



Explanation of Figures 18 to 27

Specimens coated with ammonium chloride. Figures 18–21. *Turritella hearni* Merriam, 1941. Figure 18. Holotype CAS 61938.01, CAS loc. 61938, right-lateral view, $\times 3$. Figure 19. Hypotype LACMIP 13317, LACMIP loc. 24251, abapertural view, $\times 4$. Figure 20. Hypotype LACMIP 13318, LACMIP loc. 24251, right-lateral view, $\times 4.9$. Figure 21. Hypotype CAS 69099.03, CAS loc. 69099, apertural view, $\times 7.4$. Figures 22–23. *Turritella iota* Popenoe, 1937, LACMIP holotype 40673, LACMIP loc. 8178, left-lateral view. Figure 22. $\times 2.2$. Figure 23. Tip of specimen shown in Figure 22, $\times 4.4$. Figures 24–27. *Turritella encina* Squires & Saul, sp. nov. Figure 24. Holotype LACMIP 13319, LACMIP loc. 10798, apertural view, $\times 2.9$. Figure 25. Paratype LACMIP 13320, LACMIP loc. 10900, apertural view, $\times 2.9$. Figures 26–27. Paratype LACMIP 13321, LACMIP loc. 24336, apertural view. Figure 26. $\times 1.9$. Figure 27. Tip of specimen shown in Figure 26, apertural view, $\times 5.6$.

Distribution: LATE TURONIAN: Tuna Canyon Formation, lower part, west of Rustic Canyon, east-central Santa Monica Mountains, Los Angeles County, southern California; Ladd Formation, transition zone between Baker Canyon and Holz Shale members, and also lower Holz Shale, Santa Ana Mountains, Orange County, southern California.

Discussion: This study of Popenoe's species is based on 13 specimens. Most of them are from the lower part of the Tuna Canyon Formation at LACMIP loc. 26967 and show moderately good preservation.

This species is uncommon. It differs primarily from *T. petersoni* in having whorls that are concave, less numerous ribs, and a moderate carina at C. In addition, *T. iota* has weaker ribs of more uniform strength on the base.

Turritella iota differs from *T. hearni* in having stronger riblets on the base, crossed by strong growth lines that create a pitted surface. Popenoe (1937) indicated that it resembles somewhat a so-called "*Turritella whiteavesi* Anderson & Hanna," but Anderson (1958:152) noted that he and Hanna had never named a *T. whiteavesi*.

Saul (1982:fig. 2 on p. 72) reported on the occurrence of this species in the Ladd Formation, and she also reported that at its type locality, it is found with *Turritella hearni*.

Turritella encina Squires & Saul, sp. nov.
(Figures 24–27)

Diagnosis: Adult whorls weakly convex, with four nearly equal-strength spiral ribs (B and C strongest), noded, and alternating with weaker ribs.

Description: Shell medium, slender. Pleural angle approximately 14°. Whorls weakly convex. Suture impressed. Protoconch and earliest juvenile unknown. Juvenile whorls (approximately less than 4.5 mm diameter) with three, nearly equal-strength equal spiral ribs (A, B, and C), all with weak nodes. Adult whorls (approximately greater than 5 mm in diameter) with four ribs (R, A, B, and C), each strongly noded and alternating with weaker, usually unnoded ribs, resulting in sculpture pattern of R, r₂, A, s, B, t, C, u, and d (d very weak). Ribs B and C strongest. Rib t with several threads posteriorly and anteriorly. Interspace between C and u with threads. Growth line sigmoidal, maximum of antisinus coincident with position of rib B. Aperture round.

Dimensions of holotype: 28.1 mm height, 9.7 greatest diameter 9.7 mm, specimen incomplete.

Holotype: LACMIP 13319.

Type locality: LACMIP loc. 10798, 122°04'45"W longitude, 40°38'N latitude.

Paratypes: LACMIP 13320 and 13321.

Geologic age: Santonian.

Distribution: SANTONIAN: Redding Formation, Member V, Old Cow and upper Clover creeks, Shasta County, northern California.

Discussion: This new species is based on 134 specimens, and most show good preservation.

Turritella encina is most similar to *Turritella hearni*, but *T. encina* differs by having ribs (s, t, and u) present, all of which are noded. *Turritella hearni* usually has only threads in its interspaces. In addition, on *T. encina*, ribs B and C are approximately the same strength, rather than having rib B approximately the same strength as rib A.

Etymology: The new species is named for its occurrence in Oak Run, east of Redding; Spanish, *encina* meaning "oak."

Acknowledgments. We are grateful for access to the collections at CAS, LACMIP, and UCMP and for the loans provided by these institutions. Richard Soto (California State University, Northridge) kindly donated specimens of *Turritella seriatim-granulata*. The manuscript benefited from reviews by Steffen Kiel (Smithsonian Institution, National Museum of Natural History) and Edward Petuch (Florida-Atlantic University).

LITERATURE CITED

- AKERS, R. E. & T. J. AKERS. 1997. Texas Cretaceous Gastropods. Texas Paleontology Series Publications 6. Houston Gem and Mineral Society: 340 pp.
- ALDERSON, J. M. 1988. New age assignments for the lower part of the Cretaceous Tuna Canyon Formation, Santa Monica Mountains, California. Geological Society of America Cordilleran Section Meeting, Las Vegas, Abstracts with Programs 20(3):139.
- ALLISON, E. C. 1955. Middle Cretaceous Gastropoda from Punta China, Baja California, Mexico. Journal of Paleontology 29(3):400–432, pls. 40–44.
- ALLISON, E. C. 1974. The type Alisitos Formation (Cretaceous, Aptian-Albian) of Baja California and its bivalve fauna. Pp. 21–59 in G. Gastil & J. Lillegrave (eds.), Geology of Peninsular California. Pacific Section, AAPG, SEPM, and SEG, Book 37. Los Angeles, California.
- ALLMON, W. D. 1988. Ecology of Recent turritelline gastropods (Prosobranchia, Turritellidae): current knowledge and paleontological implications. Palaios 3:259–284.
- ALLMON, W. D., D. S. JONES & N. VAUGHAN. 1992. Observations on the biology of *Turritella gonostoma* Valenciennes (Prosobranchia: Turritellidae) from the Gulf of California. The Veliger 35(1):52–63.
- ALMAZAN-VAZQUEZ, E. 1990. Fauna Aptiano-Albiana del Cerro las Conchas, Sonora centro-oriental. Actas de la Facultad de Ciencias de la Tierra, Universidad Autonoma de Nuevo Leon 4:153–173, pls. 1–5.
- ALMGREN, A. A. 1973. Upper Cretaceous foraminifera in southern California. Pp. 31–44 in A. E. Fritsche (ed.), Cretaceous Stratigraphy of the Santa Monica Mountains and Simi Hills, Southern California. Pacific Section, SEPM, Guidebook: Los Angeles, California.
- ANDERSON, F. M. 1958. Upper Cretaceous of the Pacific coast. Geological Society of America Memoir 71:1–378, pls. 1–75.
- BANDEL, K. 1976. Observations on spawn, embryonic develop-

- ment and ecology of some Caribbean lower Mesogastropoda. *The Veliger* 18(3):249–271.
- BANDEL, K., F. RIEDEL & H. WEIKERT. 1997. Planktonic gastropod larvae from the Red Sea: a synopsis. *Ophelia* 47(3): 151–202.
- BÖSE, E. 1910. Monografía geológica y paleontológica del Cerro de Muleros cerca de Ciudad, Juarez, Estado de Chihuahua. Instituto Geológico de México Boletín 25, 193 pp., 48 pls.
- COBBAN, W. A. & J. B. REESIDE, JR. 1952. Correlation of the Cretaceous formations of the western interior of the United States. *Bulletin of the Geological Society of America* 63: 1011–1044.
- COLBURN, I. P. 1973. Stratigraphic relations of the southern California Cretaceous strata. Pp. 45–73 in A. E. Fritsche (ed.), *Cretaceous Stratigraphy of the Santa Monica Mountains and Simi Hills, Southern California*. Pacific Section, SEPM, Guidebook: Los Angeles, California.
- COX, L. R. 1959. Thoughts on the classification of the Gastropoda. *Proceedings of the Malacological Society of London* 33:239–261.
- DAVIES, A. M. 1971. *Tertiary Faunas, Vol. 1. The Composition of Tertiary Faunas*. 2nd ed. Revised by F. E. Eames. George Allen & Unwin: London. 571 pp.
- D'ORBIGNY, A. 1842–1843. *Paléontologie Française. Description des Mollusques et Rayonnés Fossiles de France. Terrain Crétacés. Tome 2. Gastéropodes*. Arthus-Bertrand: Paris. 456 pp. (1842), pls. 149–236 [in Atlas (1843)].
- FRAKES, L. A. 1999. Estimating the global thermal state from Cretaceous sea surface and continental temperature data. Pp. 49–57 in E. Barrera & C. C. Johnson (eds.), *Evolution of the Cretaceous Ocean-Climate System*. Geological Survey of America Special Paper 332.
- GABB, W. M. 1864. Description of the Cretaceous fossils. *California Geological Survey, Palaeontology* 1:57–243, pls. 9–32.
- GABB, W. M. 1869. Cretaceous and Tertiary fossils. *California Geological Survey, Palaeontology* 2:1–299, pls. 1–36.
- GIVENS, C. R. 1974. Eocene molluscan biostratigraphy of the Pine Mountain area, Ventura County, California. *University of California Publications in Geological Sciences* 109, 107 pp., 11 pls.
- GRADSTEIN, F. M., J. G. OGG & A. G. SMITH. 2004. *A Geologic Time Scale*. Cambridge University Press: Cambridge, England. 589 pp.
- GRANT, U. S., IV & H. R. GALE. 1931. Catalogue of the marine Pliocene and Pleistocene Mollusca of California. *Memoirs of the San Diego Society of Natural History*. Volume 1. 1036 pp., 32 pls.
- HALLER, B. 1882. Zur Kenntniss der Muriciden. Eine vergleichend-anatomische Studie, I, Theil, Anatomie des Nervensystemes. *Denkschriften der kaiserlichen Akademie der Wissenschaften, Wien. Mathematisch-Naturwissenschaftliche Klasse* 45:87–106.
- HAQ, B. U., J. HARDENBOL & P. R. VAIL. 1987. Chronology of fluctuating sea levels since the Triassic. *Science* 235:1156–1167.
- JOHNSON, C. C. 1999. Evolution of Cretaceous surface current circulation patterns, Caribbean and Gulf of Mexico. Pp. 329–343 in E. Barrera & C. C. Johnson (eds.), *Evolution of the Cretaceous Ocean-Climate System*. Geological Society of America Special Paper 232.
- KAIM, A. 2004. The evolution of conch ontogeny in Mesozoic open sea gastropods. *Palaeontologia Polonica* 62:1–183, figs. 1–140.
- KILMER, F. H. 1984. *Geology of Cedros Island, Baja California, Mexico*. Privately Published: Arcata, California. 69 pp.
- LAMARCK, J. B. DE. 1799. *Prodrome d'une nouvelle classification des coquilles*. Mémoires de la Société d'histoire Naturelle de Paris. Pp. 63–91.
- LINNAEUS, C. 1758. *Systema Naturae per Regna Tria Naturae, Editio decima, reformata, Vol. 1. Regnum Animale. Laurentii Salvii*: Stockholm. 824 pp.
- LOEL, W. & W. H. COREY. 1932. The Vaqueros Formation, lower Miocene of California. 1. Paleontology. *University of California Publications Bulletin of the Department of Geological Sciences* 22:31–410, pls. 4–65.
- LOVÉN, S. L. 1847. *Malacozoologi. Öfversigt af Kongliga Vetenskaps-Akademinens Förhandlingar*, pp. 175–199, pls. 2–6.
- MARWICK, J. 1957a. New Zealand genera of Turritellidae, and the species of *Stiracolpus*. *New Zealand Geological Survey Paleontological Bulletin* 27, 55 pp., 5 pls.
- MARWICK, J. 1957b. Generic revision of the Turritellidae. *Proceedings of the Malacological Society* 32(4):144–166.
- MATSUMOTO, T. 1960. Upper Cretaceous ammonites of California. Part 3. *Memoirs of the Faculty of Science, Kyushu University, Series D, Geology, Special Volume 2*, 204 pp., 2 pls.
- MERRIAM, C. W. 1941. Fossil turritellas from the Pacific coast region of North America. *University of California Publications, Bulletin of the Department of Geological Sciences* 26(1):1–214, pls. 1–41.
- MURPHY, M. A. & P. U. RODDA. 1960. Mollusca of the Cretaceous Bald Hills Formation of California. *Journal of Paleontology* 34(5):835–858, pls. 101–107.
- MURPHY, M. A., P. U. RODDA & D. M. MORTON. 1969. *Geology of the Ono Quadrangle, Shasta and Tehama counties, California*. California Division of Mines and Geology Bulletin 192, 28 pp.
- PETUCH, E. J. 1976. An unusual molluscan assemblage from Venezuela. *The Veliger* 18:322–325, figs. 1–8.
- POPENOE, W. P. 1937. Upper Cretaceous Mollusca from southern California. *Journal of Paleontology* 11(5):379–402, pls. 45–49.
- POPENOE, W. P. 1973. Southern California Cretaceous formations and faunas with especial reference to the Simi Hills and Santa Monica Mountains. Pp. 15–29, pls. 1–3, in A. E. Fritsche (ed.), *Cretaceous Stratigraphy of the Santa Monica Mountains and Simi Hills, Southern California*. Pacific Section, SEPM, Guidebook: Los Angeles, California.
- RICHTER, G. & G. THORSON. 1975. *Pelagische Prosobranchier-Larven des Golfes von Neapel*. *Ophelia* 13:109–163.
- RODDA, P. U. 1959. *Geology and paleontology of a portion of Shasta County, California*. Unpub. Ph.D. Dissertation. University of California, Los Angeles. 204 pp., 14 pls.
- ROEMER, F. 1849. *Texas, mit Besonderer Rücksicht auf Deutsche Auswanderung und die Physischen Verhältnisse des Landes nach Eigener Beobachtung Geschildert*. Bonn. 469 pp.
- ROEMER, F. 1852. *Die Kreidebildungen von Texas und ihre Organischen Einschlüsse*. 100 pp., 11 pls.
- SAUL, L. R. 1978. The North Pacific Cretaceous trigoniid genus *Yaadia*. *University of California Publications in Geological Sciences* 119:1–65, pls. 1–12.
- SAUL, L. R. 1982. Water depth indications from Late Cretaceous mollusks, Santa Ana Mountains, California. Pp. 69–76 in D. J. Bottjer, I. P. Colburn & J. D. Cooper (eds.), *Late Cretaceous Depositional Environments and Paleogeography, Santa Ana Mountains, Southern California*. Pacific Section, SEPM, Field Trip Volume and Guidebook: Los Angeles, California.

- SAUL, L. R. 1983a. *Turritella* zonation across the Cretaceous-Tertiary boundary, California. University of California Publications in Geological Sciences 125:1-163, pls. 1-6.
- SAUL, L. R. 1983b. Notes on Paleogene turritellas, venericardias, and molluscan stages of the Simi Valley area, California. Pp. 71-80 in R. L. Squires & M. V. Filewicz (eds.), Cenozoic Geology of the Simi Valley Area, Southern California. Pacific Section, SEPM, Volume and Guidebook: Los Angeles, California.
- SAUL, L. R. 1986. Pacific west coast Cretaceous molluscan faunas: time and aspect of changes. Pp. 131-136 in P. L. Abbott (ed.), Cretaceous Stratigraphy Western North America. Pacific Section, SEPM, Volume 46: Los Angeles, California.
- SAUL, L. R. & R. L. SQUIRES. 1998. New Cretaceous Gastropoda from California. *Palaeontology* 41(3):461-488, pls. 1-3.
- SCHRÖDER, M. 1995. Frühontogenetische Schalen jurassischer und untercretazischer Gastropoden aus Norddeutschland und Polen. *Palaeontographica*, Abt B, 238(1):1-95.
- SHRIMER, H. W. & R. R. SHROCK. 1944. Index Fossils of North America. Massachusetts Institute of Technology. Eighth printing. The M. I. T. Press: Cambridge, Massachusetts. 837 pp.
- SLITER, W. V., D. L. JONES & C. K. THROCKMORTON. 1984. Age and correlation of the Cretaceous Hornbrook Formation, California and Oregon. Pp. 89-98 in T. H. Nilsen (ed.), Geology of the Upper Cretaceous Hornbrook Formation, Oregon and California. Pacific Section, SEPM, Vol. 42: Los Angeles, California.
- SOHL, N. F. 1987. Cretaceous gastropods: contrasts between Tethys and the temperate provinces. *Journal of Paleontology* 61:1085-1111.
- SQUIRES, R. L. 1984. Megapaleontology of the Eocene Lajas Formation, Simi Valley, California. Natural History Museum of Los Angeles County, Contributions in Science 350, 76 pp., figs. 1-19.
- SQUIRES, R. L. 1987. Eocene molluscan paleontology of the Whitaker Peak area, Los Angeles and Ventura counties, California. Natural History Museum of Los Angeles County, Contributions in Science 388, 93 pp., 135 figs.
- SQUIRES, R. L. & L. R. SAUL. 2003a. Additions to Late Cretaceous shallow-marine gastropods from California. *The Veliger* 46(2):145-161, figs. 1-43.
- SQUIRES, R. L. & L. R. SAUL. 2003b. New Cretaceous cerithiform gastropods from the Pacific slope of North America. *Journal of Paleontology* 77(3):442-453, figs. 1-25.
- SQUIRES, R. L. & L. R. SAUL. 2004a. Cretaceous corbulid bivalves of the Pacific slope of North America. *The Veliger* 47(2):103-129, figs. 1-62.
- SQUIRES, R. L. & L. R. SAUL. 2004b. The pseudomelaniid gastropod *Paosia* from the marine Cretaceous of the Pacific slope of North America and a review of the age and paleobiogeography of the genus. *Journal of Paleontology* 78(3):4184-500, figs. 1-5.
- STAINBROOK, M. A. 1940. Gastropoda of the Kiamichi shale of the Texas Panhandle. *Texas University Bulletin* 3945:705-716, pl. 33.
- STANTON, T. W. 1947. Studies of some Comanche pelecypods and gastropods. U.S. Geological Survey Professional Paper 211, 256 pp., 67 pls.
- STEWART, R. B. 1927. Gabb's California fossil type gastropods. *Proceedings of the Academy of Natural Sciences of Philadelphia* 78(for 1926):287-447, pls. 20-32.
- THORSON, G. 1957. Bottom communities (sublittoral or shallow shelf). Pp. 461-534 in J. W. Hedgeth (ed.), *Treatise on Marine Ecology and Paleoecology*. Geological Society of America Memoir 67, Vol. 1, Ecology.
- WEAVER, C. E. 1943. Paleontology of the marine Tertiary formations of Oregon and Washington. University of Washington Publications in Geology 5(3 parts):1-789, pls. 1-104.
- WHITE, C. A. 1879. Contributions to invertebrate paleontology, no. 1, Cretaceous fossils of the western states and territories. U. S. Geological and Geographical Survey of the Territories Annual Report 11:273-319.
- YONGE, C. M. & T. E. THOMPSON. 1976. *Living Marine Molluscs*. William Collins Sons & Co.: Glasgow, Scotland. 288 pp.

APPENDIX

LOCALITIES

- CAS 1291. On old Peterson Ranch, 6.4 km NE of Sites, Lodoga Quadrangle (15 minute, 1943), west side of Sacramento Valley, Colusa County, northern California. Great Valley Group, informal Antelope Shale, just below the Venado Formation. Age: Cenomanian. Collector: Unknown.
- CAS 2335. Outcrop just beneath rim rock of Logan Ridge, approximately 1.6 km NE of old Peterson Ranch House, 4.8 km NE of Sites, Lodoga Quadrangle (15 minute, 1943), west side of Sacramento Valley, Colusa County, northern California.
- CAS 61938. Approximately 6.4 km N of Montague and approximately, 304 m NE of old Hagerdorn Ranch House, Yreka Quadrangle (30 minute, 1939), Siskiyou County, northern California. Hornbrook Formation, probably Ditch Creek Member. Age: Probably early Coniacian. Collector: Unknown.
- CAS 69098. [= LACMIP 23903]. Large gray limestone nodules in gray mudstone on S bank of creek, 582 m and 73 m N of SW corner of section 29, T. 30 N, R. 6 W, Ono Quadrangle (15 minute, 1952), Shasta County, northern California. Budden Canyon Formation, Gas Point Member, lower part. Age: Turonian. Collectors: P. U. Rodda, August, 1955.
- CAS 69099. [= LACMIP 23817]. Sandstone bed in mudstone section, third major W-heading tributary of North Fork Cottonwood Creek, S of mouth of Huling Creek, 762 m E and 549 m S of SE corner of section 29, T. 30 N, R. 6 W, Ono Quadrangle (15 minute, 1952), Shasta County, northern California. Budden Canyon Formation, Gas

- Point Member, lower part. Age: Early Turonian. Collector: P. U. Rodda, August, 1956.
- CAS 69104. [= LACMIP 23893]. Texas Springs, Redding Quadrangle (15 minute, 1946) Shasta County, northern California. Budden Canyon Formation, Chickabally Member. Age: Late early Albian. Collector: Unknown.
- CAS 69106. [= LACMIP 23808]. Shale bank, left side of Roaring River, about 1.2 km above the dam at the basal conglomerates, 914 m N and 1066 m E of SW corner of section 1, T. 29 N, R. 7 W, Ono Quadrangle (15 minute, 1952), Shasta County, northern California. Budden Canyon Formation, Gas Point Member. Age: Early Turonian. Collectors: W. P. Popenoe and W. Findlay, 1933; P. U. Rodda, 1956.
- CAS 69107. [= LACMIP 23937]. On side of small creek, SE 1/4 of section 20, T. 30 N, R. 6 W, Ono Quadrangle (15 minute, 1952), Shasta County, northern California. Budden Canyon Formation, Gas Point Member, lower part. Age: Early Turonian. Collector: P. U. Rodda, August, 1956.
- CAS 69111. North Fork of Cottonwood Creek, Ono Quadrangle (15 minute, 1943), Shasta County, northern California. Budden Canyon Formation, Bald Hills Member. Age: Cenomanian. Collector: P. U. Rodda.
- LACMIP 8178. [= CIT 984]. On W side of Rose Canyon, 205 m S and 329 m W of NE corner of section 2, T. 6 S, R. 7 W, Santiago Peak Quadrangle (7.5 minute, 1954), Santa Ana Mountains, Orange County, southern California. Ladd Formation, middle part of Holz-Baker transition zone. Age: Late Turonian. Collector: W. P. Popenoe, October 15, 1933.
- LACMIP 10798. Massive sandstones interbedded with conglomerates on S side of high E-W trending ridge, S side of Oak Run Valley, 998 m S54°50'W from SE corner of section 10, T. 32 N, R. 2 W, Millville Quadrangle (15 minute, 1953), Shasta County, northern California. Redding Formation, Member V. Age: Early Santonian. Collectors: W. P. Popenoe and C. Ahlroth, July 1, 1936.
- LACMIP 10900. South side of Old Cow Creek, NE 1/4, SW 1/4 of section 20, T. 32 N, R. 1 W, Millville Quadrangle (15 minute, 1953), Shasta County, northern California. Redding Formation, Member V. Age: Santonian. Collector: V. C. Church, April 12, 1937.
- LACMIP 15741. Float material from about the middle of the island in a downfaulted synclinal block, Cedros Island, Baja California, Mexico. Valle Group (member unknown). Age: Cenomanian or Turonian. Collector: F. H. Kilmer.
- LACMIP 23470. On E side of North Fork of Cottonwood Creek, section 16, T. 30 N, R. 6 W, Ono Quadrangle (15 minute, 1953), Shasta County, northern California. Budden Canyon Formation, Bald Hills Member. Age: Cenomanian? Collector: P. U. Rodda, September, 1955.
- LACMIP 24251. Sandstone cropping out along ridge by ranch road, 914 m W and 259 m S of NE corner of section 26, T. 46 N, R. 6 W, 14.5 km NE of Yreka, Yreka Quadrangle (30 minute, 1939), Siskiyou County, northern California. Hornbrook Formation, Osburger Gulch Sandstone Member. Age: Turonian. Collectors: M. A. Murphy, W. P. Popenoe, and T. Susuki, August 30, 1951.
- LACMIP 24336. Fossiliferous float concretion in siltstone on N side of Clover Creek Valley, 365 m N and 244 m E of SW corner of section 13, T. 32 N, R. 2 W, Millville Quadrangle (15 minute, 1953), Shasta County, northern California. Redding Formation, Member V. Age: Early Santonian. Collector: W. P. Popenoe, August 15, 1954.
- LACMIP 25272. South side of Cherry Hill about 100m W of first big turn on Cherry Hills Road and approximately 1 km N of Pioneer Road, west boundary of NW 1/4 of section 12, R. 1 W, T. 38 S, Medford Quadrangle (15 minute, 1938), near Phoenix, Jackson County, southwestern Oregon. Hornbrook Formation. Age: Turonian. Collector: Takeo Susuki, 1962.
- LACMIP 26967. Small exposure of coarse-grained, poorly sorted sandstone at bottom of NW-flowing tributary to main fork of Garapito Creek, 450 m S and 2835 m E of NW corner of section 5, T. 1 S, R. 16 W, Topanga Quadrangle (7.5

minute, 1952, photorevised, 1981), Santa Monica Mountains, Los Angeles County, southern California. Tuna Canyon Formation, lower part. Age: Late Turonian. Collector: J. M. Alderson, December 31, 1981.

LACMIP 27242. East bank of Cottonwood Creek about 0.4 km downstream from mouth of Huling Creek, fossiliferous concretions weathering out from near top of conglomerate of Bald Hills Member and just below beginning of slabby sandstones and mudstones of

Gas Point Member, approximately 533 m N and 274 m E of SW corner of section 16, T. 32 N, R. 6 W, Ono Quadrangle (15 minute, 1953), Shasta County, northern California. Budden Canyon Formation, Bald Hills Member. Age: Cenomanian. Collector: W. P. Popenoe, April, 1954.

UCMP A-9521. Punta China, 25 km SE of Ensenada, northern Baja California, Mexico. Alisitos Formation. Age: Late Aptian. Collector: Probably E. C. Allison, 1960s.