

Figures 21–24. *Bellascintilla parmaleeana* new species. Holotype, LACM 2446, off Bahía Herradura, Puntarenas Province, Costa Rica. **21.** Interior of left valve, length 3.2 mm. **22.** Hinge of left valve, scale bar = 200 μ m. **23.** Interior of right valve, length 3.1 mm. **24.** Hinge of right valve, scale bar = 200 μ m.

sculpture (fine commarginal striae, with small undulating ribs along posterior dorsal margin and ventral margin internally crenulate rather than essentially smooth, featureless sculpture as in *Divariscintilla*); in form and number of the mid-valve ribs (two fused together by suture rather than a single small rib as in *Divariscintilla*); and in the hinge teeth (cuneiform rather than tuberculiform). Based on similarity of shell ultrastructure, and the formation of the mid-valve ridge, *Bellascintilla* also requires comparison to *Vasconiella*. These genera differ in left valve profile (triangular and ventrally notched rather than suborbicular and lacking a ventral notch as in *Vasconiella*), and in the morphology of their hinge teeth (cuneiform rather than tuberculiform). *Tryphomyax* and *Bellascintilla* do not share any of the features studied here other than the presence of a ventral notch.

The discovery of a new species that shares with the type species of *Divariscintilla* the presence of a notch in the ventral margin of both valves initially suggested that *Divariscintilla* includes species possessing this specific character. Comparison of shell ultrastructure characters, and the formation of the mid-valve ridge, reveal that *Bellascintilla* is more closely related to *Vasconiella* than to *Divariscintilla*, despite the initial similarity of shell form between *Bellascintilla* and *Divariscintilla*. The hinge teeth of *Bellascintilla* are cuneiform rather than

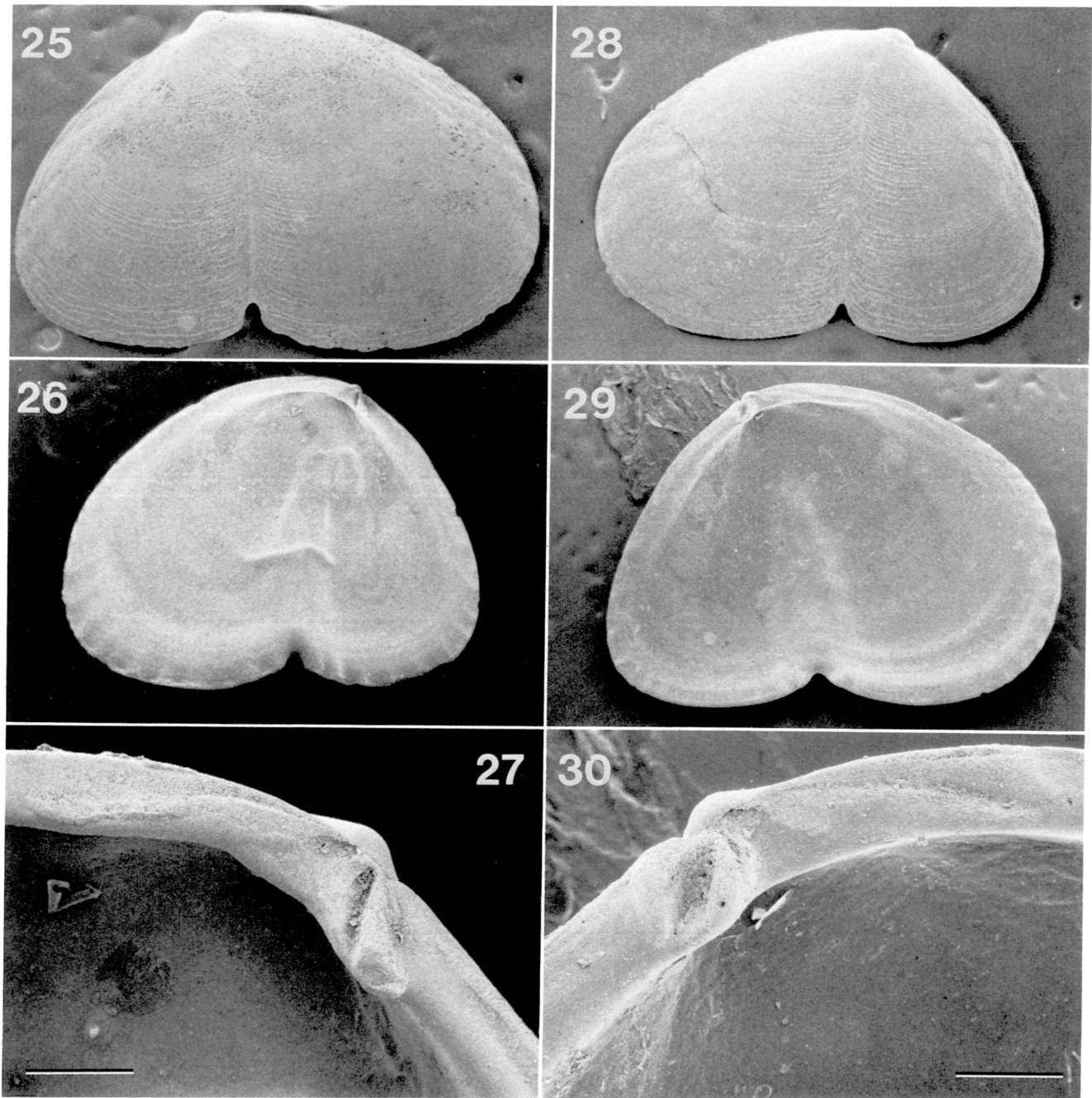
tuberculiform as in *Vasconiella*, *Divariscintilla* and *Tryphomyax* suggesting that possession of a notch in the ventral valve margin could be convergent, or that the cuneiform teeth of *Bellascintilla* evolved from tuberculiform teeth of its ancestor.

Bellascintilla parmaleeana new species
(figures 21–30, 34, 38)

Type locality: Off Bahía Herradura, Puntarenas Province, Costa Rica (9°38.8'N, 84°40.8'W), 37 m (R/V SEARCHER station 451; LACM station 72-54).

Type material: Holotype: LACM 2446; articulating pair of valves, left valve length 3.2 mm (figures 21–22), right valve length 3.1 mm (figures 23–24), height both valves 2.4 mm.

LACM 2447, five paratypes, Isla del Cano, Puntarenas Province, Costa Rica (8°44.0'N, 83°52.5'W), 12 m, sand, R/V SEARCHER (LACM station 72-64): specimen *a*, left valve, length 3.6 mm, height 2.6 mm (figure 25); specimen *b*, left valve, length 4.1 mm, height 3.4 mm (figures 26–27); specimen *c*, right valve, length 3.1 mm, height 2.4 mm (figures 28, 34); specimen *d*, right valve length 3.4 mm, height 2.5 mm; specimen *e*, right valve length 3.5 mm, height 2.9 mm.



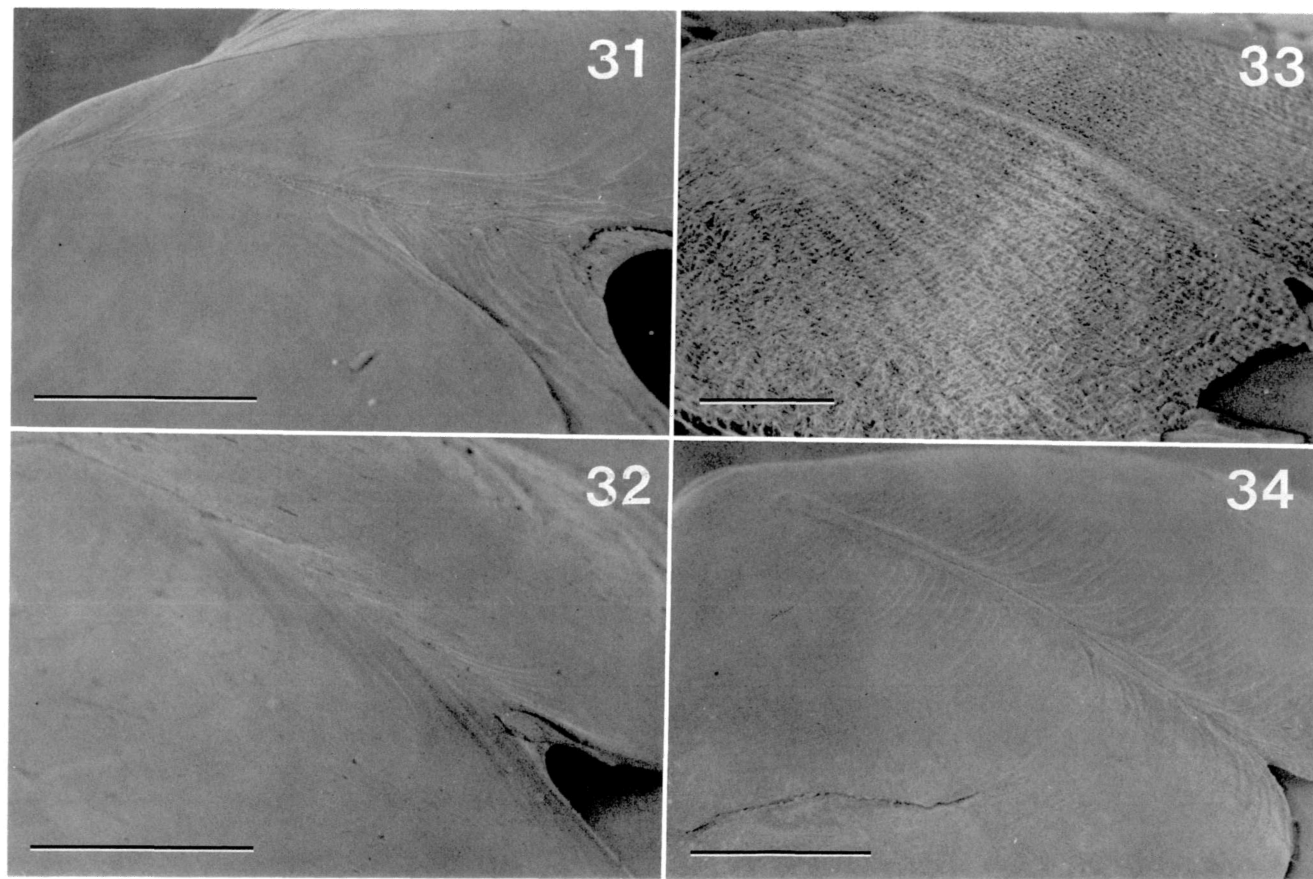
Figures 25–30. *Bellascintilla parmaleeana* new species. Paratypes, **25–28.** LACM 2447, Isla del Cano, Puntarenas Province, Costa Rica. **25.** Specimen *a*, exterior of left valve, length 3.6 mm. **26.** Specimen *b*, interior left valve, length 4.1 mm. **27.** Specimen *b*, hinge of left valve, scale bar = 200 μ m. **28.** Specimen *c*, exterior of right valve, length 3.1 mm. **29–30.** LACM 2448, off Rancho El Tule and Rancho Palmilla, Gulf of California, Baja California Sur, Mexico. **29.** Interior of right valve, length 4.5 mm. **30.** Hinge of right valve, scale bar = 200 μ m.

LACM 2448, paratype, between Rancho El Tule and Rancho Palmilla, Gulf of California, Baja California Sur, Mexico (22°58'N, 109°48'W), 18–37 m, sand (LACM station 66-17), right valve, length 4.5 mm, height 3.5 mm (figures 29–30).

LACM 2449, paratype, Playa Nancite, N side Golfo de Papaguayoy, Parque Nacional Santa Rosa, Guanacaste Province, Costa Rica (10°48'N, 85°42'W), beach drift

(LACM station 86-26), left valve, length 3.1 mm, height 2.5 mm.

LACM 2450, seven paratypes, Punta Chame, Golfo de Panama, Panama (08°41'N, 79°39'W), shallow dredging (LACM station 77-144), specimen *a*, right valve, length 4.2 mm, height 3.3 mm; specimen *b*, right valve, length 3.4 mm, height 2.7 mm; specimen *c*, right valve, length 3.5 mm, height 2.6 mm; specimen *d*, right valve, length



Figures 31–34. Comparison of mid-valve ribs. **31.** *Vasconiella jeffreysiana*, SMNH uncataloged, scale bar = 500 μm . **32.** *Divariscintilla maoria*, NMNZ M.21965, scale bar = 500 μm . **33.** *Tryphomyax lepidiformis*, LACM 77-144.4, scale bar = 500 μm . **34.** *Bellascintilla parmaleeana* new species, paratype, LACM 2447, specimen *c*, scale bar = 500 μm .

3.3 mm, height 2.7 mm; specimen *e*, right valve, length 2.9 mm, height 2.3 mm; specimen *f*, left valve, length 4.1 mm, height 3.1 mm; specimen *g*, left valve, length 3.5 mm, height 2.9 mm.

LACM 2451, paratype, N side Isla Salango, Manabi Province, Ecuador (01°35.5'S, 80°53.4'W), 6–12 m, under rocks and coral (LACM station 80-65), left valve, length 2.8 mm, height 2.1 mm.

USNM 859410, paratype from type locality, right valve, length 2.7 mm, height 2.0 mm.

Description: Shell inequivalve, inequilateral, very small (to 4.5 mm). Ligament an internal resilium. Left valve slightly longer than right valve. Left valve with two cuneiform cardinal teeth, posterior cardinal low, apex directly under beak, anterior cardinal with apex anterior to beak, widening as it descends, two cardinal teeth separated by narrowly radiating fossa. Resilifer separating cardinal teeth from posterior lateral teeth in both valves. Left valve with single downward curving lateral tooth. Right valve with two radiating cuneiform cardinal teeth, apices fused immediately below beak, widening as they descend. Teeth separated by deep fossa that widens as it descends. Two posterior lateral teeth in right valve posterior to resilium and cardinal teeth. Posterior and

anterior adductor muscle scars equal in size, posterior adductor muscle scar located higher in valves than anterior adductor scar. Ventral margin of shell in both valves internally crenulate. Mid-ventral notch pronounced giving rise to a raised triangular fold that ascends dorsally to umbo. This interior, raised triangular fold corresponds externally to two ribs joined together by suture that arises from mid-ventral notch on ventral margin of exterior shell valve and ascends towards umbo. The fold truncates abruptly within 0.3 to 0.5 mm of umbo. Exterior sculpture of both valves with fine commarginal striae. Small undulating ribs radiating along posterior dorsal margin of shell, less developed along anterior shell margin.

Shell ultrastructure (figure 38): Shell thickness of specimen examined 37 μm , consisting of four distinct layers. Exterior layer of very thin, blocky, simple prismatic structure, underlain by layer of fine grained homogeneous structure; median, thickest layer consisting of crossed lamellar structure, underlain by layer of fine grained homogeneous structure.

Distribution: Rancho El Tule and Rancho Palmilla, Gulf of California, Baja California Sur, Mexico (22°58'N,