



Tuesday, 23 December 2014

Radiocarbon Dating Laboratory

Report on Radiocarbon Age Determination for Wk- 40765

(AMS measurement)

Submitter	C Higham
Submitter's Code	Spirit Cave, L1, A-10, SC-00001
Site & Location	Spirit Cave, Pang Mapha District, Mae Hong Son Province, Thailand
Sample Material	cladochimamon spp
Physical Pretreatment	Surfaces cleaned. Washed in an ultrasonic bath. Naturally Calcite.
Chemical Pretreatment	Sample acid washed using 0.1N HCl, rinsed and dried.

$\delta^{13}\text{C}$	-11.7 \pm	0.2 ‰
D^{14}C	-706.2 \pm	1.1 ‰
$\text{F}^{14}\text{C}\%$	29.4 \pm	0.1 %

Result 9839 \pm 30 BP

Comments

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- Result is *Conventional Age or Percent Modern Carbon (pMC)* following Stuiver and Polach, 1977, Radiocarbon 19, 355-363. This is based on the Libby half-life of 5568 yr with correction for isotopic fractionation applied. This age is normally quoted in publications and must include the appropriate error term and Wk number.
 - Quoted errors are 1 standard deviation due to counting statistics multiplied by an experimentally determined Laboratory Error Multiplier.
 - The isotopic fractionation, $\delta^{13}\text{C}$, is expressed as ‰ wrt PDB.
 - $\text{F}^{14}\text{C}\%$ is also known as *Percent Modern Carbon (pMC)*.



Radiocarbon Dating Laboratory

Report on Radiocarbon Age Determination for Wk- 40766

(AMS measurement)

Submitter	C Higham
Submitter's Code	Spirit Cave, L2, SC-00006
Site & Location	Spirit Cave, Pang Mapha District, Mae Hong Son Province, Thailand
Sample Material	cladochimamon spp
Physical Pretreatment	Surfaces cleaned. Washed in an ultrasonic bath. Naturally Calcite.
Chemical Pretreatment	Sample acid washed using 0.1N HCl, rinsed and dried.

$\delta^{13}\text{C}$	-13.9 \pm	0.2 ‰
D^{14}C	-678.1 \pm	1.0 ‰
$\text{F}^{14}\text{C}\%$	32.2 \pm	0.1 %

Result 9106 \pm 25 BP

Comments

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- Result is *Conventional Age or Percent Modern Carbon (pMC)* following Stuiver and Polach, 1977, Radiocarbon 19, 355-363. This is based on the Libby half-life of 5568 yr with correction for isotopic fractionation applied. This age is normally quoted in publications and must include the appropriate error term and Wk number.
 - Quoted errors are 1 standard deviation due to counting statistics multiplied by an experimentally determined Laboratory Error Multiplier.
 - The isotopic fractionation, $\delta^{13}\text{C}$, is expressed as ‰ wrt PDB.
 - $\text{F}^{14}\text{C}\%$ is also known as *Percent Modern Carbon (pMC)*.



Tuesday, 23 December 2014

Radiocarbon Dating Laboratory

Report on Radiocarbon Age Determination for Wk- 40767

(AMS measurement)

Submitter	C Higham
Submitter's Code	Spirit Cave, L4, SC-00007
Site & Location	Spirit Cave, Pang Mapha District, Mae Hong Son Province, Thailand
Sample Material	cladochimamon spp
Physical Pretreatment	Surfaces cleaned. Washed in an ultrasonic bath. Naturally Calcite.
Chemical Pretreatment	Sample acid washed using 0.1N HCl, rinsed and dried.

$\delta^{13}\text{C}$	-13.4 \pm	0.2 ‰
D^{14}C	-655.1 \pm	1.1 ‰
$\text{F}^{14}\text{C}\%$	34.5 \pm	0.1 %

Result 8551 \pm 25 BP

Comments

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- Result is *Conventional Age or Percent Modern Carbon (pMC)* following Stuiver and Polach, 1977, Radiocarbon 19, 355-363. This is based on the Libby half-life of 5568 yr with correction for isotopic fractionation applied. This age is normally quoted in publications and must include the appropriate error term and Wk number.
 - Quoted errors are 1 standard deviation due to counting statistics multiplied by an experimentally determined Laboratory Error Multiplier.
 - The isotopic fractionation, $\delta^{13}\text{C}$, is expressed as ‰ wrt PDB.
 - $\text{F}^{14}\text{C}\%$ is also known as *Percent Modern Carbon (pMC)*.



Tuesday, 23 December 2014

Radiocarbon Dating Laboratory

Report on Radiocarbon Age Determination for Wk- 40768

(AMS measurement)

Submitter	C Higham
Submitter's Code	Spirit Cave, L2a, SC-00091
Site & Location	Spirit Cave, Pang Mapha District, Mae Hong Son Province, Thailand
Sample Material	cladochimamon spp
Physical Pretreatment	Surfaces cleaned. Washed in an ultrasonic bath. Naturally Calcite.
Chemical Pretreatment	Sample acid washed using 0.1N HCl, rinsed and dried.

D ¹⁴ C	-672.4 ±	1.0 ‰
F ¹⁴ C%	32.8 ±	0.1 %
Result	8965 ± 25 BP	

Comments

Please note: The Carbon-13 stable isotope value ($\delta^{13}\text{C}$) was measured on prepared graphite using the AMS spectrometer. The radiocarbon date has therefore been corrected for isotopic fractionation. However the AMS-measured $\delta^{13}\text{C}$ value can differ from the $\delta^{13}\text{C}$ of the original material and it is therefore not shown.

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- Result is *Conventional Age or Percent Modern Carbon (pMC)* following Stuiver and Polach, 1977, Radiocarbon 19, 355-363. This is based on the Libby half-life of 5568 yr with correction for isotopic fractionation applied. This age is normally quoted in publications and must include the appropriate error term and Wk number.
 - Quoted errors are 1 standard deviation due to counting statistics multiplied by an experimentally determined Laboratory Error Multiplier.
 - The isotopic fractionation, $\delta^{13}\text{C}$, is expressed as ‰ wrt PDB.
 - F¹⁴C% is also known as *Percent Modern Carbon (pMC)*.