

Two independent and slight departures from the unmodified *Dalmanitina* line showing obsolescence of the anterior furrows are here provisionally retained within it. They embrace in the Ordovician forms like *D. phillipsi* Barrande and in the Silurian the species *D. logani* Hall.

Other slight departures from the primitive stock, exhibiting a considerable broadening anteriorly of the glabella, are retained under *Dalmanitina*. They include *Phacops (Acaste) alifrons* Salter and *P. jamesii* Portlock, both from the Ordovician. The Ordovician *Phacops brongniarti* Portlock is probably a more considerable modification of the normal *Dalmanitina*, but without actual study of specimens of this species, it would not be wise to determine its affinities in any detail. It is apparently the nearest approach to the Phacopinæ in the Ordovician in one character at least, reference to which has been made on a previous page.

In a more extended revision of the Phacopidæ it may be found wise to erect subgenera for these slightly modified *Dalmanitina*-like forms. A new subfamily might also be erected to include *Phacopina* Clarke, *Dalmanitina* Reed and the new subgenera. Such a subfamily would then embrace the entire primitive or little modified stock of the Phacopidæ.

Genotype: *Dalmania socialis* Barrande.

*Dalmanitina logani* var. *conservatrix*, n. var.  
(*conservatrix*, preserver).

This variety only differs from *Dalmanitina logani* (Hall) by having all the glabella furrows well impressed but all gradations exist between them. Compared with *Dalmanitina downingiae* (Murchison) the frontal lobe is a little higher, the third side lobes slightly smaller, and the glabella surface variably tuberculose. The pygidium is mucronate and with a proportionately more slender and tapering axis. The cephalon is a little more than twice as wide as high. The maximum width is about 22 m.m. The average pygidium is 13 m.m. wide and 8 m.m. long.

*Horizon and Locality.* Rare in the Moydart and Stonehouse formations, Arisaig, N.S.

*Collections.* Victoria Memorial Museum, Yale University collections.

#### Genus *Phacopina* Clarke.

1890. *Phacops* Clarke, Archiv. do Mus. Nac. do Rio de Janeiro, 9, pp. 15-16, est. 1, figs. 1-3.  
1905. *Phacopidella* Reed (partim), Geol. Mag., (5), 2, p. 226, footnote 1.  
1913. *Phacopina* Clarke, Mon. Serv. Geol. E. Min. do Brasil, vol. 1, p. 151.

*Dalmanitids* in which all but the third pair of lateral glabella lobes are fused together. They lack

the broad expanding glabella with greatly reduced third pair of side lobes of the Phacopinæ. They also differ from the coeval Phacopinids by having a much more depressed and non-tuberculose glabella. It probably represents an early Devonian or late Silurian modification of the *Dalmanitina* stock. The genus is, therefore, placed in the subfamily *Dalmanitinae*.

Genotype: *Phacops braziliensis* Clarke.

#### Genus *Dalmanites* Barrande.

1852. *Dalmanites* Barrande (partim), Syst. Sil. du Centre Boheme, 1, p. 934.  
1904. *Dalmanites* Reed, Geol. Mag., (5), 2, p. 224.  
1913. *Dalmanites* Raymond, Zittel - Eastman Textb. Pal., p. 726.

Genotype: *Trilobus caudatus* Brunnich.

#### Subfamily Phacopinæ Reed.

##### Genus *Phacopidella* Reed s. str.

1852. *Phacops* Barrande (partim.), Syst. Sil. du Centre Boheme, 1, pp. 525-528.  
1905. *Phacopidella* Reed (partim), Geol. Mag., (5), 2, p. 173.  
1911. *Glocheria* Wedekind, Zeitschr. Deutsch. Geol. Ges., vol. 63, p. 323.

*Phacopidella* Reed was erected in 1905 as a subgenus of *Phacops* Emmrich and was given a very broad interpretation. As already noted it was made to include the generalized Silurian forms which above have been placed under *Dalmanitina* Reed. Its author also included in it the Silurian group of *P. stokesii*, for he restricts *Phacops* Emmrich to the Devonian assigning all intermediate Silurian forms to *Phacopidella* and in 1906 refers *Trilobites elegans* Sars and Boeck to subgenus (of *Phacops*) *Phacopidella*. In addition he placed it in the Devonian group of *P. braziliensis* Clarke, which above has been shown not to be Phacopinid and for which Clarke created his genus *Phacopina* Clarke. The last and fourth group was that of *P. glocheri* Barrande. Since the genotype chosen by Reed (not *P. downingiae* as supposed by J. M. Clarke, 1913, p. 150) lies within this group, *Phacopidella* is now restricted to it. This confines it in time to the later Silurian and geographically to the Tethys (Bohemia) realm. In 1911 Wedekind proposed the generic name *Glocheria* for this group. *Phacopidella* having priority, Wedekind's name of course cannot stand.

*Phacops glocheri* Barrande, *P. trapeziceps* Barrande, and *P. bulliceps* Barrande are referred to the genus as restricted. The glabella of the last named species is not so broad and is more rounded anter-