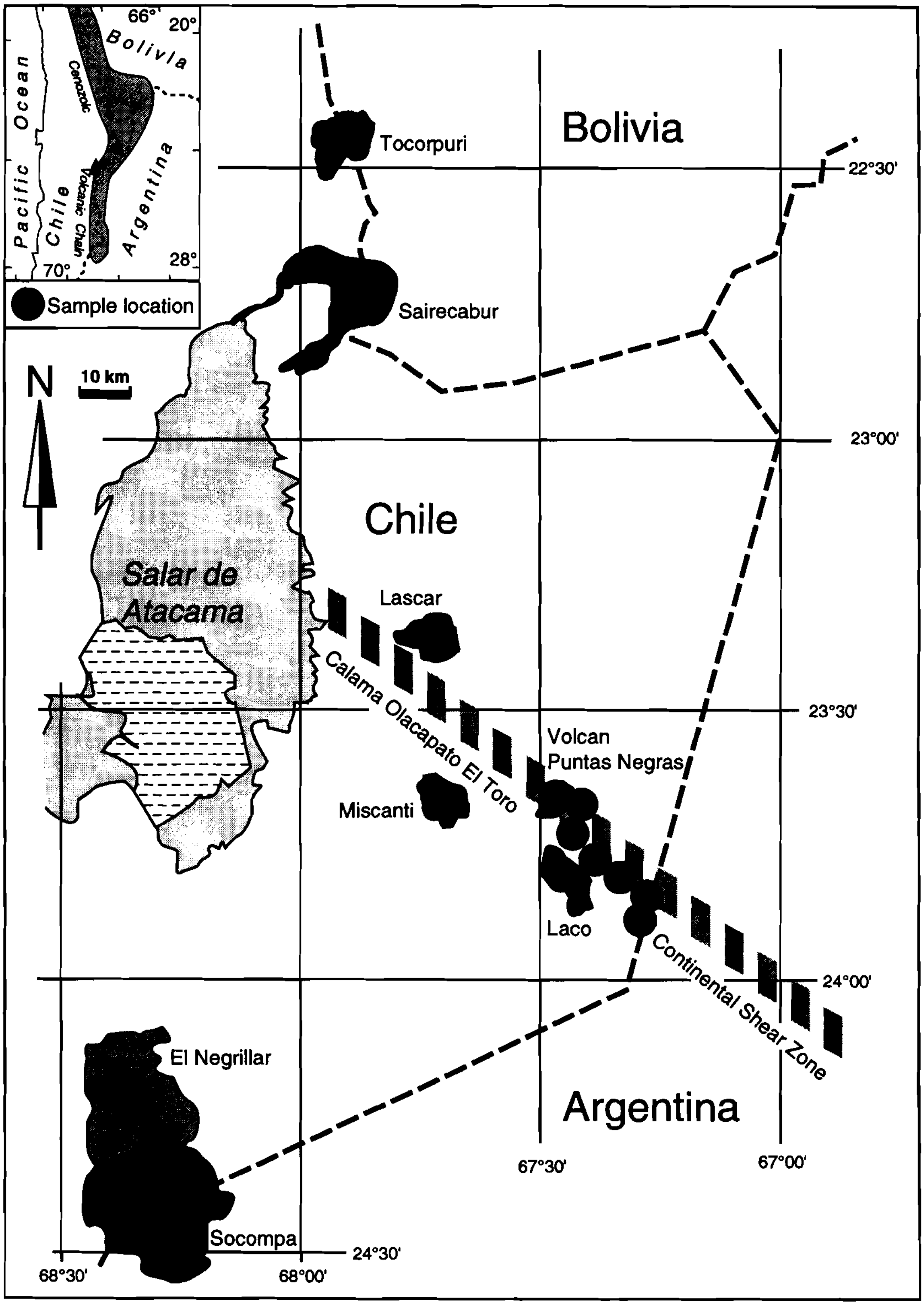


Fig. 1. Location the Chilean Altiplano basalts

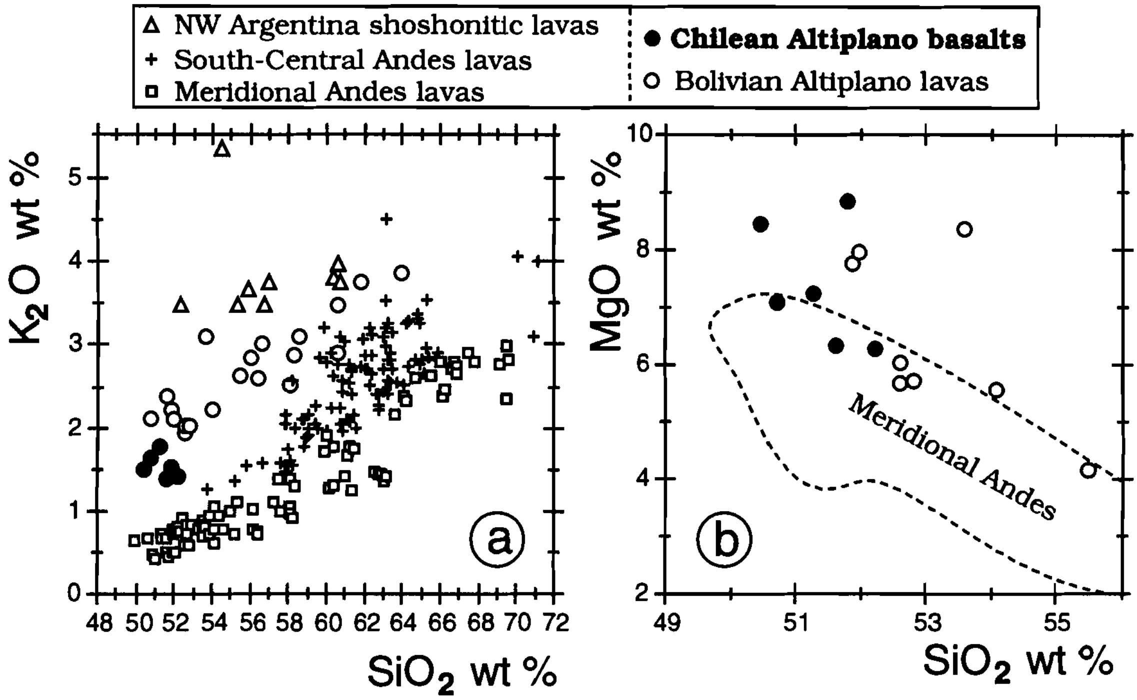
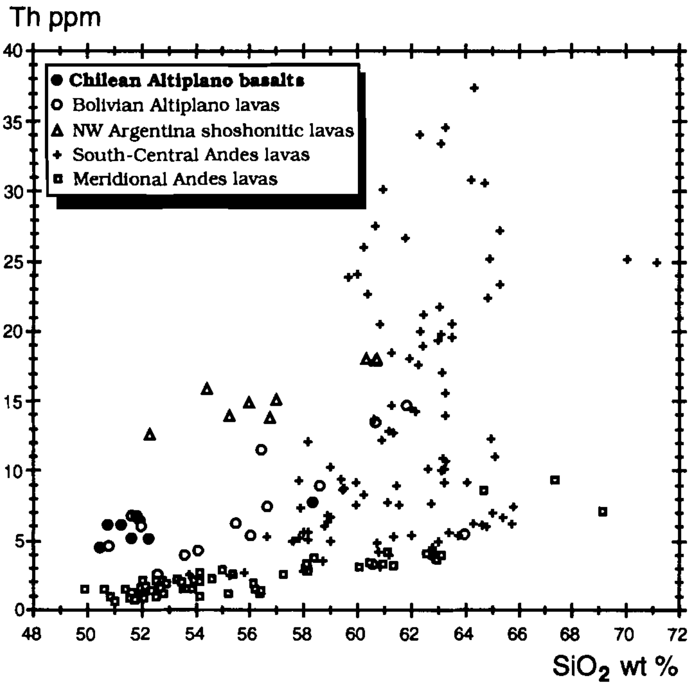


Fig. 2. SiO_2 *vs* K_2O (a) and MgO (b) diagrams (all data after Déruelle, 1982, 1991, except Bolivian Altiplano lavas, after Davidson and de Silva, 1995).



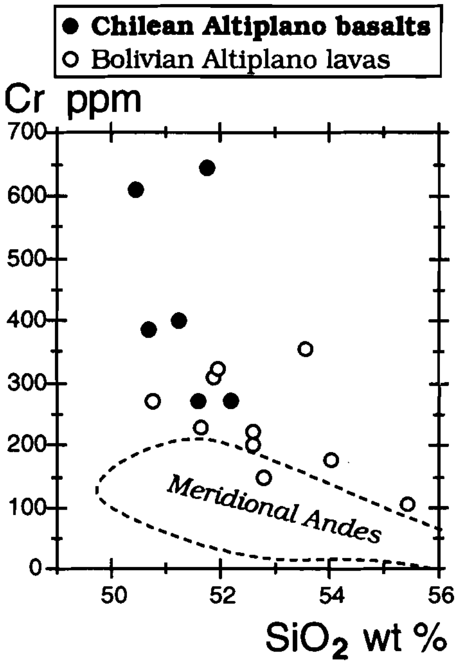


Fig. 3. SiO_2 *vs* Th diagram (same data source as in fig. 2).

Fig. 4. SiO_2 *vs* Cr diagram (same data source as in fig. 2).

Sr, Ba, Ta, Th, U and rare-earth elements (fig. 3). They are also richer in Cr (fig. 4) and Ni. Their $^{87}Sr/^{86}Sr$ ratios (0.7057-0.7063) are in the same range as those of lavas from El Negrillar minor eruptive centers in SCA (Déruelle et al, 1982) but are by far higher than those measured in SVZ alumina basalts (< 0.7045, Déruelle *et al.*, op. cit.).

DISCUSSION AND CONCLUSIONS

On the one hand, it is first noteworthy that the basalts studied here are the only ones recorded up to date upon the Chilean Altiplano of SCA, where stratovolcanoes are only made of andesites and dacites. On the other hand, it is clear that Chilean Altiplano basalts are different from those that built up SVZ stratovolcanoes. They are also different from NW Argentina shoshonites and furthermore to alkali basalts occurring farther East, away from the subduction zone. On the contrary they present similarities with Late Cenozoic basalts of the Bolivian Altiplano (Davidson and de Silva, 1995). They are characterized overall by very high chromium contents.

Their magmatic specificity is probably related to a deep origin, and their eruption has been controlled by the Calama–Olacapato–El Toro shear zone. Nevertheless their deep source is probably of lithospheric nature (high Cr and moderate Ta contents) and a crustal contamination may have played a role in their genesis, as attested by their high $^{87}Sr/^{86}Sr$ ratios when compared to those of extra-Andean Argentinian alkali basalts.

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