

10:30 a.m. Hsu, J. T.

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**THE PAMPA DEL PALO MARINE TERRACE, 17.73° S. LATITUDE, PERU:
AMINOSTRATIGRAPHIC EVIDENCE OF MULTIPLE SEA LEVEL EVENTS IN THE
DEPOSITS OF ONE TERRACE.**

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The seaward margin of the Pampa del Palo, south of the town of Ilo, Peru, is a 25 meter high marine terrace which is over 10 kilometers long and one kilometer wide. Exposed in the modern sea cliff and in numerous manmade exposures, are coarse, shell rich, intertidal to supratidal marine strata which cover a planar, seaward sloping erosional platform. The good geomorphic preservation of this 25 meter high terrace and the excellent preservation of shells within its deposits are a consequence of the hyper-aridity of the Peruvian coast. D-alloisoleucine to L-isoleucine (A/I) ratios were determined by high pressure liquid chromatography for fifty pelecypod shells from 14 sample localities in the 25 meter terrace, and ten samples were analyzed from a terrace remnant at 50 meters elevation. Four aminozones were defined using the most frequently analyzed genus of shell, *Mulinia*. The mean A/I ratios of the aminozones are; IIa, 0.44 ± 0.08 ; IIb, 0.55 ± 0.065 ; III, 0.64 ± 0.06 ; and IV, 0.86 ± 0.02 . Aminozone III, IIb, and IIa ratios occur in superposed sequence in the deposits of the 25 meter marine terrace, and aminozone IV ratios occur in shells analyzed from the 50 meter high marine terrace.

Amino acid age models for marine terraces on the coast of Peru between 13.5 and 15.6 degrees S. latitude, show that IIa, IIb, III, and IV ratios occur on altitudinally separate terraces that formed during interglacial high sea levels 125,000, ~200,000, ~300,000, and ~400,000 years ago respectively. Deposits of the last three interglacial sea level high stands are represented in the stratigraphy of the lowest (25 m) marine terrace at Pampa del Palo. This complexity in terrace development is a result of the low rate of uplift (~0.1 m/1000 years) experienced by this coastal segment. On other coasts with similar uplift rates and where shell preservation is not as good, it is difficult to resolve, based on either geochemical or geomorphic criteria, terraces as complex as the one found at the Pampa del Palo.