

back's house the upper part of the Decker Ferry formation is shown and the following species were obtained.

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| 1 Favosites <i>sp.</i>                           | 7 Spirifer <i>sp.</i>                   |
| 2 Atrypa reticularis <i>Linné</i>                | 8 Stropheodonta bipartita <i>Hall</i>   |
| 3 Camarotoechia litchfieldensis <i>Schuchert</i> | 9 Pterinea <i>cf. emacerata Con.</i>    |
| 4 Chonetes jerseyensis <i>Weller</i>             | 10 Dalmanites <i>sp.</i>                |
| 5 Leptaena rhomboidalis <i>Wilck.</i>            | 11 Proetus pachydermatus <i>Barrett</i> |
| 6 Rhynchonella ? lamellata <i>Hall</i>           | 12 Beyrichia <i>sp.</i>                 |

The Cobleskill limestone is obscurely exposed in the field beyond, where also were found the thin limestone bands crowded with *Whitfieldella sulcata* Van. and *Spirifer vanuxemi* Hall, and which mark the upper limit of the Cobleskill.

Passing from this station northeastward into Sullivan county no outcrops of the Cobleskill have been observed. Throughout Sullivan county there is but little opportunity for the examination of the Siluric and Helderbergian rocks. The cliffs so prominent north from Port Jervis between the Neversink river and Shawangunk mountain become low in Sullivan county and almost entirely disappear. Outcrops in the valley are but rarely seen. There is an old limekiln on the land of John Olcott a short distance north from Wurtsboro located near the outcrop of the Esopus shales. There is however no outcrop of limestone in the vicinity, the rock used for burning lime being gathered from the fields.

Just over the county line north from Spring Glen station<sup>1</sup> in Ulster county, there is an old quarry near the east bank of the now abandoned Delaware and Hudson canal. The rock as here exposed is a thin bedded limestone with some layers of shale and appears to belong to the lower portion of the Manlius.

Two miles southwest from Ellenville there is a small but conspicuous outcrop of Helderbergian limestones which rise above the general level of the valley. The outcrop is near Sanborn creek on the land of L. F. Hall. Lime is burnt at this place but only in small quantities. A similar outcrop is seen at John Hornbeek's quarry a short distance south of the Eastern Reformatory

<sup>1</sup>This outcrop and the two following are noted by Mather. Geol. N. Y. 1st Dist. 1843. p. 322-33.