= 47 Ursae Majoris c =

47 Ursae Majoris c (abbreviated 47 UMa c) , also named Taphao Kaew (Thai : ??????? ? ? , rtgs : Taphaokaeo , pronounced [t?.p??w.k? ? ?w]) , is an extrasolar planet approximately 46 light @-@ years from Earth in the constellation of Ursa Major . The planet was discovered located in a long @-@ period around the star 47 Ursae Majoris . Its orbit lasts 6 @.@ 55 years and the planet has a mass at least 0 @.@ 540 times that of Jupiter .

In July 2014 the International Astronomical Union launched a process for giving proper names to certain exoplanets and their host stars . The process involved public nomination and voting for the new names . In December 2015 , the IAU announced the winning name was Taphao Kaew for this planet . The winning name was submitted by the Thai Astronomical Society of Thailand . Taphaokaeo was one of two sisters associated with a Thai folk tale .

= = Discovery = =

Like the majority of known extrasolar planets , 47 Ursae Majoris c was discovered by detecting changes in its star 's radial velocity caused by the planet 's gravity . This was done by measuring the Doppler shift of the star 's spectrum .

At the time of discovery in 2001 , 47 Ursae Majoris was already known to host one extrasolar planet , designated 47 Ursae Majoris b . Further measurements of the radial velocity revealed another periodicity in the data unaccounted for by the first planet . This periodicity could be explained by assuming that a second planet , designated 47 Ursae Majoris c , existed in the system with an orbital period close to 7 years . Observations of the photosphere of 47 Ursae Majoris suggested that the periodicity could not be explained by stellar activity , making the planet interpretation more likely . The planet was announced in 2002 .

Further measurements of 47 Ursae Majoris failed to detect the planet , calling its existence into question . Furthermore , it was noted that the data used to determine its existence left the planet 's parameters " almost unconstrained " . A more recent study with datasets spanning over 6 @,@ 900 days came to the conclusion that while the existence of a second planet in the system is likely , periods around 2 @,@ 500 days have high false @-@ alarm probabilities , and gave a best @-@ fit period of 7 @,@ 586 days (almost 21 years) .

In 2010 , a study was published that determined that there are three giant planets orbiting 47 Ursae Majoris , including one at 2 @,@ 391 days that corresponds well with the original claims for 47 Ursae Majoris c .

= = Physical characteristics = =

Since 47 Ursae Majoris c was detected indirectly , properties such as its radius , composition , and temperature are unknown . Based on its high mass , the planet is likely to be a gas giant with no solid surface .