

CHAPTER 2

STUDY AREA

The study was carried out at the Ulu Gombak Forest Reserve in Selangor, Peninsular Malaysia (03° 22' N, 101° 47' E) (Figure 2.1). The Ulu Gombak Forest Reserve is a secondary forest located 800-2000 feet above sea level. The forest reserve receives an annual rainfall of 2500 mm. The average temperature recorded here is between 24°C and 29°C while daily humidity level is between 84% and 97%. Higher humidity level is resulted of frequent rainfall that occurs here (Marshal, 1970; Medway, 1972).

Three different river sites have been identified as mayfly nymphs' collection area: Sungai Gombak (Sg. Gombak), Anak Sungai Gombak (Anak Sg. Gombak) and Sungai Batu 19 (Sg Batu 19). Sg. Gombak is situated in the vicinity of the University of Malaya Field Studies Centre of the Ulu Gombak. Sg. Batu 19 serves as an upstream station while Sg. Gombak flows downstream at the vicinity of the University of Malaya Field Studies Centre of the Ulu Gombak. Sg. Gombak drains a narrow elongated watershed that runs slightly west of south from the steep-sloped main range mountains down through more gently sloping foothills to the alluvial plain in the vicinity of north Kuala Lumpur (Bishop, 1973).

The selections of these sampling sites were based on this study's monitoring objectives, site accessibility and surrounding environmental conditions. The environmental descriptions of each sampling site are summarized in Table 2.1.



Figure 2.1. Map of Ulu Gombak Forest Reserve in Selangor, indicated by the red marker (A) on the map. (Source: Google Imagery ©20/03/2008).

Table 2.1. Features of the sampling stations in Ulu Gombak Forest Reserve.

Site	Location	Stream conditions
Sg. Batu 19	Upstream. Shady area. A small waterfall merged with the streams.	Shallow and fast flowing water from a small waterfall. Large-sized stones intercepted fast flowing water, creating small cascades. Stones and leaves intercepted water flow, creating small riffles.
Anak Sg. Gombak	Orang asli settlement (Kampung Orang asli Ulu Kemensah). Narrow stream. Sunny area.	Slippery stones submerged in shallow and slow flowing water. Stones and dried leaves intercepted water flow, creating small riffle. Silt run-off along stream.
Sg. Gombak	Vicinity of the University of Malaya Field Studies Centre of the Ulu Gombak. Downstream. Shady area.	Moderately fast flowing water Very fast flowing water after heavy downpour. Medium-sized stones along stream. Sandy streambed.



Figure 2.2. Sampling station at Sg. Batu 19 (shallow flowing water)



Figure 2.3. Sampling station at Sg. Batu 19 (stones and leaves intercepting water flow, creating small riffle)



Figure 2.4. Sampling station at Sg. Batu 19 (large-sized stones intercepted fast flowing water, creating small cascade)



Figure 2.5. Sampling station at Sg. Batu 19 (fast flowing water from a small waterfall)



Figure 2.6. Sampling station at Anak Sg. Gombak (stones and dried leaves intercepted water flow, creating small riffle)



Figure 2.7. Sampling station at Anak Sg. Gombak (slippery stones submerged in shallow and slow flowing water)



Figure 2.8. Sampling station at Sg. Gombak (medium-sized stones along stream)



Figure 2.9. Sampling station at Sg. Gombak (moderately fast flowing water)