east it increases more rapidly and attains a thickness of 350 feet in
the Tully valley in Onondaga county.

The extreme western exposure of the Ludlowville shale in New
York is at the base of the south shore cliffs, which extend for 3 1/4
miles southwest from the mouth of Eighteen Mile creek, 5 1/4 miles
beyond the south line of this quadrangle. The lower beds in the
cliffs at Ithaca and nearly all of those exposed in Wanakah cliff
belong to the Ludlowville shale.

On this quadrangle good exposures may be seen along Avery's
creek where the limestones at the base of the formation produce a
small cascade just above the lake shore highway bridge; along
Rush creek, near Wosgwah station of the Hamburg Electric
Railroad; along the south branch of Smoke's creek near Windom;
along its east branch, 1 mile southwest from Reserve and along
Cazenovia creek, 1 mile east from Reserve.

There are further large exposures of these beds at several locali-
ties east of this quadrangle, some of the best being in Ontario county
on Shaffer's creek and in the lower part of the ravines on both
sides of Canandaigua lake north of Menteth point; on the shore of
Cayuga lake between Aurora and King's Ferry from 10 to 16
miles north of Ludlowville; and in Onondaga county, in the Bear
mountain and Fellows falls ravines; in the Tully valley and at
Pratt's falls in Pompey.

The Ludlowville shales abound in fossils most everywhere.
Dr Grabau's list of those obtained from this horizon in the vicinity
of Eighteen Mile creek names 120 species, embracing 6 crustaceans,
4 cephalopods, 4 pteropods, 29 lamellibranchs, 50 brachiopods,
1 crinoid, 8 bryozoaons and 7 anthozoaons.

Some of the more prominent or abundant forms are:

Phacops rana (Green) Orthotheles arctostriatus Hall
Cryphus boothi Green Chonetes lepidus Hall
Nautilus magister Hall Chonetes scutulus Hall
Orthoceras nuntium Hall Spirifer mucronatus (Conrad)
Tentaculites gracilistratus Hall Sp. granulosus (Conrad)
Styliolina fissurella (Hall) Sp. subumbonatus Hall
Platyceras attenuatum Hall Sp. fimbriatus (Conrad)
Diaphorostoma lineatum (Hall) Ambocella umbonata (Conrad)
Pterinea flabellum (Conrad) Athyris spiriferoides (Eaton)
Actinopteria decussata Hall Atrypa aspera (Dalman)
Modiomorpha subalata (Conrad) Camaroteochia dotis Hall
Paleonclo temnistrata Hall Liobrychus multicoastum Hall
Cypricardes indenta Conrad Tropidoleptus carinatus (Conrad)
Strophoedonta demissa (Conrad) Stictopora incisurata Hall
Leptostrophia periplana (Conrad) Pleurodictyum stylopora (Eaton)
Rhipidomella vanuxemi Hr.: Streptelasma rectum Hall