

THE AGE OF A SEPARATE AUSTRALIAN TEKTITE EVENT. R. J. Bottomley¹ and C. Koeberl²,
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The widespread Australasian tektite strewnfield is the largest on earth, which suggests the possibility that it may represent multiple impact events. Although there are some variations between the geochemistry of various tektite sub-groups in this strewnfield, a small group of Australian tektites known as the high soda tektites have several chemical anomalies, particularly an elevated sodium/potassium ratio.^{1,2} Earlier studies using fission track and conventional K-Ar techniques had indicated a range of ages from 2.5 to 11 Ma.^{3,4} This raises the possibility that the high Na/K tektites were not formed in the same event as the other australites.

In an attempt to refine their age of formation, we irradiated samples of these tektites and used the ⁴⁰Ar-³⁹Ar method of dating to determine their age.

Step-heating runs made on these samples indicate a probable age of formation of 10.2 ± 0.5 Ma. This is in sharp contrast with the generally quoted age of 0.7 Ma for the main australite strewnfield. This data further confirms that the creation of the high soda tektite samples represents a separate impact event from that which created the main Australasian strewnfield.

References:

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