

Station 5. Three miles up the Selwyn River from the Ellesmere Bridge, "Williams's Ford". Bottom stony, stones regular in shape and smooth, mainly $\frac{1}{2}$ in to 6 in in diameter, lying loosely on the bottom and coated with dark brown algae. Springs common, supplementing the main stream; but area known to dry up in previous years.

Station 6. One and a-half miles below the Ellesmere Bridge, mapped as "Chamberlain's Ford". (Another ford further upstream is known locally by the same name.) Bottom stony, but stones almost invariably rounded and smooth, 2-5 in in diameter, very loosely packed, and with distomaceous coverings.

Station 7. Two and three-quarter miles below the Ellesmere Bridge, "Coe's Ford". Stones as for 6, but river now consisting of deep pools alternating with rapids. (A mechanical grab has been used to deepen the bed from the Selwyn Huts to 200 yards below 6, in an attempt to keep the Selwyn within its banks during floods.)

Station 8. Four and a-half miles below the Ellesmere Bridge, at the Upper Selwyn Huts. Bottom silted with occasional stretches of silted stones. No bottom samples were taken as the water depth was 4ft.

The number of nymphs present at each station were estimated by overturning loose stones in the mouth of a triangular net measuring 16 x 12 x 12 inches at the mouth and 16 in in length. The diameter of the openings in the mesh was 2 mm. The number of nymphs caught in 15 min constant overturning of stones was recorded and the procedure repeated three times and averaged. Bottom and surface current speeds were measured with a Cole-type Pitot tube, and oxygen determinations were made with a B.D.H. Lovibond Nessleriser. Samples were taken in rapids at midstream at depths of 1ft 6 in to 3ft with the exception of Station 8 where, owing to the great depth of water the samples were taken 6 in down alongside the bank. The bottom at this station was muddy, and it was highly improbable that *Coloburiscus* nymphs were present. Results are given in Table II.

TABLE II.

Data on Distribution of *Coloburiscus* Nymphs and Physical Conditions Along the Selwyn River.

| Station | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|------------------------------|------------------------------------|--------------------|-------------------------|--------------------|--------------------|----------------------------|-------------------------|-------------------|
| Date | 12.IV.52 | 12.IV | 12.IV | 13.IV | 14.IV | 14.IV | 14.IV | 14.IV |
| Time | 11 a.m. | 2 p.m. | 6 p.m. | 10 a.m. | 10 a.m. | 1 p.m. | 3 p.m. | 5 p.m. |
| Water Temp. ° C. | 13.0 | 16.0 | 14.5 | 15.5 | 14.0 | 15.0 | 15.0 | 15.0 |
| Current f.p.s. | 0-2.4 | 0-2.8 | 0-3.2 | 0-3.9 | 0-3.0 | 0-2.6 | 0-2.8 | 0-3.5 |
| O ₂ mg. litre | 8-10 | 8-10 | 8-10 | 8-10 | 8-10 | 8-10 | 8-10 | 8-10 |
| Number caught to time taken | 1. 92:15 2. 105:15 3. 101:15 | 0:30 0:0 0:0 | 35:15 32:15 29:15 | 2:15 0:0 0:0 | 0:30 0:0 0:0 | 163:15 142:15 150:15 | 18:15 13:15 14:15 | 0:0 0:0 0:0 |
| Av. collecting rate per min. | 7 | 0 | 2 | 1 | 1 | 10 | 1 | — |

Some stations resembled those already sampled in the Cass Basin. Stations 2 and 4 resembled the Cass River in possessing a hard bed in which the majority of stones and boulders were embedded (Plate 1, fig. 1). Loose stones were rare and there was much evidence of flood scouring and silt deposition. *Coloburiscus* was virtually absent. Stations 1, 6 (and to a lesser extent 3, 7) resembled Grasmere Stream in possessing dense populations of *Coloburiscus* nymphs. These areas also contained a high proportion of loosely-packed stones; and there was little evidence of flood scouring and silt deposition. The apparent absence of *Colo-*