LA and relatively wide interocular field with strongly curved ocular lobes and outward-directed thornlike pleural spines on the thorax (Ebbestad et al., 2003). They are differentiated by their derived condition of L3 which is wider (tr.) than L2, the relatively shallow axial furrow, and the anterolateral margins of L3 against the anterior portion of the ocular lobe. The pleural regions of the thorax are distinctly narrower than on *M. cometes*. The presence of the large axial spine on the thorax suggests comparison with the species of *Schmidtiellus* from Baltica (see *Discussion* under *M. parallela*).

A trilobite specimen (UCLA 26821) originally identified as *Fallotaspis* cf. *tazemmourtensis* Hupé (Nelson and Hupé, 1964) was reported from the Andrews Mountain Member of the Campito Formation near the Waucoba Spring section in California in Inyo County, California (Fig. 2) (Scott, 1960). This trilobite occurs in siltstone, and the back side of the rock is subrounded and weathered, suggesting that the specimen may have been transported some distance. The cephalon and thorax have a combined length of about 50 mm. The cephalon is angled downward about 20° with the anterior border jammed backward. Weathering and breakage combined to obliterate most cephalic features. The thorax, though, has at least 12 segments and is more useful. The axial width is one-fourth the total width. The first segment has a triangular inner pleural region with a pointed tip laterally directed. The second segment is wider (exsag.) than the first with a distinct pleural furrow and slightly thornlike pleural tip. The third is wider (exsag.) than the adjacent segment. The pleural spine is slightly thornlike and directed outward at about 35° from the axis. This thoracic configuration best agrees with *Montezumaspis cometes*, therefore this repeatedly cited (Alpert, 1976; Nelson, 1978) specimen is from the middle of the Montenegro Member, not the earliest trilobite in the region from the upper third of the Andrews Mountain Member (Hollingsworth, 2005).

Genus ESMERALDINA Resser and Howell, 1938

Esmeraldina RESSER AND HOWELL, 1938, p. 228–229; SHIMER AND SHROCK, 1944, p. 611; HUPÉ, 1953b, p. 133; BERGSTRÖM, 1973, p. 285–286; AHLBERG ET AL., 1986, p. 40; FRITZ, 1995, p. 712–714; PALMER AND REPINA, 1997, p. 414–415; LIEBERMAN, 1998, p. 65–66, 71; 1999, p. 85–86.

Type species.—*Holmia rowei* Walcott, 1910.

Included species.—*E. elliptica* n. sp., *E.* sp. 1 Fritz, 1995.

Emended diagnosis.—Holmiid with genal angle slightly to strongly advanced, genal spine wide at base. Intergenal spine well developed, located proximal to midlength of posterior margin. Anterior and lateral borders well defined. Glabella slightly expanded anteriorly, slightly narrowed at S1, reaching or nearly reaching anterior border, L1 to L3 similar in shape, glabellar furrows not joined at axis. L0 with spine or node. Posterior tips of ocular lobes align with L1 or anterior of L0. Extraocular area between one and two times width of interocular area. Exoskeleton smooth to strongly granular. Thorax narrow, with 17 segments, inner pleural region narrower (tr.) than axis, pleural spines short, thornlike, each segment with an axial spine. Pygidium small, expanded posteriorly.

Occurrence.—Middle Montezuman Stage, in the Montezuma Range, elsewhere in Esmeralda County, Nevada, and in White-Inyo Mountains, Inyo County, California. *Esmeraldina* occurs in the Caborca region, Mexico (McMenamin, 1987, see *Discussion* under *E. rowei*), in the Cassiar Mountains of British Columbia (Fritz, 1995) and in the Mackenzie Mountains of northwestern Canada (Fritz, 1973, 1978a).

Discussion.—Many specimens appear to have complete S3 furrows due to compaction, but full-relief specimens confirm that none of the furrows cross the axis (Fig. 9.1). Lieberman (1999)

places *Holmia*? sp. Fritz, 1973 in *Esmeraldina*, noting the major departure to be that S2 is less prominently incised. However, the broad-based occipital spine and the presence of ocular ridges that are continuous into the LA are significant departures from this genus as conceived herein.

ESMERALDINA ROWEI (Walcott, 1910)
Figures 9.1–9.9, 9.12, 10.1–10.3

Holmia rowei WALCOTT, 1910 (in part), p. 292–296, pl. 29, figs. 2–4, 7–11, non figs. 1, 5, 6; NELSON AND DURHAM, 1966, pl. 2, fig. 6, non fig. 7.

Gen. undet. *rowei* (WALCOTT, 1910). KIAER, 1917, p. 56, 57.

Esmeraldina rowei (WALCOTT, 1910). RESSER AND HOWELL, 1938, p. 229 (reassignment only); SHIMER AND SHROCK, 1944, p. 611; TASCH, 1952, p. 487, fig. 1f; FRITZ, 1995, p. 714, figs. 5.1, 6.1–6.12, 7.1–7.3, 10.10, 10.11; PALMER AND REPINA, 1997, p. 414–415, fig 262–1a, 1b; LIEBERMAN, 1998, p. 62 (coded), 71, fig. 3.4; 1999, p. 76–77 (coded), 86.

Esmeraldina? rowei (WALCOTT, 1910). FRITZ, 1973, p. 12.

Holmia sp. NELSON, 1976, p. 31, pl. 3, center, figs. 1, 2.

cf. *Fallotaspis* sp. McMENAMIN, 1987, p. 743, fig. 5.4.

Description.—Fritz (1995) has given a thorough description based on material from the type collection. Full-relief specimens preserved in limestone provide additional information here.

Interocular area level, with slight dorsal rise in the middle. Weak, sigmoidal intergenal ridge present. Weak S4 furrow ahead of ocular lobe (also see Fritz, 1995, fig. 10.6, 10.7). Glabellar furrows do not join axially (Fig. 9.1), although many compressed specimens give the appearance of a continuous S3 furrow. Glabella more elevated dorsally than ocular ridge. Maximum observed cephalic length about 35 mm.

Late meraspides (Fig. 9.6) differ from the holaspides in having the intergenal angle slightly more than one-fourth distance from axial furrow to genal angle, the base of the genal spine advanced to align with L0 or L1, the glabella evenly expanding, LA short, short preglabellar field questionably present, LA has distinct, shallow S4, the intergenal ridge is distinct, extending forward into interocular area as longitudinal ridge. Third thoracic segment slightly wider and pleural spines slightly thornlike, outward-directed resembling *Montezumaspis cometes*.

Material examined.—About 190 cephala, 19 with more or less complete thoraxes, two with pygidia, and two isolated pygidia. Forty-seven of these cephala are the narrow form averaging 21 mm in cephalic length (range 6–36 mm) and 13 are the wide form averaging 21.8 mm in cephalic length (range 7–45 mm) (all from field collections). Also a cephalon from Caborca, Mexico (IGM 3652).

Occurrence.—Montenegro Member of the Campito Formation in the northern Montezuma Range (sections MN-f 184, 188, 188–203, 194.5, 199, 248, and 284–294; MN-h 184, 194.5, 220–240, 245, 246.5, 249, and 266; MS 199, 255, 257, 262, 267, 278, and 288), in the Fish Lake Valley (section FLVS-N: 1), at Stewart's Mill (section RR 32), and at Slate Ridge (section GCM 370 and 425). Type material from Montenegro Member at Barrel Spring (Fig. 2.6), Walcott's 1f collection. Also from the Montenegro Member in the White-Inyo Mountains of California (Nelson and Durham, 1966; Nelson, 1976), and questionably from the Puerto Blanco Formation, Sonora, Mexico (McMenamin, 1987).

Discussion.—As discussed under *Montezumaspis parallela*, the lability of these early holmiid species combined with taphonomic variability makes specific assignment of individual cephala difficult. This problem is even more frustrating when dealing with *Esmeraldina*. Four end-members of cephalic variability (Fig. 10) are readily apparent in the available material. However, with the exception of the advanced-spine form, *E. elliptica* n. sp., they are treated herein as end-members of a highly labile species, *E. rowei*.