an Ajaw date. The first glyph, in A1, clearly reads 1 Ben, not 1 Ajaw. The next glyph block is quite damaged, however, it is clear that it contained a coefficient of 1. The fact that the first day glyph is no Ajaw date, but instead a day which could be one of the year bearers (one of the New Year´s days), which combines with the first day of the year, 1 Pohp, has led some experts to speculate that the inscription started with a New Year´s date 1 Ben 1 Pohp. John Graham (1990: 60) suggested the Long Count date of 10.1.18.6.13. This would be quite problematic of course, since the usual reading order of a typical Maya inscription is in double columns, from left to right, from top to bottom. Therefore, the reading order for stela 19 should be A1, B1, A2, B2, C1, D1, C2, D2. However, if that is the case, we would have the day 1 Kawak in A2 directly following the Calendar Round 1 Ben 1 Pohp, which does not make any sense, of course. As a solution, it has been suggested that this inscription reads in two lines instead of double columns. This is very rare. It happens, for example, in the inscription of the jade pendant of Nim Li Punit. But most importantly, the glyph in B1 still has a tiny element of the day cartouche, therefore this block cannot be a month glyph 1 Pohp. A New Year´s date, also suggested by Prudence Rice, must therefore be rejected.

How can we find a solution concerning the reading of the dates of stela 19? Actually, a brilliant solution has been offered by Nicholas P. Carter, in his 2014 dissertation "Kingship and Collapse: Inequality and Identity in the Terminal Classic Southern Maya Lowlands". He writes: "Careful inspection of a photograph of the monument (I. Graham 1996: 47) reveals that the date at B1 is not 1st Pop at all, but rather a *tzolk´in* day-name with a coefficient of 1. The date at A2 is 1 Kawak, while B2 is completely destroyed. Three *tzolk´in* dates, all with coefficients of 1, and in such close proximity to one another, suggest a calendrical pattern. As it happens, 1 Ben 16th Yaxk´in falls 13 days after the 10.3.0.0.0 *k´atun* ending. 13 days after

1 Ben 16th Yaxk´in is 1 Kimi 9th Mol, and 13 days after that is 1 Kawak 2nd Ch´en. The four glyphs at A1 through B2 can thus be reconstructed, and connected to the *k'atun* ending, as follows:

[10.3.0.0.0] [1 Ajaw 3rd Yaxk´in]
+ 13 days = [10.3.0.0.13] 1 Ben [16th Yaxk´in]
+ 13 days = [10.3.0.1.6] 1 [Kimi 9th Mol]
+ 13 days = [10.3.0.1.19] 1 Kawak [2nd Ch'en]
+ 13 days = [10.3.0.2.12] [1 Eb 15th Ch'en]

If this analysis is correct, then there is an implicit reference to a period ending, as P. Rice (2004: 214) suggested—but the date in question is 10.3.0.0.0 rather than the end of a smaller interval of years, confirming Just's stylistic date. Stela 19 itself should date to 10.3.0.2.12 or a little after, conceivably the date of the deity impersonation depicted in the figural panel and perhaps described in the second half of the text. The four *tzolk'in* dates on the monument would thus represent an innovative way of celebrating *k'atun* endings, with a ritual timed using the numerologically significant numbers 4 and 13. Aside from that significance, it is hard to explain why this arrangement of dates should have been thought important." (Kingship and Collapse: 223/224).

We find his analysis very convincing, especially, since it connects to the expected *k'atun* date of 10.3.0.0.0. in the year 889 AD. Actually, his suggested dates are not only likely – we can prove that he is right, by answering his question as to why those five dates were important. In order to do that we just have to look at the night sky for those five dates, and all the pieces of the puzzle will quickly fall into place. Before we do that we will arrange all dates in the following table:

Long Count date	Calendar Round date	Gregorian date	Julian date
10.3.0.0.0.	1 Ajaw 3 Yaxk´in	04 May 889 AD	30 April 889 AD
10.3.0.0.13.	1 Ben 16 Yaxk´in	17 May 889 AD	13 May 889 AD
10.3.0.1.6.	1 Kimi 9 Mol	30 May 889 AD	26 May 889 AD
10.3.0.1.19.	1 Kawak 2 Ch´en	12 June 889 AD	8 June 889 AD
10.3.0.2.12.	1 Eb 15 Ch´en	25 June 889 AD	21 June 889 AD
10.3.0.3.5.	1 Chikchan 8 Yaax	08 July 889 AD	04 July 889 AD

Fig. 4: Possible dates of stela 19 of Seibal.

We have included a sixth date, just in case that there was a date written in position C1. Next, we will have a look at the night sky for all six dates. We will quickly see that those dates are not coincidental. We use the Stellarium program. It uses Julian dates before 1482 AD.

The 10.3.0.0.0. *k´atun* date was remarkable in itself. In this night, Jupiter reached exactly zenith in Copán. This was not the case in Seibal, however we see Saturn exactly at zenith in Seibal.
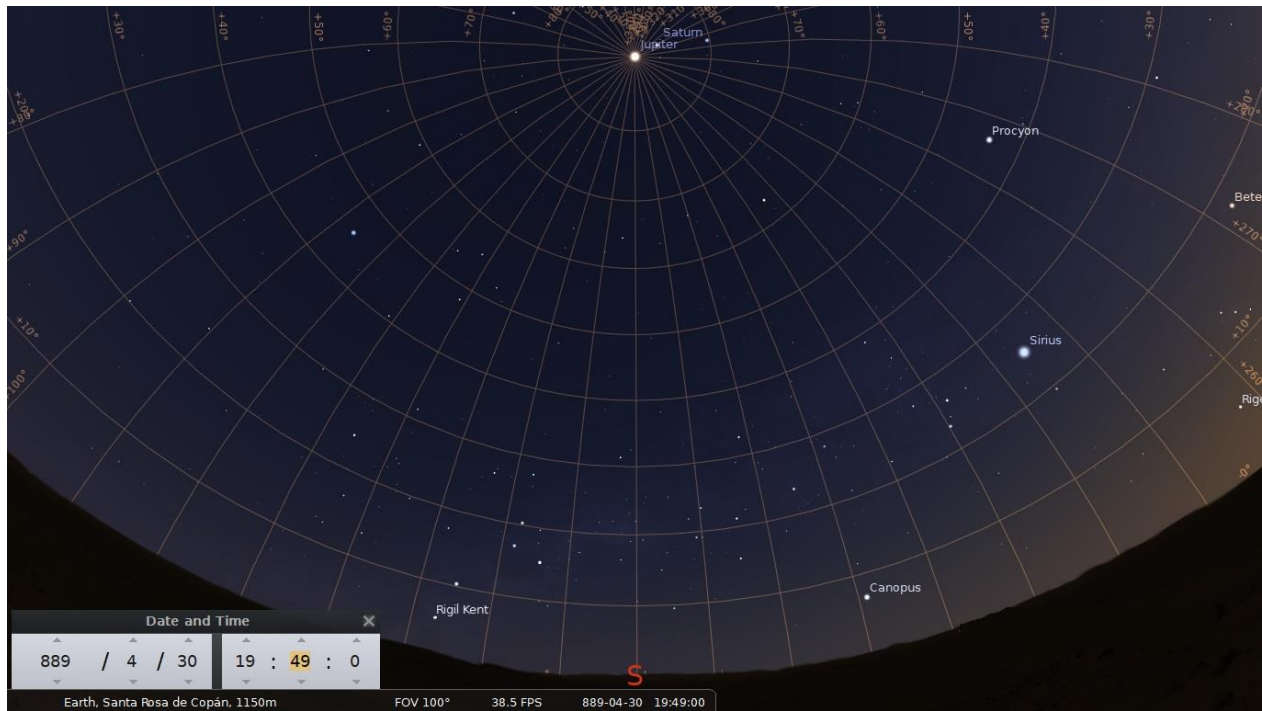

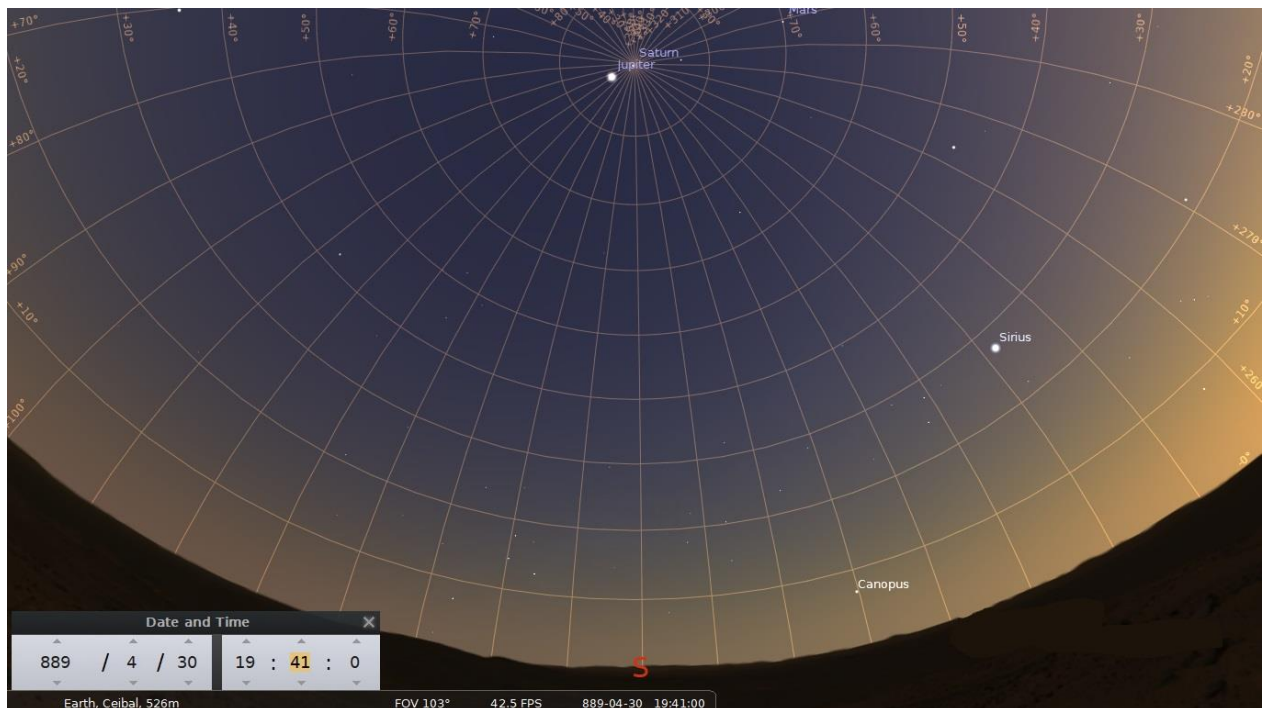Fig. 5: The sky on 10.3.0.0.0. in Copán.

Fig. 6: The sky on 10.3.0.0.0. in Seibal.

On the second date, the first date written in the inscription, Mercury had just arrived at its point of maximum elongation as Evening star:
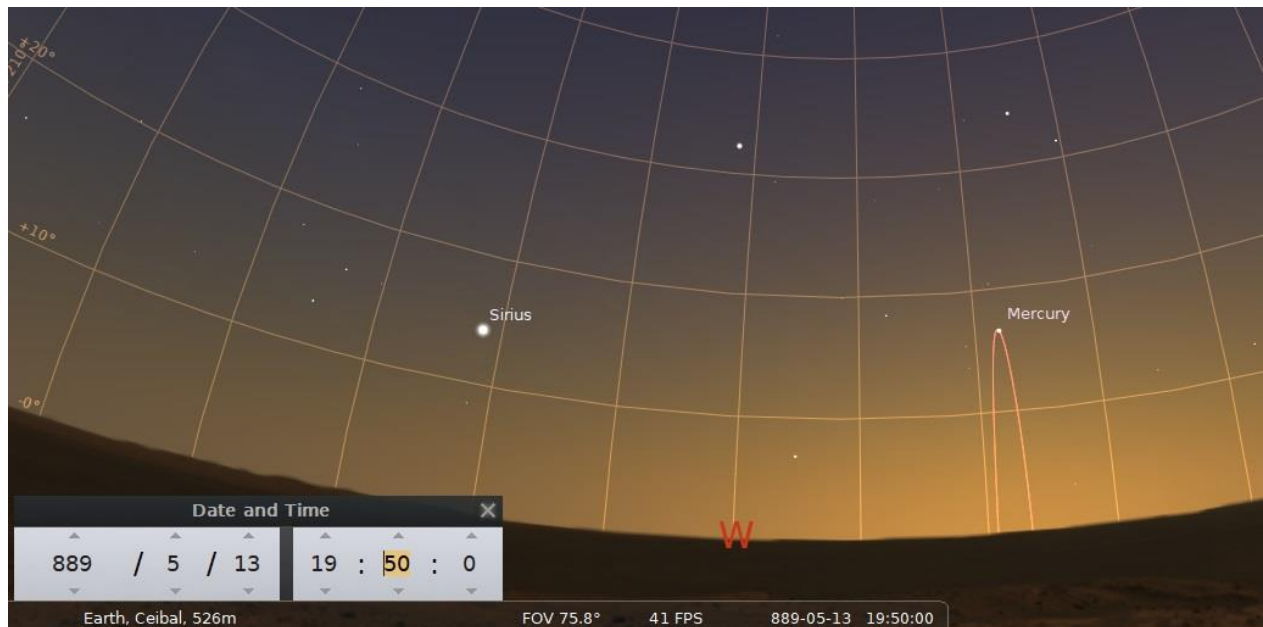

Fig. 7: The sky on 10.3.0.0.13. in Seibal.

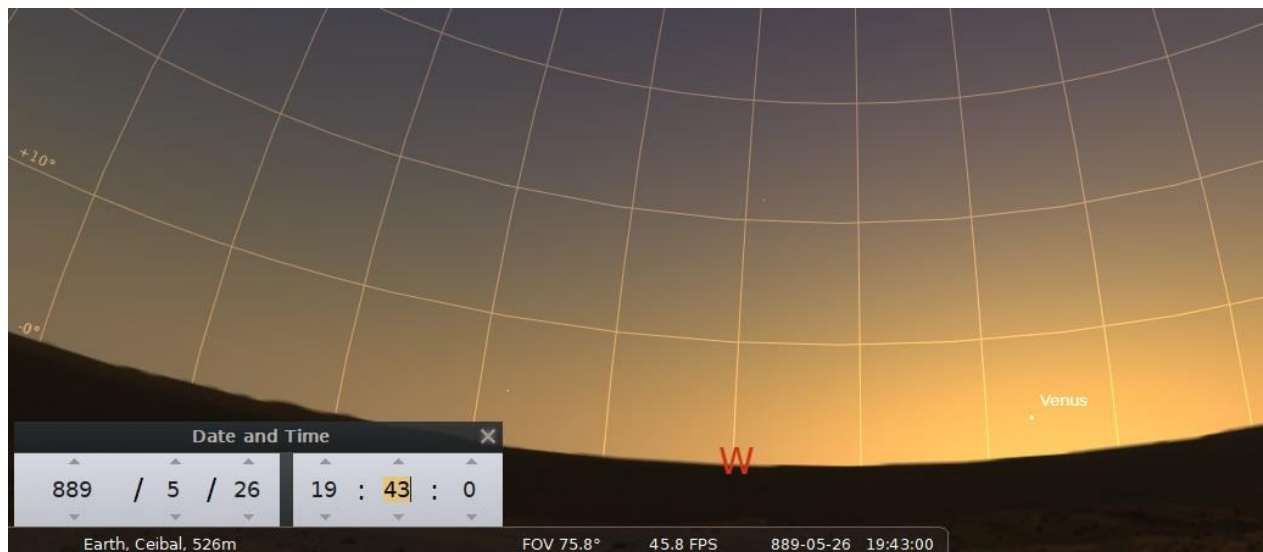On the third date, Venus is just emerging as Evening star:

Fig. 8: The sky on 10.3.0.1.6. in Seibal.

This event cannot be pinpointed precisely on a day, however, we see that this events fits in nicely here. For the next date, we will observe three days in a row, in order to be able to fully

appreciate the dynamics of the celestial events. We start with a date two days earlier. We see the moon approaching the planets Mars, Saturn and Jupiter:
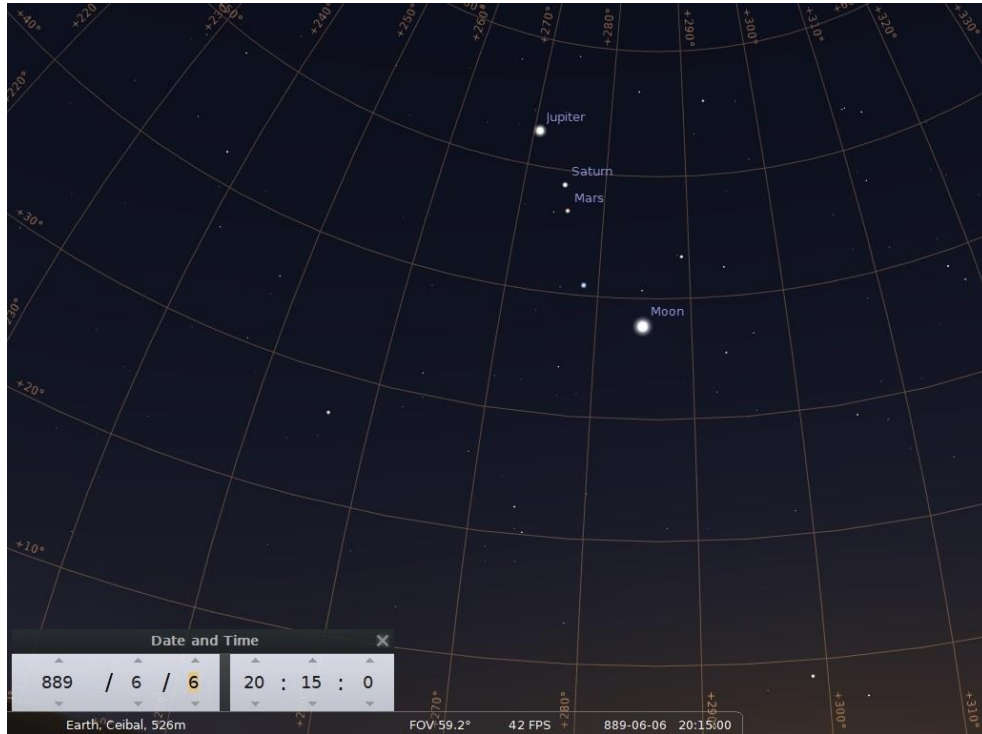

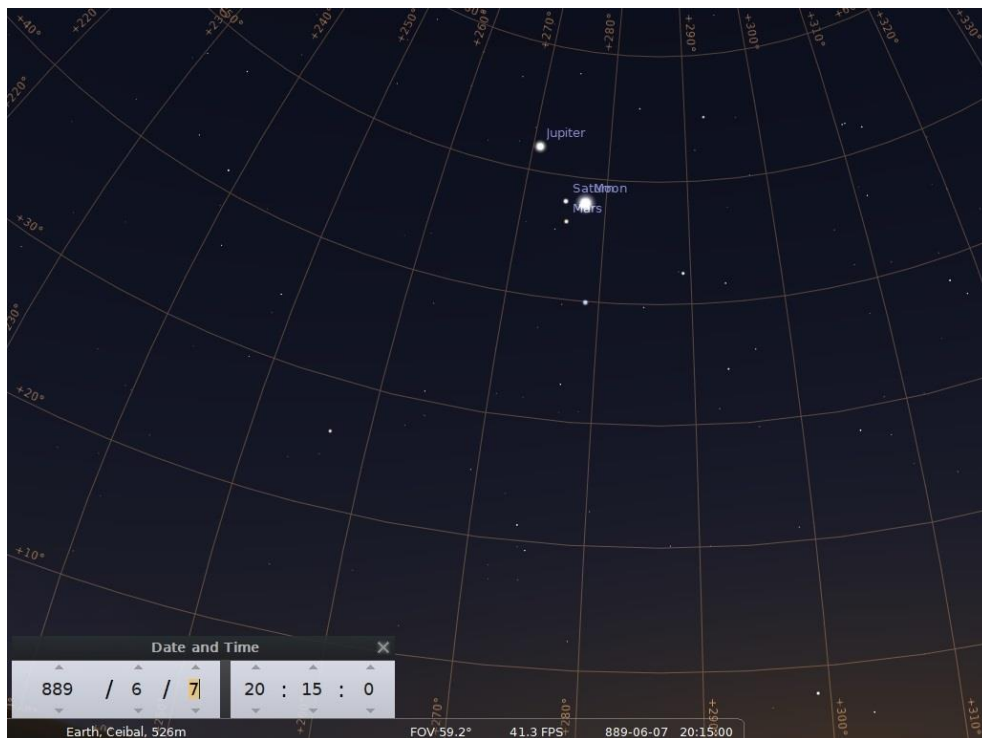Fig. 9: The sky two nights before 10.3.0.1.19. in Seibal.

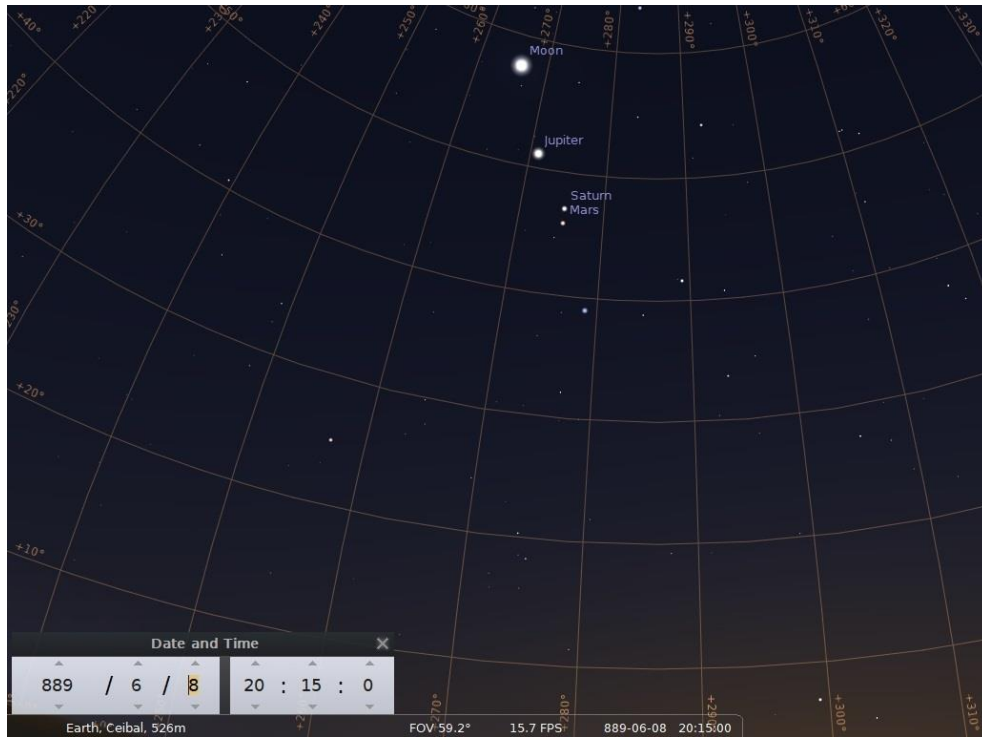Fig. 10: The sky one night before 10.3.0.1.19. in Seibal.

Fig. 11: The sky on the night of 10.3.0.1.19. in Seibal.

As we can see, the moon has just passed the three planets in the night of the forth date.
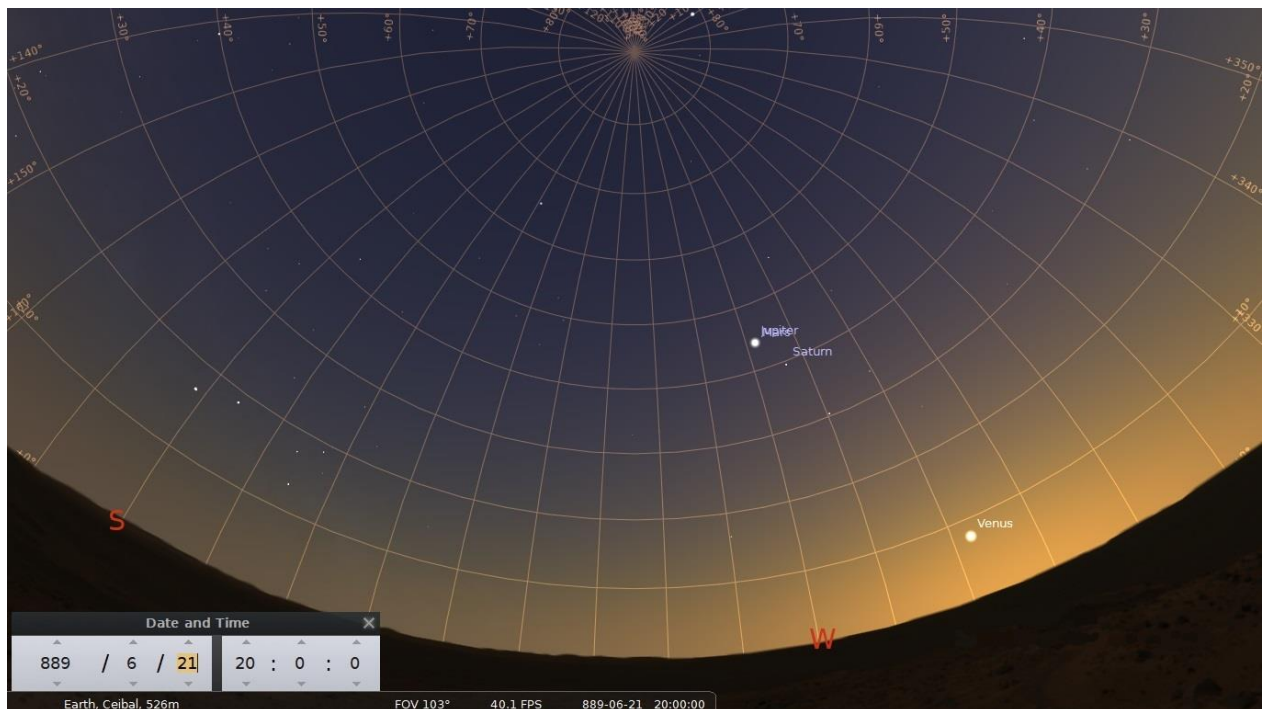

Fig. 12: The sky on 10.3.0.212. in Seibal.

On the fifth date, there was a very special celestial event going on – a conjunction between Mars and Jupiter. In order to notice it clearly, we have to zoom in. Let us see the night sky for four consecutive nights.
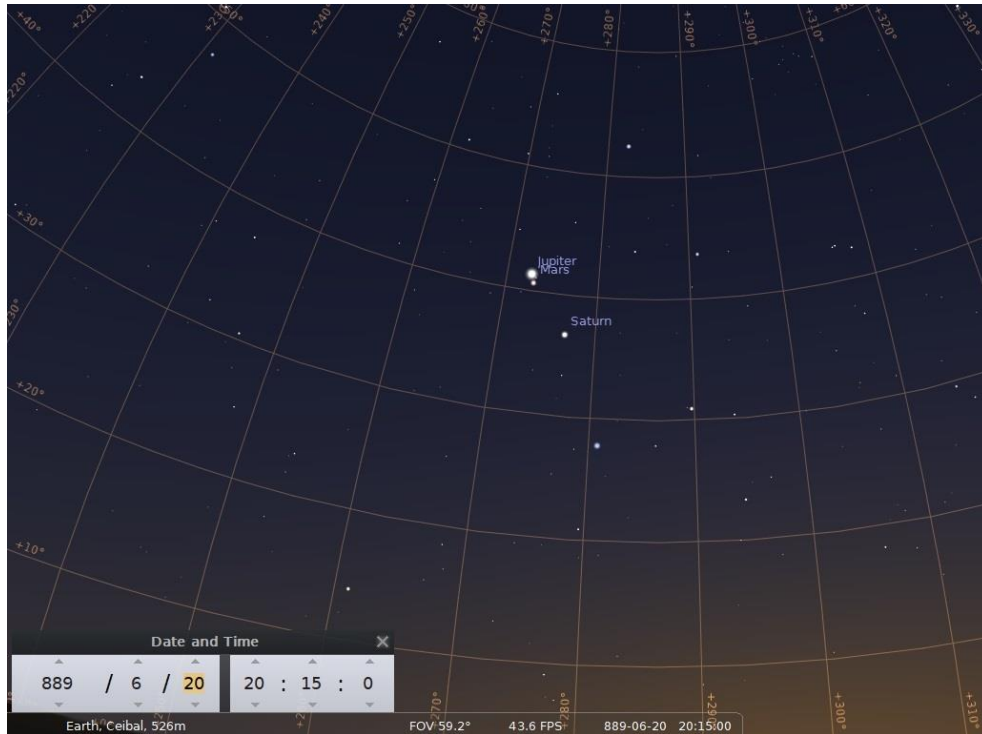

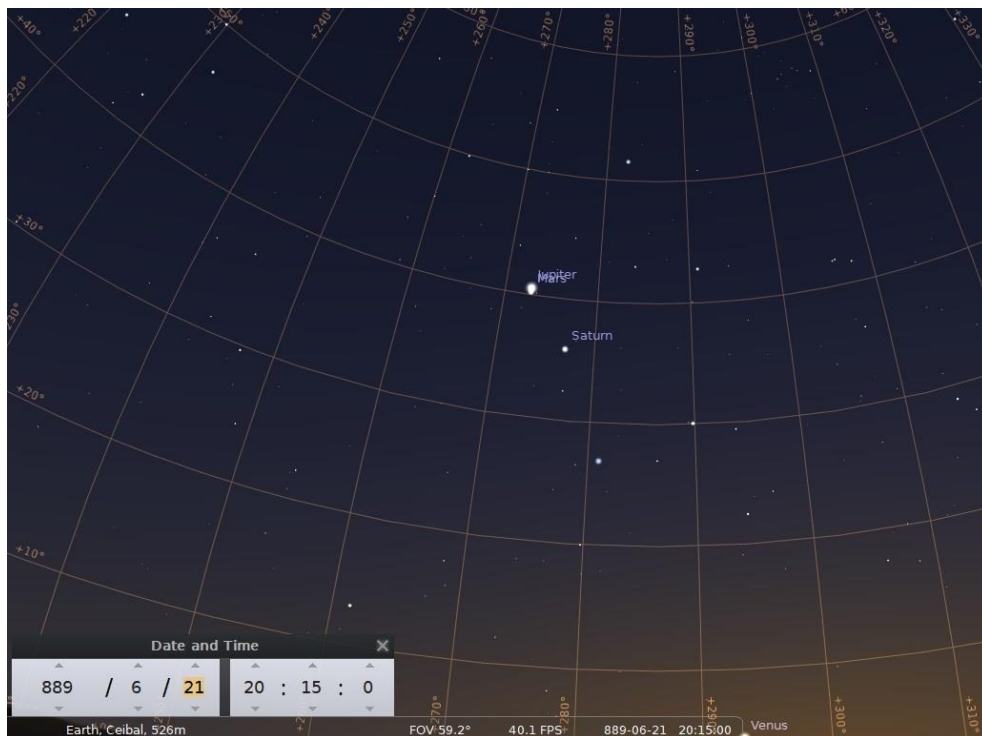Fig. 13: The sky one night before 10.3.0.2.12. in Seibal.

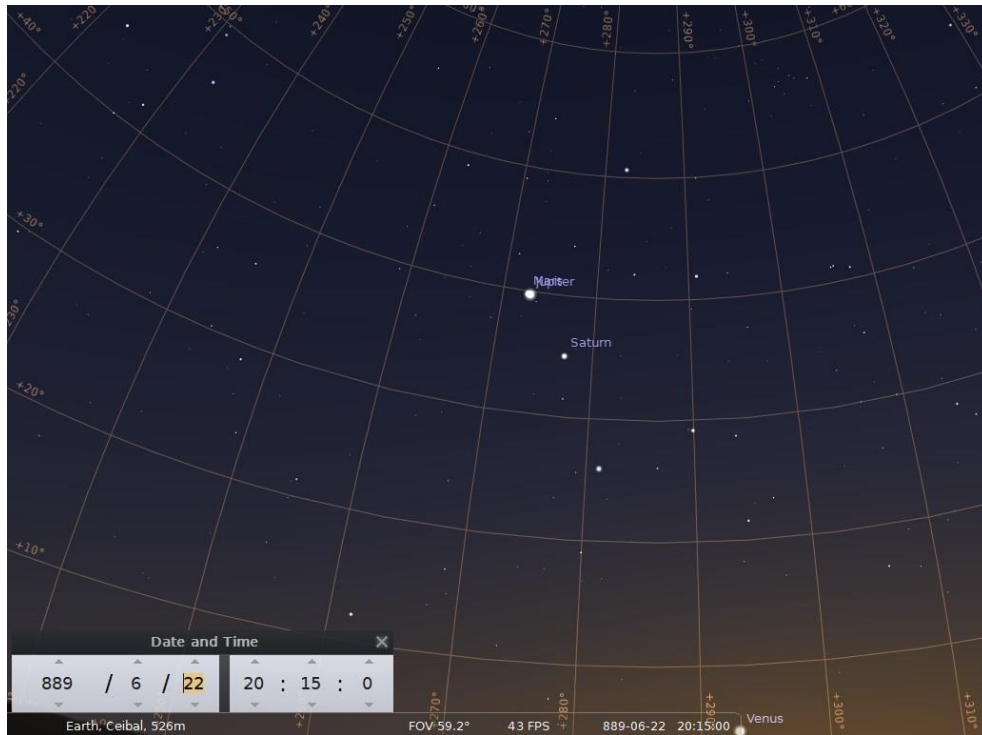Fig. 14: The sky exactly on 10.3.0.2.12. in Seibal.

Fig. 15: The sky one night after 10.3.0.2.12. in Seibal

Fig. 16: The sky two nights after 10.3.0.2.12. in Seibal

As we can see, there was a perfect conjunction between Mars and Jupiter on two nights.

Finally, in case the Maya of Seibal intended to observe another event, again 13 days after the last one, there would again have happened a special event – a nice row of evenly spaced celestial bodies, formed by the moon, Saturn, Jupiter and Mars.

Fig. 17: The sky on 10.3.0.4.5. in Seibal.

Summary:

Long Count date	Calendar Round date	Julian date	event
10.3.0.0.0.	1 Ajaw 3 Yaxk´in	30 April 889 AD	**Jupiter and Saturn at zenith**
10.3.0.0.13.	1 Ben 16 Yaxk´in	13 May 889 AD	**Mercury exactly at maximum elongation as Evening Star**
10.3.0.1.6.	1 Kimi 9 Mol	26 May 889 AD	**Venus appearing as Evening Star**
10.3.0.1.19.	1 Kawak 2 Ch´en	8 June 889 AD	**The moon has just passed Mars, Saturn and Jupiter**
10.3.0.2.12.	1 Eb 15 Ch´en	21 June 889 AD	**Perfect conjunction between Mars and Jupiter**
10.3.0.3.5.	1 Chikchan 8 Yaax	04 July 889 AD	**Perfect row formed by the moon, Saturn, Jupiter and Mars**

Fig. 18: Possible dates of stela 19 of Seibal and associated events

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