

FIGURE 2. (opposite page) *Hypacanthoplites immunitus* (Stoyanow) from the Big Hatchet Mountains. A–C, LACMIP-12194 in (A) lateral, (B) whorl section and (C) ventral views. D–G, LACMIP-12195 in (D–E) lateral, (F) ventral and (G) whorl section views. H, LACMIP-12197 in lateral view. All x 1.

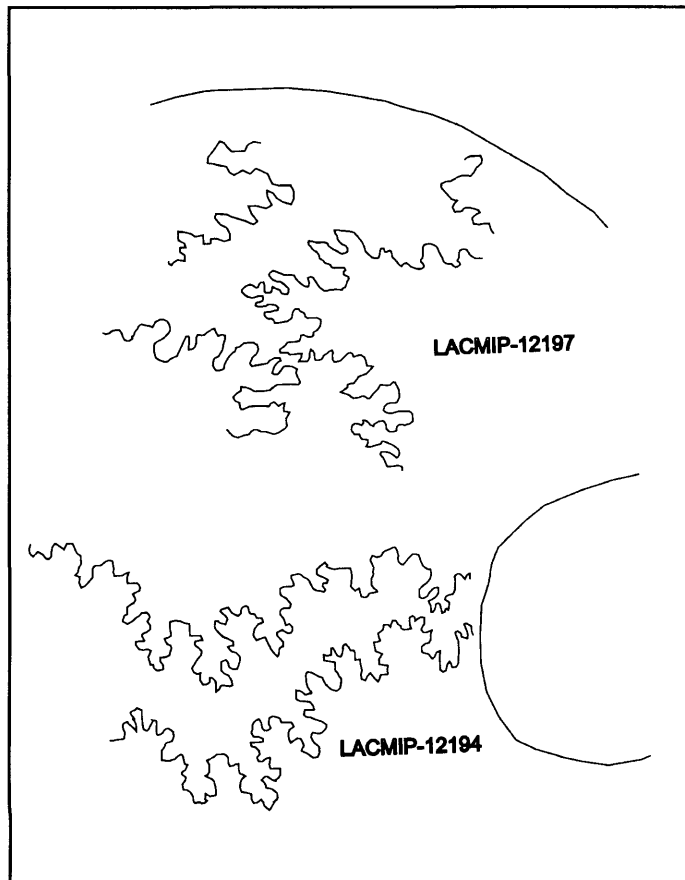


FIGURE 3. Suture tracings of selected *Hypacanthoplites immunitus* from the Big Hatchet Mountains. Scale in cm.

paratype (LACMIP-10755) specimens of *Immuniticeras immunitus* from the Lower Cretaceous of southeastern Arizona (Stoyanow, 1949). However, the following subtle differences from the Arizona specimens are noted in this small population from New Mexico: (1) the umbilicus is considerably narrower; (2) the umbilical edge

TABLE 1. Measurements of *Hypacanthoplites immunitus* specimens from the Big Hatchet Mountains.

	H	D	W	U
LACMIP-12194	100.7	48.6	32.7	22.6
LACMIP-12195	89.4	43.7	29.7	16.4
LACMIP-12196	80.3	40.9	29.6	19.0
LACMIP-12197	67.8	32.2	30.4	18.2

is more vertical, so the umbilicus is deeper; and (3) the umbilical bullate nodes are stronger.

It is likely that Stoyanow (as cited by Zeller, 1965) considered differences such as these worthy of separate species designation. However, we prefer a more conservative course and regard the differences as intraspecific variation. Furthermore, we follow Casey (1965), who well argued that Stoyanow's *Immunitoceras* is a junior subjective synonym of *Hypacanthoplites*.

BIOCHRONOLOGICAL SIGNIFICANCE

Hypacanthoplites is a characteristic late Aptian ammonoid known from Soviet Middle Asia, Western Europe and southwestern North America (e.g., Scott, 1940; Stoyanow, 1949; Casey, 1961, 1965; Young, 1974; Drushchits and Mikhaylova, 1981). Indeed, the genus has a temporal range from latest Aptian to earliest Albian according to Drushchits and Mikhaylova (1981).

In Texas, the genus also is primarily of late Aptian age, though it also ranges here into the earliest Albian (Young, 1974). In Arizona, *H. immunitus* occurs only in uppermost Aptian strata of what Stoyanow (1949) termed the Quajote Member of the Lowell Formation. These strata are securely correlated to the *Kazanskyella spathi* Ammonite Zone of latest Aptian age (Scott, 1987). Therefore, it is reasonable to correlate LACM locality 17136, which yielded the *Hypacanthoplites immunitus*, to the *K. spathi* Zone (also see Sandidge, 1985).

As Zeller (1965, pl. 5) indicated, LACM locality 17136 is near the top of the Carbonate Hill Member of the U-Bar Formation. This suggests that the youngest age of the Carbonate Hill Member in the Big Hatchet Mountains is latest Aptian.

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