



Family Synthemistidae

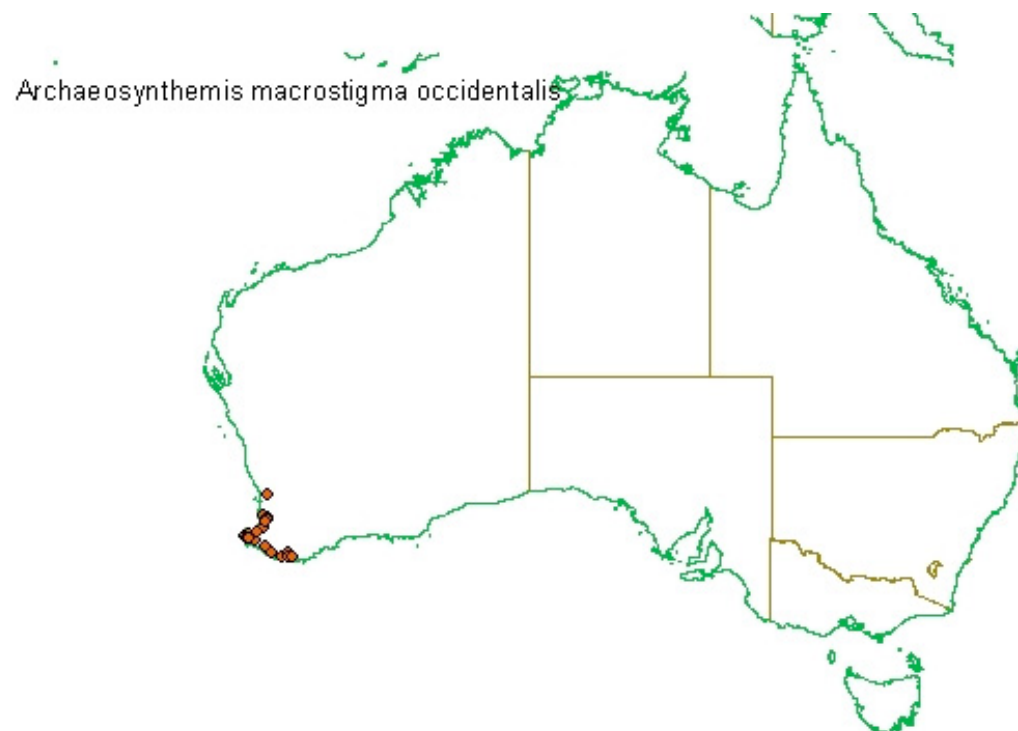
Habitat Profile for *Archaeosynthemis occidentalis* (Tillyard)

Archaeosynthemis occidentalis (Tillyard) is an endemic Western Australian species which inhabits streams boggy seepages and swamps (Sutcliffe 2003; Theischinger 2001). Larvae were found in channel samples from permanent streams and were collected mainly from the edge and slower flowing pools.

Archaeosynthemis occidentalis was collected from 36 sites in south west Western Australia ranging from Perth to Albany. Streams were generally in the lowlands less than 300m altitude (Chart a), close to the stream source (Chart b) and the substrate of the streams was dominated by sand and silt and had over 30% detrital cover (Chart c). The streams were small generally less than 5m wide (Chart d). The streams were generally acidic, with low turbidity and alkalinity but the conductivity was highly variable ranging from 174 to 7560 μ S/cm.

The following generalities can be made about the other parameters listed in the Table: relatively low temperature (9.1-22.1°C), pH was in range of 5-8 and low turbidity (<20 NTU).

Mean, median and range for selected physical and chemical parameters and habitat categories are given in the Table.

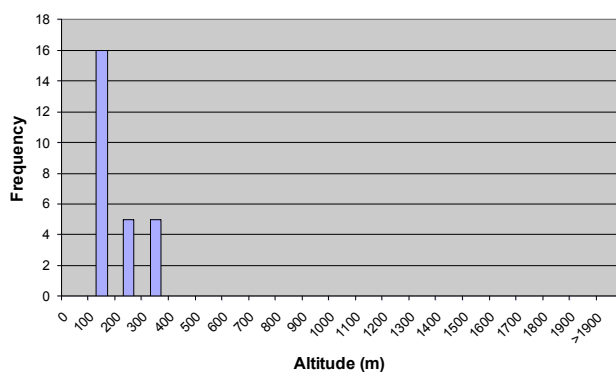


Distribution of *Archaeosynthemis occidentalis* in Australia

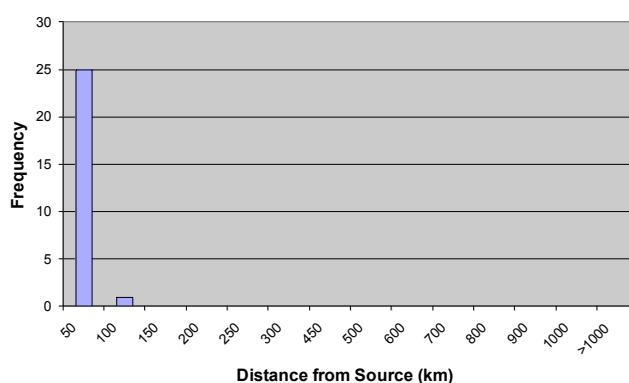


Charts for *Archaeosynthemis occidentalis*

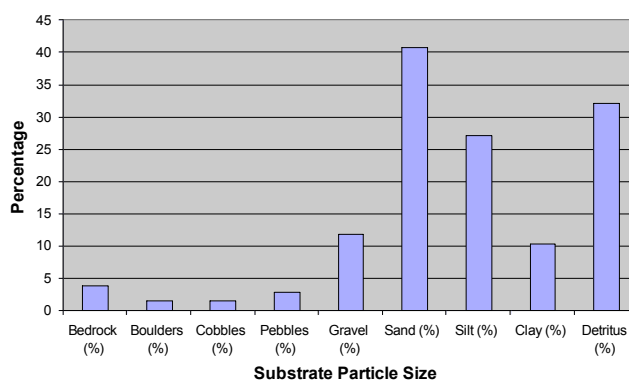
a) Altitude



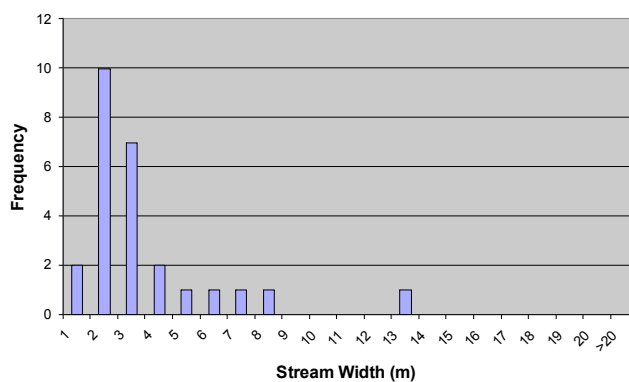
b) Distance from source



c) Substrate Particle Size

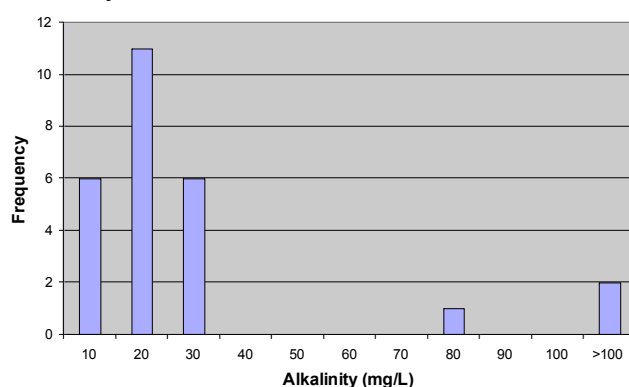


d) Stream Width





e) Alkalinity



f) Conductivity

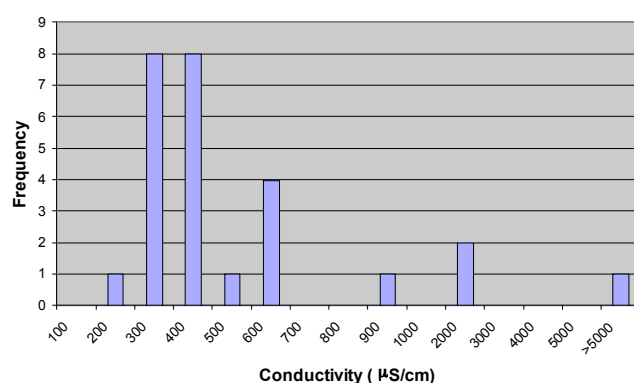


Table. Mean, median and range for selected physical and chemical parameters and habitat categories for *Archaeosynthemis occidentalis* (N= number of records).

	Mean	Median	Range	N
Altitude (m)	114	75	28.6-240	27
Distance from source (km)	12.5	7.0	1.2-54	27
Width (m)	3.3	2.5	0.77-13	27
Depth (m)				
Water Temperature	15.6	14.9	9.1-22.1	27
Conductivity (µS/cm)	688	358	39-7560	27
pH	6.6	6.6	5-8	27
Turbidity (NTU)	3.9	2.1	1-20	27
Oxidised Nitrogen (mg/L)	0.126	0.030	0.010-0.850	26
Total N (mg/L)	0.581	0.445	0.09-1.8	26
Total P (mg/L)	0.024	0.001	0.005-0.240	26
Alkalinity (mg/L)	30.1	15	5-240	25



References

Sutcliffe K (2003) The conservation status of aquatic insects in south-western Australia. Doctor of Philosophy thesis, Murdoch University.

Theischinger G (2001) 'Preliminary keys for the identification of larvae of the Australian Synthemistidae, Gomphomacromiidae, Pseudocorduliidae, Macromiidae and Austrocorduliidae.' (Cooperative Research Centre for Freshwater Ecology: Albury)