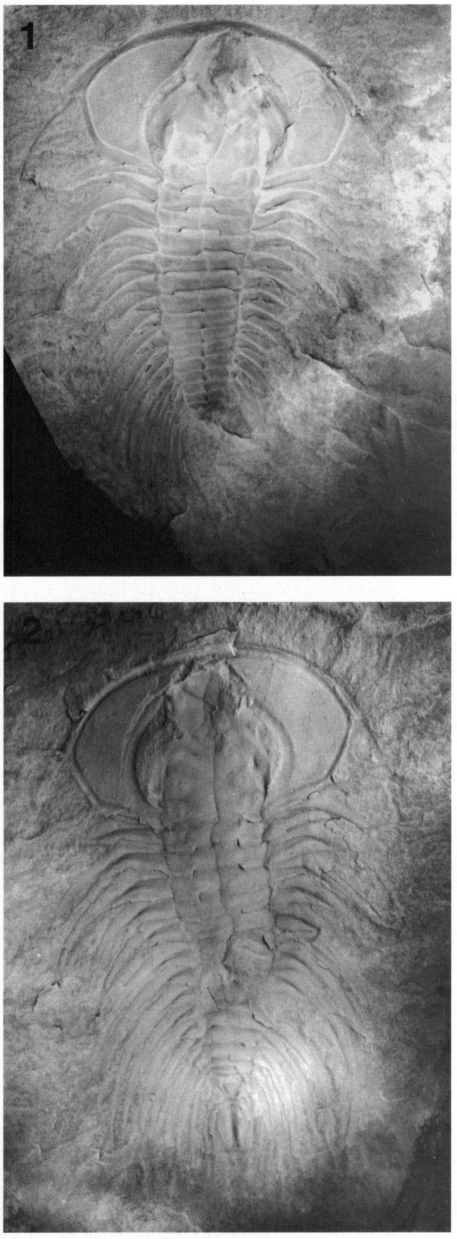

FIGURE 8—*Gabriellus* sp., McDame, British Columbia, Canada (*?Olenellus* zone, Early Cambrian, Rosella Formation). *1,* ROM 48518, ×1.5; *2,* ROM 43014, ×1.1.

Elliptocephala bicensis (Walcott, 1910) was originally treated as a species of *Callavia* (see also Rasetti [1948]); however, this species lacks the diagnostic characters and other characters typical of *Callavia,* while possessing many characters typical of the genus *Elliptocephala* Emmons, 1844. For this reason it is excluded from that genus. Detailed character evidence justifying this taxonomic decision is provided in Lieberman (1999), and is not repeated herein.

CALLAVIA BROEGGERI (Walcott, 1890)
Figure 2.1, 2.3

Olenellus (*Holmia*) *bröggeri* Walcott. BURR, 1900, p. 43; GRABAU, 1900, p. 662, pl. 33, fig. 1a–j.

Callavia bröggeri (Walcott). WALCOTT, 1910, p. 279, pl. 27, figs. 1–6 (see for more complete synonymy); RAW, 1936, p. 246; SHIMER AND SHROCK, 1944, pl. 253, fig. 17.

Callavia broeggeri (Walcott). HARRINGTON ET AL., 1959, p. O193, fig. 136; HUTCHINSON, 1962, p. 119; PALMER AND REPINA, 1993, p. 26, fig. 6.8; PALMER AND REPINA, 1997, p. 416, fig. 263.1a.

Callavia crosbyi WALCOTT, 1910, p. 284, pl. 28, figs. 1–8; RAW, 1936, p. 249; FRITZ, 1972, p. 22; PALMER AND REPINA, 1993, fig. 6.5; PALMER AND REPINA, 1997, p. 416, fig. 263.1b.

Nevadia? crosbyi (Walcott). FRITZ, 1992, p. 21.

Types.—Lectotype USNM 18331a, designated in Hutchinson (1962). Paralectotypes USNM 18331b, USNM 18331c, and USNM 18331e.

Other material examined.—MCZ 109352–109354, 109359; USNM 18331b–f; YPM 37254–37257, 154025.

Occurrence.—Early Cambrian, Branchian Series: various localities of the Brigus Formation (see Landing [1996]), Conception Bay, Newfoundland, Canada (see Walcott [1910]); and "the dark purplish Lower Cambrian slates of Pearl Street, North Weymouth" (Grabau, 1900, p. 664), Mill Cove, Norfolk Co., Massachusetts, treated as the Weymouth Formation according to Landing (1988) and the Brigus Formation according to Landing (1996).

Genus CALLAVALONIA new genus

Type species.—*Olenellus* (*Holmia*) *callavei* Lapworth, 1891.

Included species.—None (monotypic).

Diagnosis.—Frontal lobe of glabella contacts anterior border furrow; parafrontal band anterior of anterolateral margins of LA (L4) long (exsag.), length approximately one-half length (sag.) of L0; length (sag.) of L4 short, approximately equal to length L0; ocular lobes contact anterior and posterior parts of LA, of constant dorso-ventral elevation between axial furrows and mid-point of ocular lobes; distal margins of L3 convex outward; S3 gently convex, not conjoined medially; S1 not conjoined medially; axial part of L0 with large spine; mid-interocular ridge present; extraocular region opposite L1 narrow; genal spine angle opposite medial part of first thoracic segment; intergenal spine prominent; thoracic pleural spines on segments 5–8 developed as short projections; thoracic pleural furrows extend only two-thirds width of inner pleural region, relatively short (exsag.).

Etymology.—Named by combining "Callavia," for the taxon's resemblance to the genus *Callavia* with "Avalonia," for its presence in Avalonia.

Discussion.—Walcott (1910), Raw (1936), and Fritz (1972) have referred the type (and only) species of this genus to the genus *Callavia.* Although this species is very similar to *Callavia broeggeri* it differs from that species in the condition of a few characters which provide evidence that *Callavalonia callavei* is more closely related to a clade including the genera *Judomia, Neltneria, Bondonella,* and *Sdzuyomia* than it is to *C. broeggeri.* Characters supporting this include the following: S1 is not conjoined medially in *C. callavei,* it is in *C. broeggeri*; and the thoracic pleural furrows extend only about two-thirds of the width of the inner pleural region in *C. callavei* whereas they extend about four-fifths of the inner pleural region in *C. broeggeri.* As defined presently, *Callavia* is geographically restricted to what is now the North American part of Avalon whereas *Callavalonia* is geographically restricted to the English part of Avalon; however, as discussed by Landing (1996), paleogeographically these now disjunct regions were probably part of what was formerly a single conjoined region. The presence of distinct, albeit closely related trilobite taxa in each of these regions suggests that there was some biogeographic differentiation within Avalonia during the Early Cambrian.

CALLAVALONIA CALLAVEI (Lapworth, 1888)
Figure 9

Callavia callavei (Lapworth). WALCOTT, 1910, p. 282, pl. 42, figs. 1, 2; RAW, 1936, p. 250, pl. 16, 17, pl. 18, figs. 1–16, pl. 23, figs. 1–6 (see