

## Ilustraciones 1 - 10

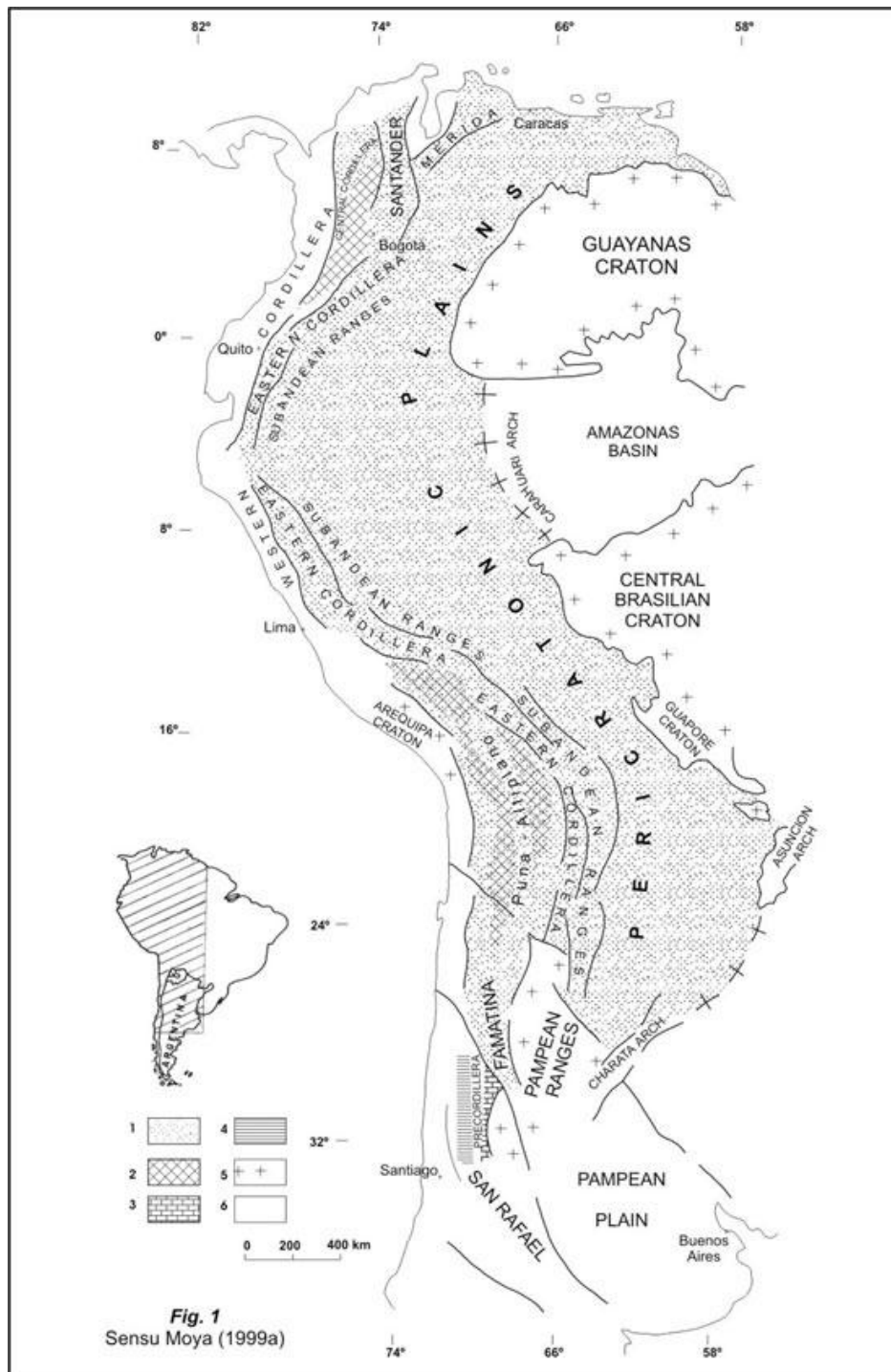


Figure 1. Distribution of Upper Cambrian–Ordovician marine deposits in South America. 1. Shelf marine–clastics deposits. 2. Deep marine–clastics deposits. 3. Shelf marine carbonatics and clastics deposits. 4. Deep marine clastics and carbonatics deposits.

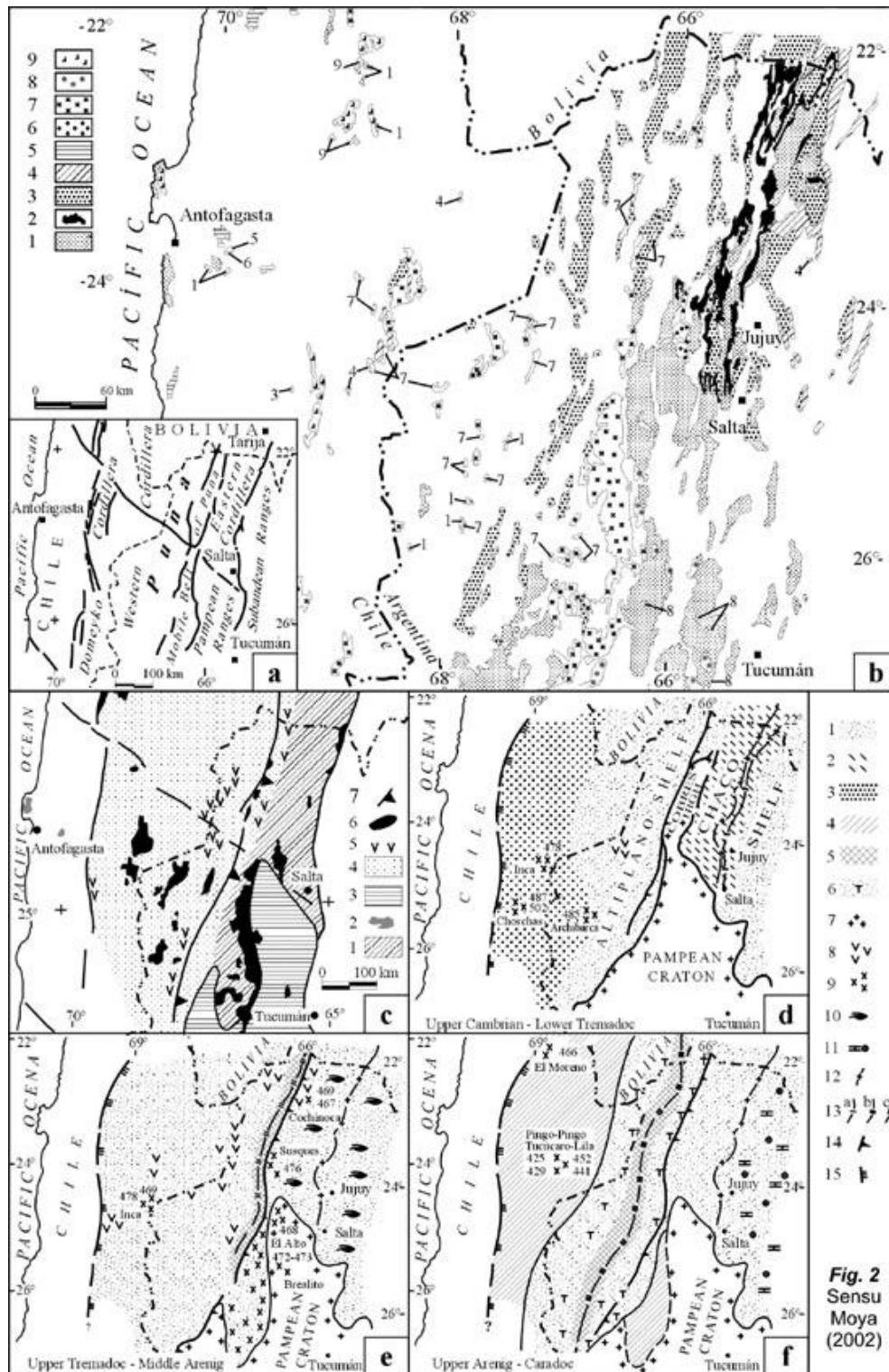


Figure 2. a. Map of Geologic Regions. b. Map of Proterozoic–Paleozoic outcrops. 1. Metamorphic basement (Proterozoic–Lower Cambrian). 2. Upper Cambrian sedimentary rocks. 3. Ordovician sedimentary rocks. 4. Silurian–Devonian sedimentary rocks (shelf deposits). 5. Devonian – Carboniferous

sedimentary rocks (deep deposits). 6. Proterozoic–Middle Cambrian granites. 7. Ordovician granites. 8. Proterozoic–lower Paleozoic granites. 9. Upper Paleozoic granites. c. Paleogeologic sketch according to the age and nature of the stratigraphic nucleus. 1. Pan–American Domain. 2. Areas of uncertain age. 3. Pampean Domain. 4. Famatinian Domain. Famatinian sedimentary rocks and granites (Famatinian or younger). 5. Ordovician sinsedimentary volcanism. 6. Granites without differentiated age. 7. Old tectonic front (previous to the Upper Cambrian). d–f. Paleogeographic sketches of the Ordovician basin. 1. Shallow areas. 2. Area occupied by the old Cambrian basin (Mesón Group). 3. Emerged to submerged areas. 4. Shallow to submerged areas. 5. Deep areas. 6. Turbidites. 7. Positive areas. 8. Sinsedimentary Volcanism. 9. Intrusives with radiometric age. 10. Storm–dominated shelf. 11. Isolated areas. 12. Lipán Swell. 13. Maximum subsidence axis. 14. Old tectonic front. 15. Erosional western border of the Ordovician basin.

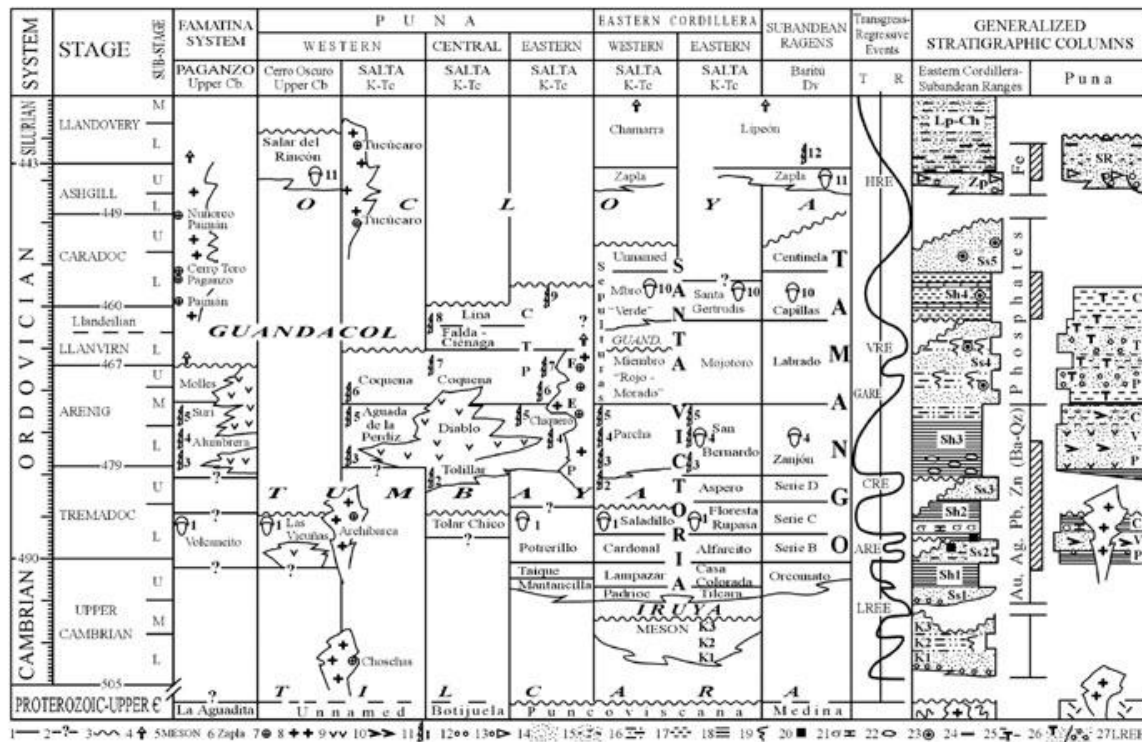
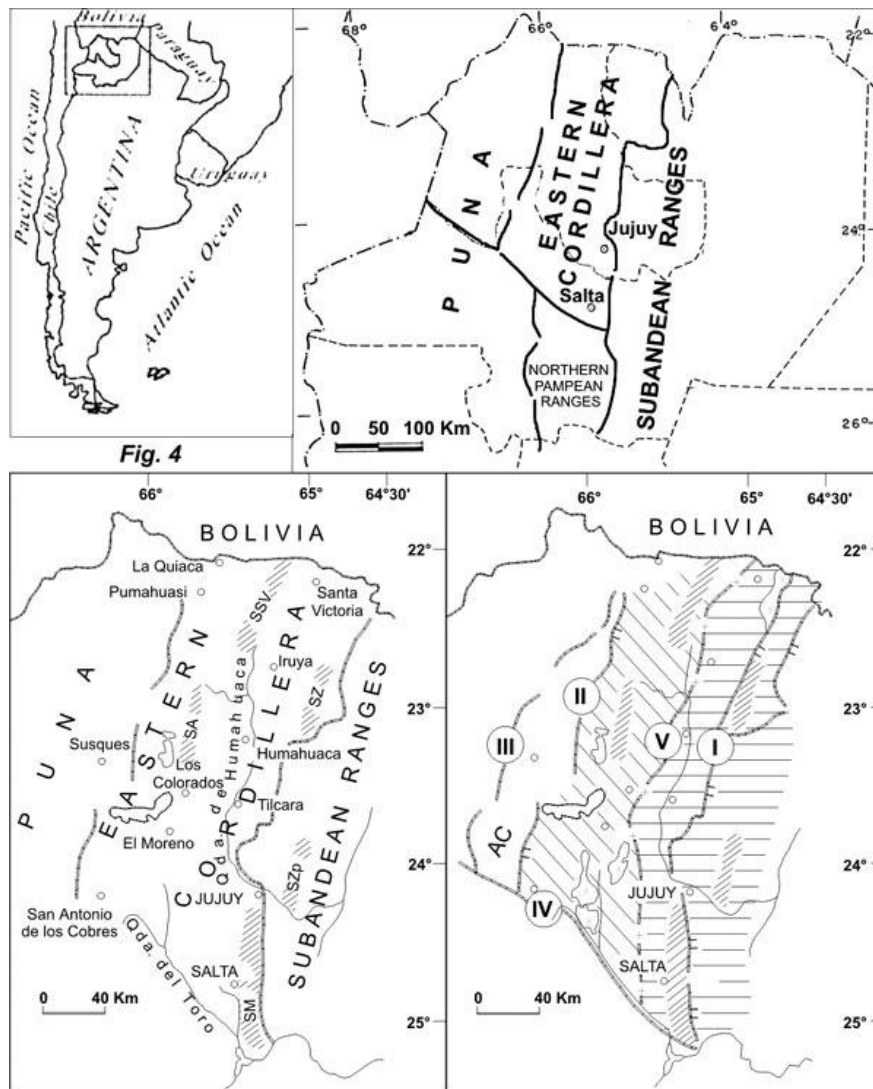


Fig. 3 Ssensu Moya (2002)

Figure 3. Correlation Chart of the Ordovician of northern Argentina. 1. Concordant stratigraphic relationship. 2. Tectonic relationship, not exposed or unknown. 3. Unconformity. 4. Probable younger age. 5. Group. 6. Formation. 7. Radiometric age. 8. Granites. 9. Volcanic rocks. 10. Piroclastics rocks. 11. Correlation Time–Lines. 12. Conglomerate. 13. “Diamictite”. 14. Quartz sandstone. 15. Wacke. 16. Sandstone/Shale interbedded. 17. Silstone/Mudstone.

18. Shale. 19. Trace fossils. 20. Sulfides. 21. Calcareous coquina with Lower Tremadocian trilobites. 22. Concretions. 23. Phosphates (nodules, crusts or lingulid coquinas). 24. Iron ore deposits (hematite, chamosite). 25. Fine-grain Turbidites. 26. Coarse turbidites. 27. Global Eustatic and/or Regresión Events. Remarks: References 19 to 24 are the best characteristics to identify different units.

Correlation time-lines: LT1. Coquinas with Lower Tremadocian trilobites. LT2. *A. murrayi*, LT3. *T. approximatus*. LT4. *B. vacillans*, *A. filiformis*, *B. deflexus*. LT5. *D. bifidus/minus/nitidus*. LT6. *A. eivionicus*, *P. minor*, *X. svalbardensis*. LT7. *G. acanthus*, *C. antennarius*, *U. austrodentatus*, *A. cucullus*. LT8. *D. cf. murchisoni*, *G. hincksii fimbriatus*, *G. cf. ciliatus*. LT9. *Dicellograptus* sp. LT10. “*Hoekaspis schlagintweiti*”. LT11. *Dalmanitina subandina*, cf. *Eohomalonotus*, cf. *Chattiaspis* LT12, *Talacastograptus leanzai*, *Normalograptus aff. normalis*, *N. rectangularis*.





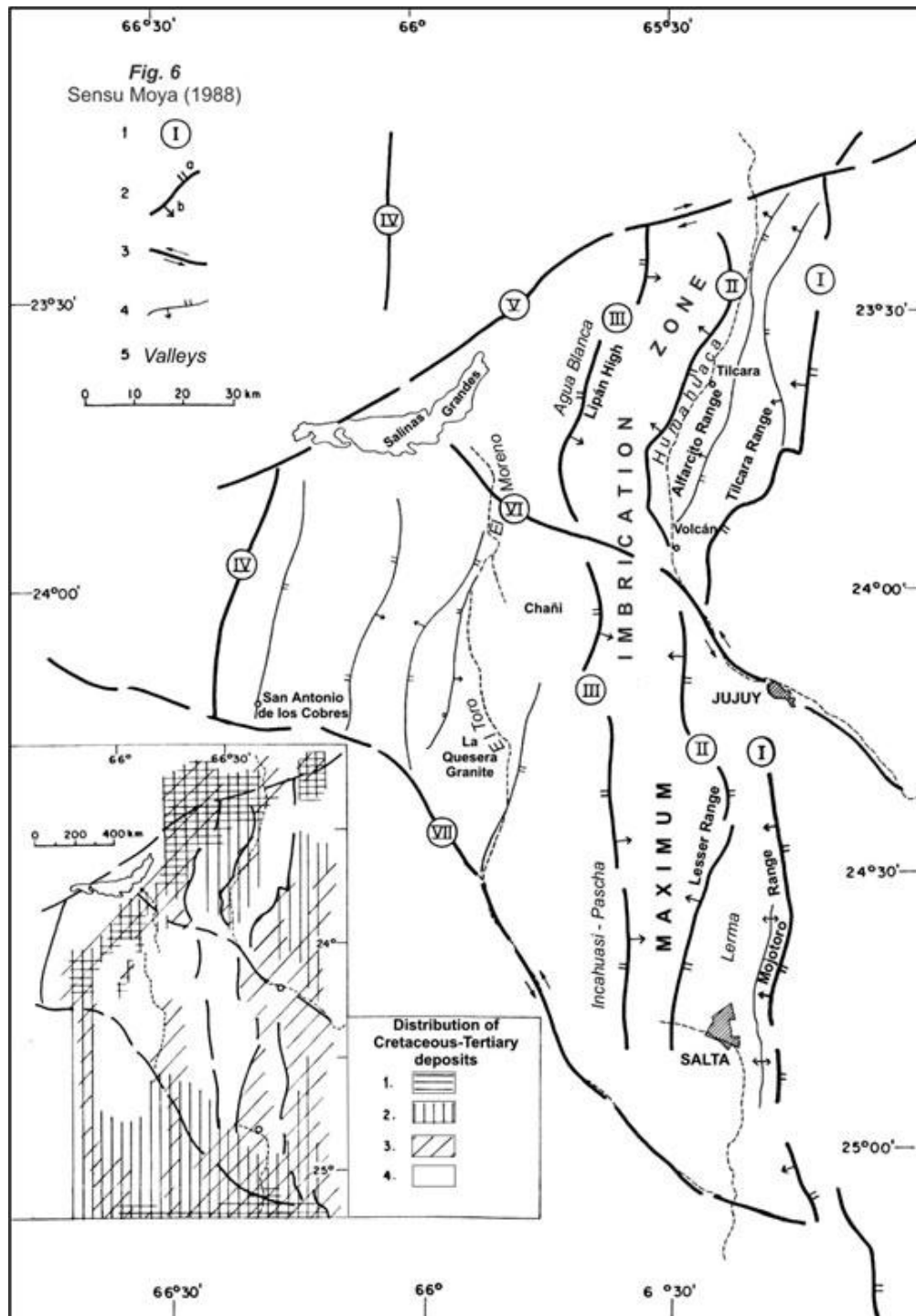


Figure 6. The Southern Part of the Argentine Eastern Cordillera. 1. Main structures. 2. Overthrust Faults: I, Eastern Oclóyic Front. II, Río Grande Front. III, Pives Front. IV, Punic Front. 3. Strike Faults: V, Salinas Grandes Lineament. VI, Volcán Lineament. VII El Toro Lineament. 4. Other significant faults. The distribution of Cretaceous – Tertiary records. 1. Pirgua Sub-Group. 2. Balbuena and

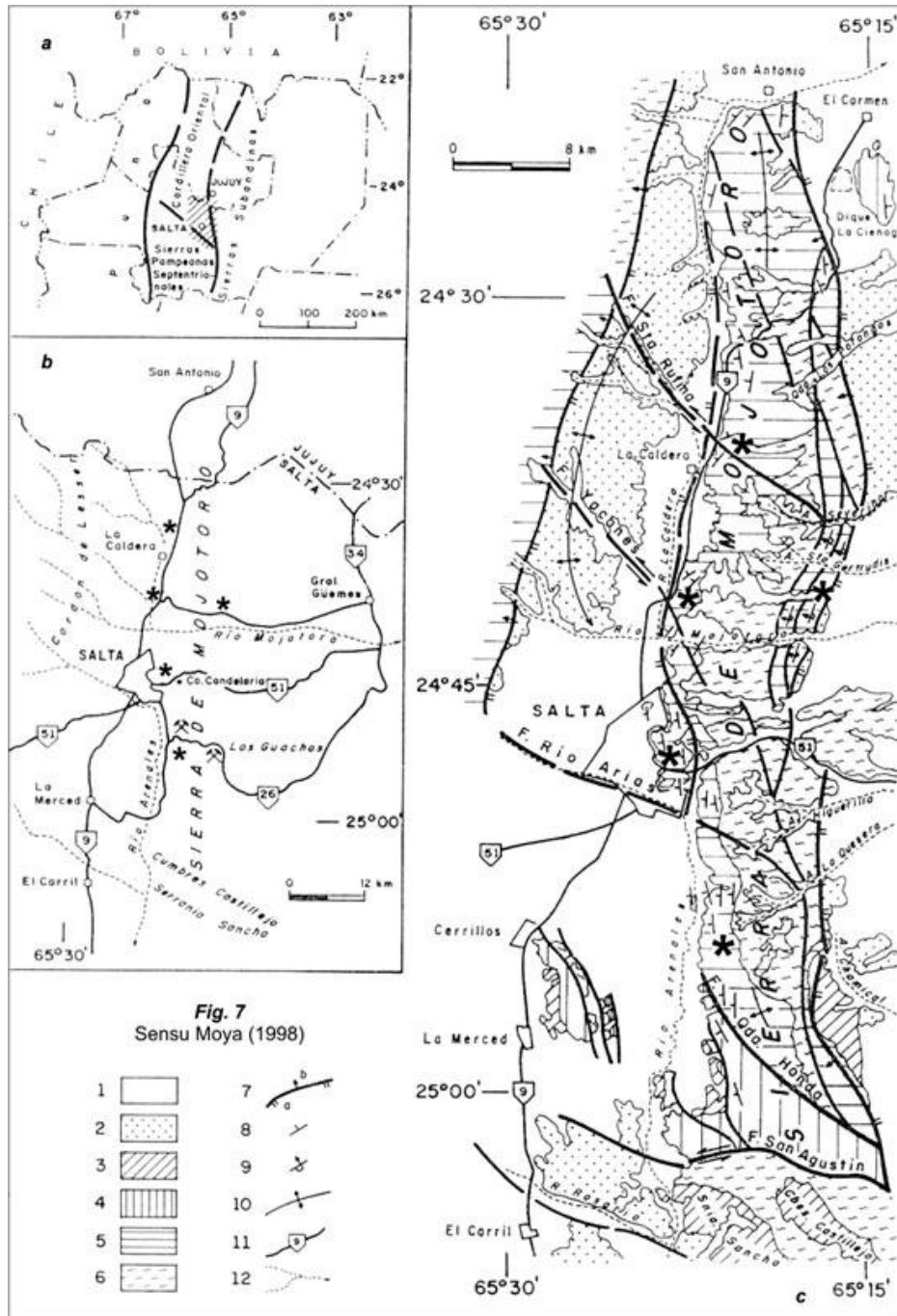


Figure 7. Mojotoro Range. a. Location map. b. Geologic map: 1, undifferentiated Quaternary. 2, Orán Group (Tertiary, Neogene). 3, Salta Group (Cretaceous–Eocene). 4, Santa Victoria Group (later Upper Cambrian –Upper Caradoc). 5, Mesón Group (Middle?–Upper Cambrian) and Santa Victoria Group. 6, undifferentiated basement (Upper Proterozoic–Lower Cambrian). 7, fault. 8, strike and dip of bedding. 9, idem overturned bedding. 10, anticline. 11, principal roads. 12, permanent rivers.

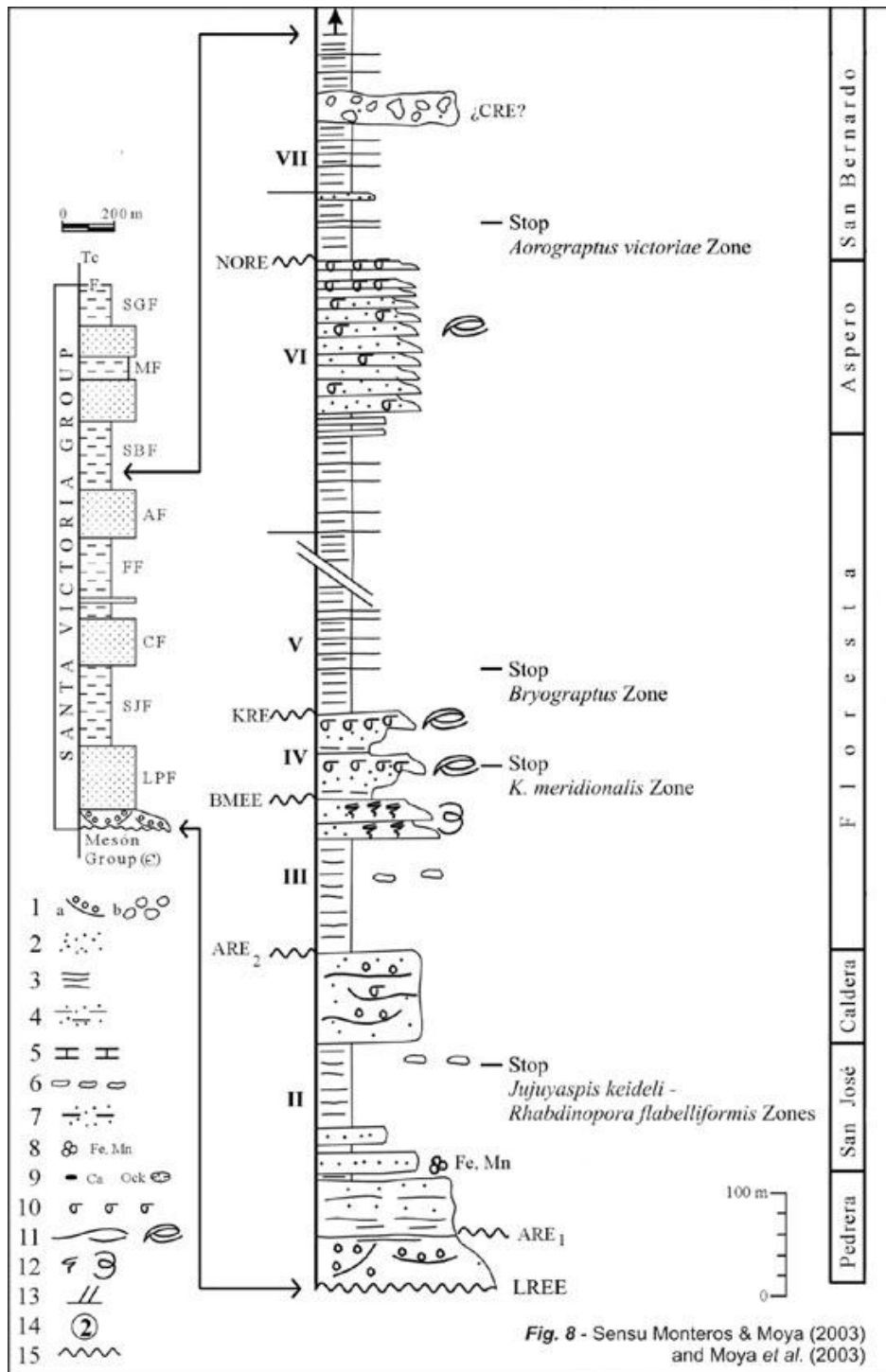


Figure 8. The Tremadocian units of the Mojotoro Range. 1a, fluvial conglomerate; 1b, fluvial-coastal marine conglomerate. 2, sandstone. 3, shale. 4, shale and sandstone. 5, calcareous mudstone. 6, gravity flows (beds and blocks). 7, mudflakes. 8, Fe-Mn nodules. 9, concretions with calcareous and iron oxide nucleous. 10, coquinite. 11, storm succession and storm beds. 12, bioturbation, trace fossils abundant. 13, cross-bedding. 14, profiles: La Quesera (1), Pascha



(2), Angosto del Moreno (3), Lesser Range (4), Mojotoro Range (5) and Quebrada de Humahuaca area (6). 15, unconformity. LREE, ARE, BMEE, KRE, NORE, CRE, regressive–eustatic events. I, II, III, etc., fossiliferous intervals (trilobite and graptolite faunas, recognized by Moya et al., 2003). LPF, La Pedrera Formation. SJF, San José Formation. CF, Caldera Formation. FF, Floresta Formation. AF, Aspero Formation. SBF, San Bernardo Formation.

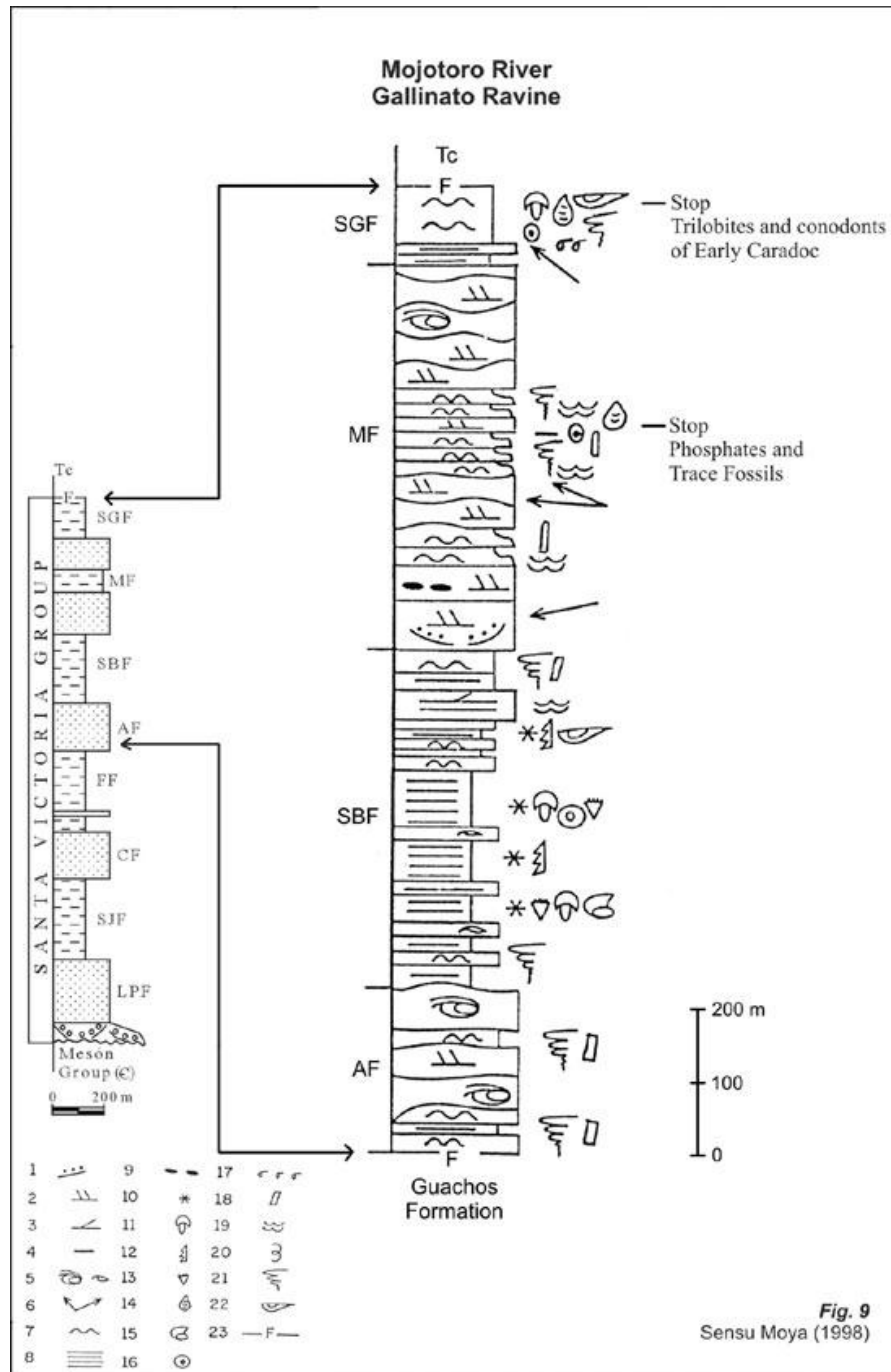


Figura 9. The Arenig to Caradoc units of the Mojotoro Range. 1, coarse, medium and fine-grained conglomerate. 2, planar and tangential high angle lamination. 3, planar low angle lamination. 4, phosphatic nodules and crusts. 5, HCS sequences. 6, paleocurrents. 7, lenticular and flaser lamination. 8, paralell lamination. 9, mudflakes. 10, fossiliferous levels. 11, trilobite. 12, graptolite. 13, articulate braquiopod. 14, inarticulate braquiopod. 15, gasteropod. 16, crinozoan. 17, coquina. 18, *Skolithos* sp. 19, *Cruziana* sp. 20, other fossil traces. 21, bioturbation. 22, bivalves. 23, fault. AF, Aspero Formation. SBF, San Bernardo Formation. MF, Mojotoro Formation. SGF, Santa Gertrudis Formation.



Figure 10. The San José Formation at Mojotoro Range, Eastern Cordillera, Salta Province.