

ΠΛΑΚΙΔΙΟΥ
PLACIDUS RESEARCH CENTER
VARNA, BULGARIA

**The ‘paths’ of
mul MUL (*Pleiades*) and
mul MASH-TAB-BA (*Pollux-Castor*)
through the ages.**

and
Dating of
THE BABYLONIAN ASTROLABE
and
MUL APIN

by Rumen Kolev
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For much more detailed analysis, please see the forthcoming publication of ‘**Astronomical Dating of the Babylonian Astrolabe**’ by Rumen Kolev in the **Proceedings of the Melammu VI Symposium** of the Assyrian and the Babylonian Intellectual Heritage Project Sep. 1st-3rd, 2008, Sofia, Bulgaria. The publication is expected in early 2010.

You may follow updated information on **the official WEB Site of the Melammu Project**:
<http://www.aakkl.helsinki.fi/melammu/symposia/sypr6info.php>

Mul MUL ('constellation Stars') and mul MASH-TAB-BA ('constellation Gemini') are good in several ways.

First, their identification is certain.

Then, they are very small in area and we do not have to worry about which star to choose in our analysis. (*what is eliminated is the-brightest-star-OR-the-first-heliacally-rising-star-OR-the-whole-constellation' controversy*)

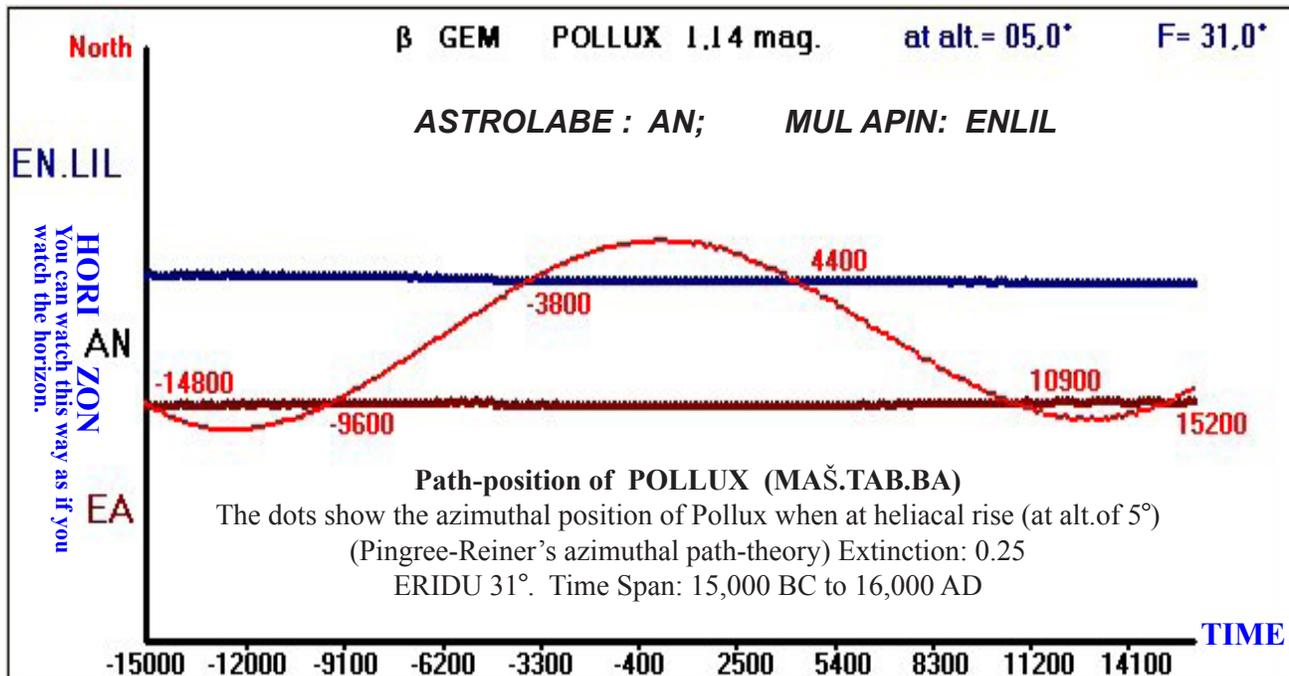
Due to precession, the place over the horizon where these stars rise heliacally, changes. The heliacal rise is the symbolical birth of the star.

And the place in the sky where that 'birth' occurs, determines the 'nationality' of the star, that is, its belonging to Enlil, An or Ea. (*Pingree-Reiner theory*)

Each of these gods rules over a particular part of the sky over a particular section of the horizon called 'paths'. (*boundaries are either azimuthal circles (Pingree-Reiner) or declinational (Kopff-Schaumberger)*)

As we said, because of precession, the place over a fixed horizon where a given star rises, changes. The Pleiades (mul MUL) and Pollux-Castor (mul MASH-TAB-BA) move in and out of all 3 'paths' in one full precessional cycle of 25,000 years.

These stars are very 'path'-mobile and this is the third good thing about them.



Graph from the computer program 'BABYLONIA' 2, copyright Rumen Kolev 2009-2010

Boundary EN.LIL-AN: ~70.3°; Boundary AN-EA: ~107.8°; EAST: 90°.

Azimuthal Boundaries computed as per Pingree-Reiner path-theory

(with azimuths of sunrise at equinoctium +/- 45 days)

Vertical: Horizon; Horizontal: Time

Pollux spends as follows:

EA: 14,800 BC to 9,600 BC

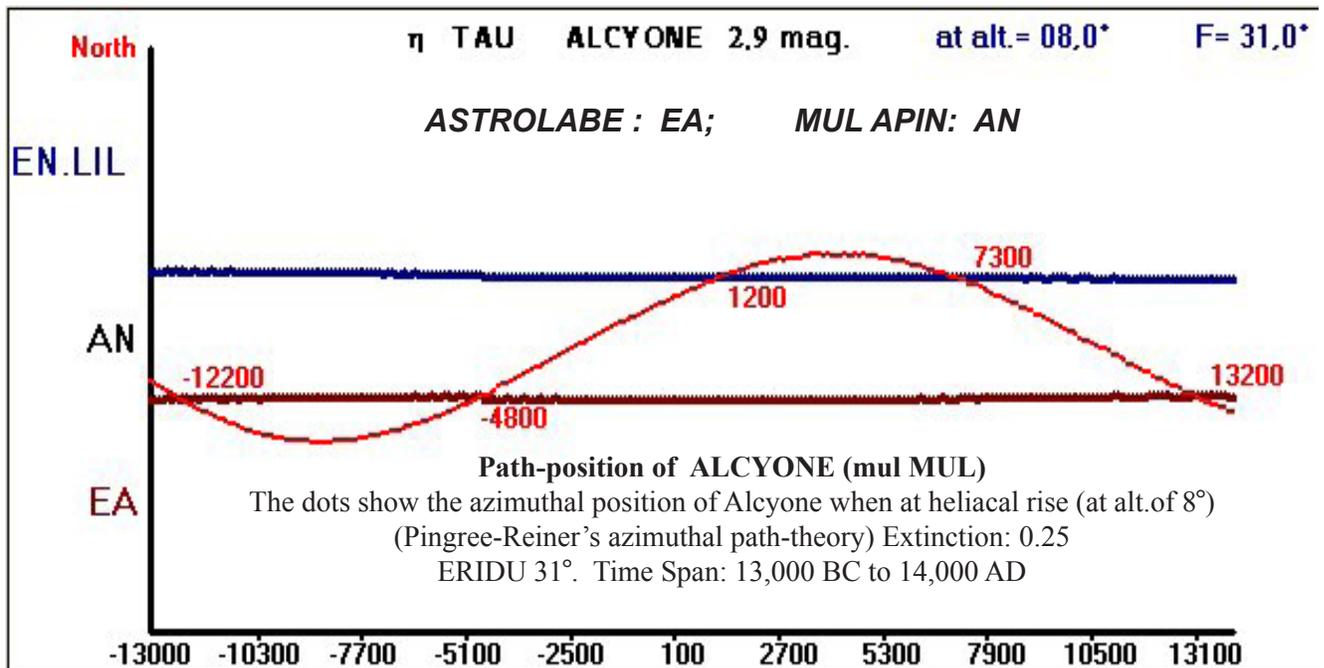
AN: 9,600 BC to 3,800 BC

LIL: 3,800 BC to 4,400 AD

ASTROLABE

MUL APIN

The astronomical texts in Akkadian known as the 'Astrolabe' and 'Mul Apin' reveal the 'path' of MASH-TAB-BA accordingly.



The Pleiades spend as follows:

EA: 12,200 BC to 4,800 BC	ASTROLABE
AN: 4,800 BC to 1,200 AD	MUL APIN
LIL: 1,200 AD to 7,300 AD	

Now, if we combine both stars and look for the validity of the texts, we will get:

ASTROLABE

POLLUX (AN):	9,600 BC	to	3,800 BC
PLEIADES (EA):	12,200 BC	to	4,800 BC

ASTROLABE COMMON: 9600 BC to 4,800 BC

MUL APIN

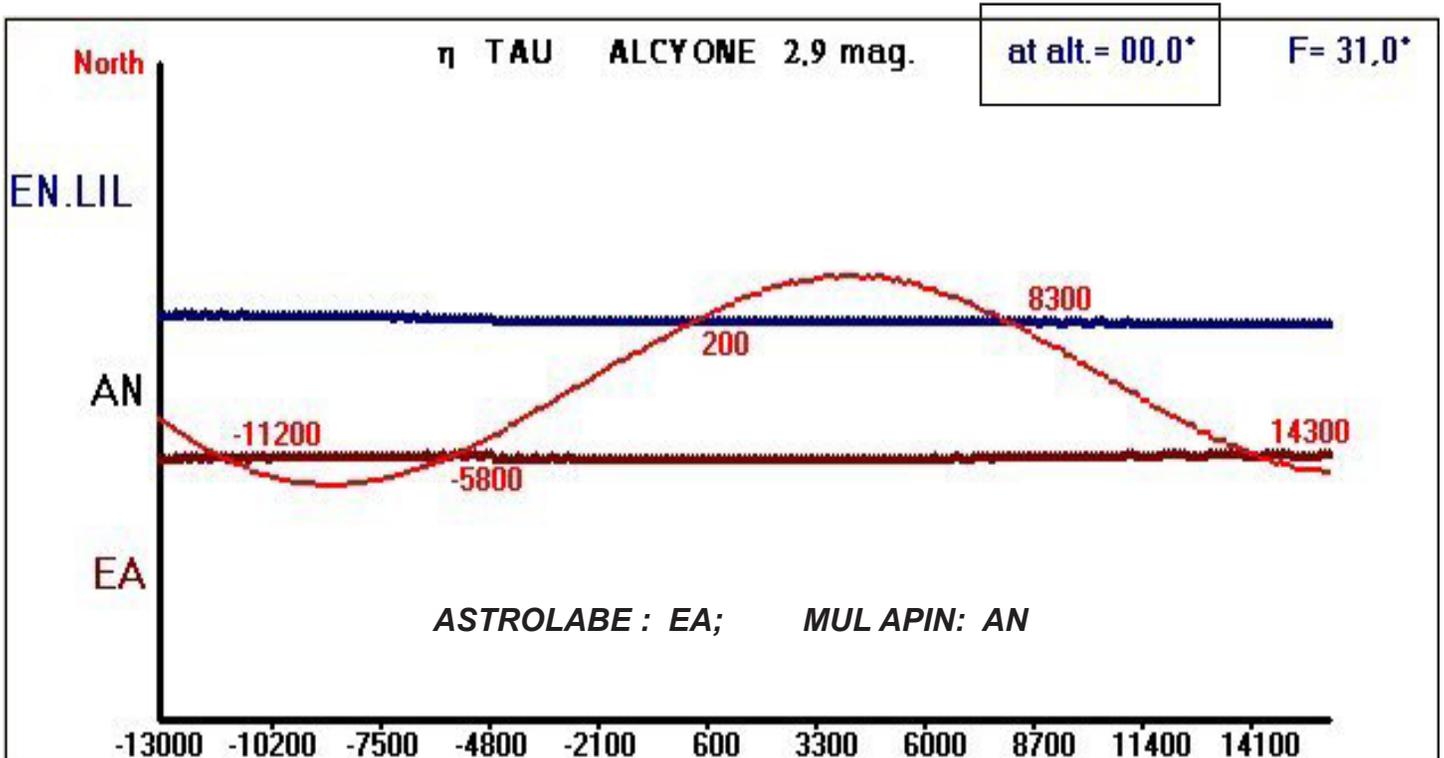
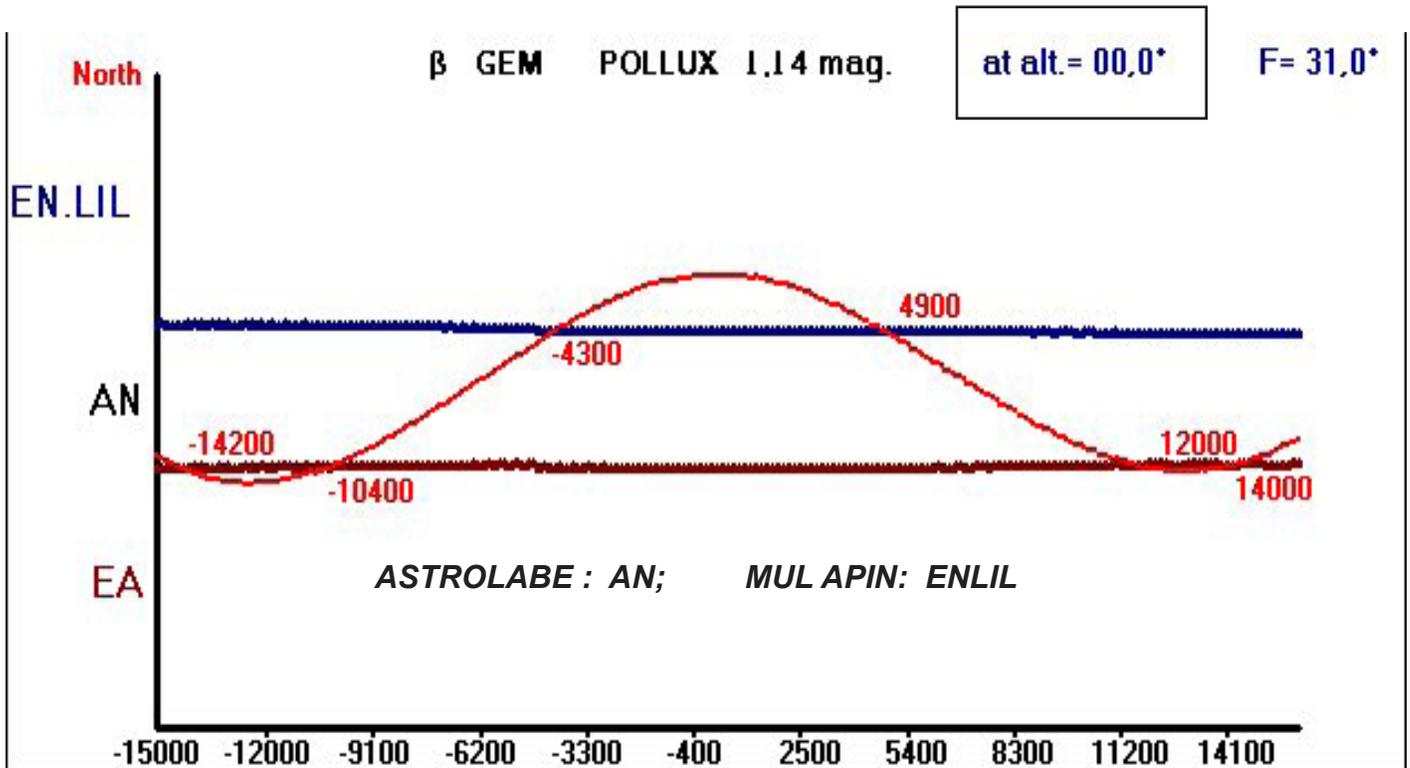
POLLUX (LIL):	3,800 BC	to	4,400 AD
PLEIADES (AN):	4,800 BC	to	1,200 AD

MUL APIN COMMON: 3,800 BC to 1,200 AD

The model shown here is NOTHING but an example for the methodology in the forthcoming article 'Astronomical Dating of the Babylonian Astrolabe' by Rumen Kolev in the **Proceedings of the Melammu VI Symposium**.

On the next page are shown the precessional travel of the same stars through the 'paths' computed according to the 'path'-theory of Kopff-Schaumberger (declinational boundaries). By setting the altitude of the heliacal rise to zero, we, in fact, compute with the declinational theory. The end results are :

ASTROLABE COMMON: 10, 400 BC to 5,800 BC; MUL APIN: 4,300 BC to 200 AD



ASTROLABE COMMON: 10, 400 BC to 5,800 BC; MUL APIN: 4,300 BC to 200 AD

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