

Simocoscocer Spath (Perisphinctidae, Ammonitina) in the Lower Tithonian of Sierra del Rosario (Western Cuba)

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RIASSUNTO

È segnalata per la prima volta la presenza di ammoniti del genere *Simocoscocer* Spath 1925 nel Tithonico inferiore della Sierra del Rosario (provincia di Pinar del Río - Cuba occidentale). Queste ammoniti sono state trovate nella formazione di Artemisa, datata al Giurassico superiore e Cretaceo inferiore, nella sezione di Loma Ferretero.

Le ammoniti cubane del genere *Simocoscocer* Spath, 1925 sono diverse dalle specie conosciute di questo genere. La presenza di ammoniti del genere *Simocoscocer* Spath 1925 nel Tithonico inferiore di Cuba è un argomento a favore dell'efficacia della via proto-Atlantica per la migrazione di fauna ad ammoniti durante il Giurassico ("Hispanic corridor" sensu Westermann, 1984).

ABSTRACT

The occurrence of the ammonite genus *Simocoscocer* Spath, 1925 in the Lower Tithonian of Sierra del Rosario (Pinar del Río province, western Cuba) is reported for the first time. This genus was found in the Artemisa Formation, dated at the Upper Jurassic and Lower Cretaceous, in the Loma Ferretero section. Cuban ammonites of the genus *Simocoscocer* Spath, 1925 are different from the species of this genus which we know nowadays.

The presence of ammonites of the genus *Simocoscocer* Spath, 1925 in the Lower Tithonian of Cuba may speak in favour of effectiveness of the proto-Atlantic route of migration of ammonite fauna in the Jurassic "Hispanic corridor" sensu Westermann, 1984).

KEY WORDS

Cephalopoda, Ammonoidea, Cuba, Sierra del Rosario, Jurassic, Tithonian, Biostratigraphy, Paleogeography.

GENUS SIMOCOSMOCERAS SPATH IN EUROPE AND IN CUBA

In the last years a few ammonites of the genus *Simocoscocer* Spath, 1925 (type species: *Ammonites adversum* Oppel) were found in the Lower Tithonian of Sierra del Rosario, western Cuba (see Fig. 1). This ammonites were hitherto know from the Mediterranean region only. The available data show that they are most common and diversified at the specific level in Lower Tithonian coquinas of the Rogoźnik klippe in the Pieniny Klippen Belt, southern Poland (Zittel, 1870; Kutek & Wierzbowski, 1979, 1986). Moreover, they are sporadically recorded in strata of that age in the Central Apennines (Cecca et al., 1986), Romanian Carpathians and Betic Cordilleras (Spain) (see Cresta & Pallini, 1985). Three of four hitherto described species of that genus, *S. adversum* (Oppel), *S. simum* (Oppel) and *S. catulloi* (Oppel), are know from the coquinas from Rogoźnik, and the fourth, *S. pampalonii* Cresta & Pallini from Lower Tithonian limestones from

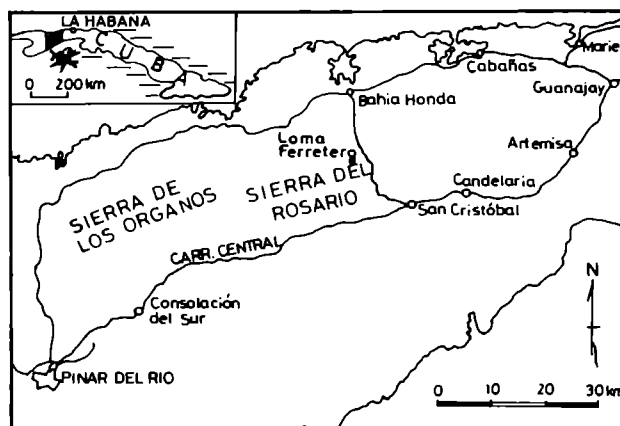


Fig. 1 - Location map of the study area in the Sierra del Rosario, Pinar del Río province, western Cuba.

Monte Acuto (Gruppo del Monte Catria, Marche, Italy). Moreover, representatives of this genus were recently also reported from the Tithonian of the Andes (see Leanza & Oloriz, in press). Cuban ammonites from genus *Simocoscocer* Spath, 1925 cannot be included into know species of this genus.

Ammonites of the genus *Simocoscocer* Spath somewhat resemble in morphology those of the genus *Saynoceras* Munier-Chalmas and Lapparent, 1893 (type species: *A. verrucosum* d'Orbigny), differing in less involute coiling and more prominent single and bifurcate ribs. Moreover, the latter are know from the Valanginian (Lower Cretaceous) of Europe and the former - from the Lower Tithonian: *Haploceras verruciferum* Zone sensu Oloriz, 1978 or *Semiformiceras semiforme* Zone sensu Enay & Geyssant, 1975, and according to Kutek & Wierzbowski (1979), also somewhat younger strata, i.e. those of the *Semiformiceras fallauxi* Zone sensu Enay & Geyssant, 1975.

LOWER TITHONIAN AMMONITE SUCCESSION IN SIERRA DEL ROSARIO (CUBA)

In Cuba, ammonites assigned to *Simocoscocer* sp. were found in the Loma Ferretero section (see Fig. 2) in southern part of Sierra del Rosario, about 1,5 km west of Cinco Pesos, in Pinar del Río province. The section displays dark and dark blue limestones of the Artemisa Fm., dated at the Upper Jurassic and Lower Cretaceous. The Lower Tithonian is here represented by strata assigned to two ammonite zones. The first of them, the Assemblage-zone of *Pseudolissoceras* spp., *Virgatosphinctes* spp. and *Simocoscocer* sp., is best represented in the

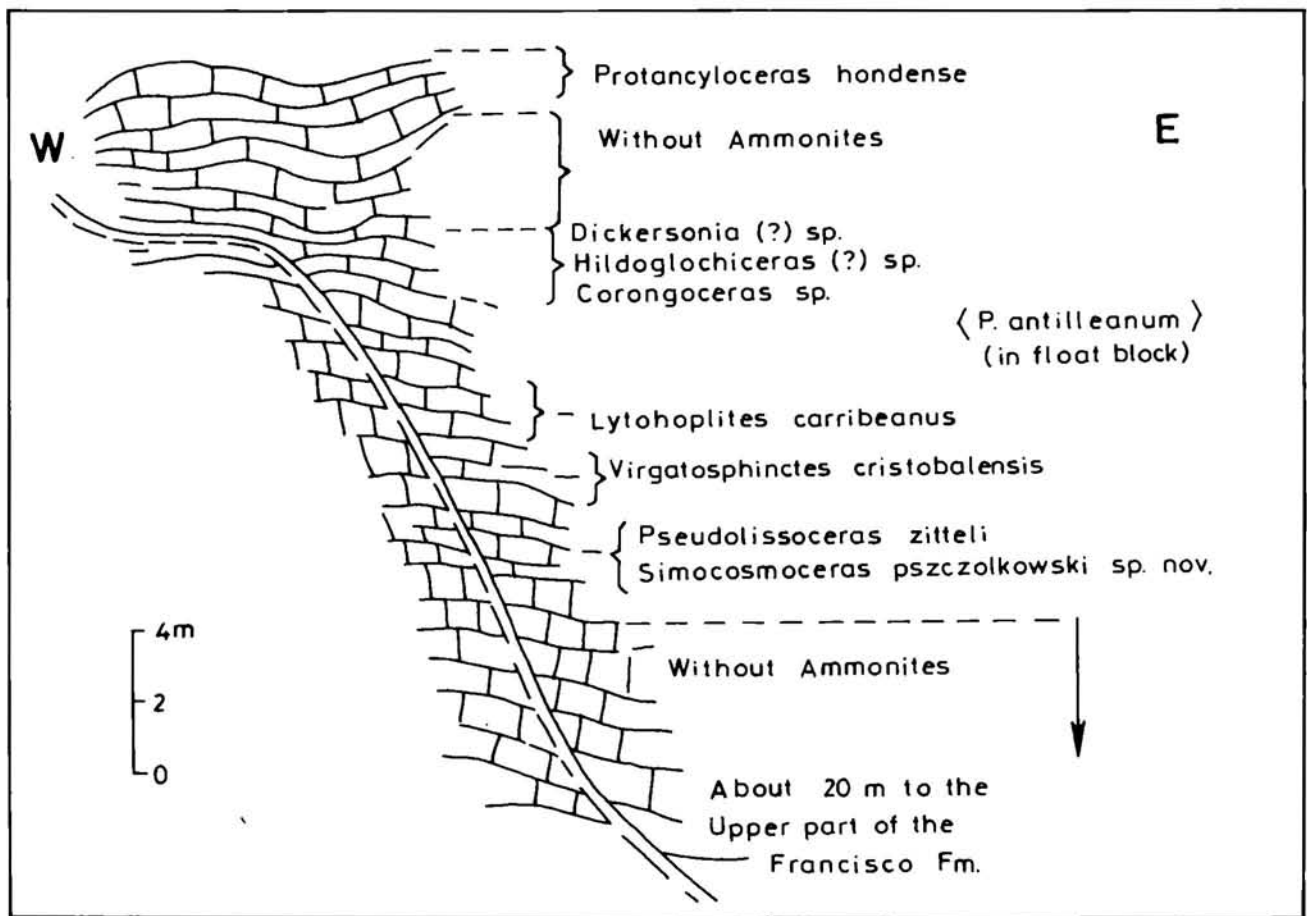


Fig. 2 - Occurrence of ammonites in the Tithonian limestones of the Artemisa Fm. in Loma Ferretero section.

Loma Ferretero section, where it is up to 10 m thick. The older, *Mazapilites* spp. Zone, differentiated in Sierra de los Organos, has not been identified yet in Sierra del Rosario. Ammonites such as *Simoceras* and *Metabaploceras* reported from Sierra del Rosario by Imlay (1942), may indicate somewhat older age than middle Early Tithonian, but cannot be treated as the evidence for presence of that zone (R. Myczyński in press). The second ammonite zone, comprising upper part of the Lower Tithonian in that region, is the *Lythoplites caribbeanus* Taxon-range-zone. Its lower boundary is defined by appearance of the index species and disappearance of representatives of the genera *Pseudolissoceras*, *Virgatosphinctes*, and *Simocoscoceras*. It follows that range of the latter genus is here confined to middle part of the Lower Tithonian only.

The *L. caribbeanus* Zone, some dozens cm in thickness, is characterized by impoverishment in ammonites, among which those of the index species clearly predominate. Upper boundary of that zone is delineated by the base of the Upper Tithonian. The latter strata here yield scarce ammonites *Parodontoceras*, *Dickersonia*, *Protancyloceras hondense* (Imlay), *Protancyloceras catalinense* (Imlay) and *Vinalesites rosariensis* (Imlay).

PALEOBIOGEOGRAPHIC IMPLICATIONS OF OCCURRENCE OF SIMOCOSMOCERAS IN THE LOWER TITHONIAN OF SIERRA DEL ROSARIO

Up to the present, ammonites of the genus *Simocos-*

moceras were found in Lower Tithonian strata of Sierra del Rosario but not in the neighbouring Sierra de los Organos. This gives further support to differences in fauna of the two regions, traceable in both Upper Jurassic and Lower Cretaceous ammonite assemblages (see Myczyński

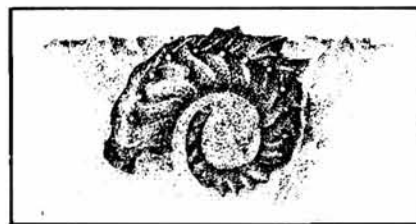


Fig. 3
Simocoscoceras sp.
from the Artemisa
Fm. in the Loma
Ferretero section,
lateral side... $\times 1,0$.

ski, 1976, 1977; Wierzbowski, 1976; Myczyński and Triff, 1986). The differences may be due to the fact that these regions, nowadays tectonically juxtaposed (see Pszczółkowski, 1982), could be somewhat distant and, therefore, characterized by different bathymetric conditions in Early Tithonian time. However, it should be noted that the presence of transitional facies puts some constraints on geographical separation of these regions.

On the other hand the presence of ammonites of the genus *Simocoscoceras* in the Lower Tithonian of Cuba (see Pl. 1, Fig. 1 and Fig. 3) and Argentina (see Leanza and Oloriz, 1987 in press) may speak in favour of effectiveness of the proto-Atlantic route of migration of am-

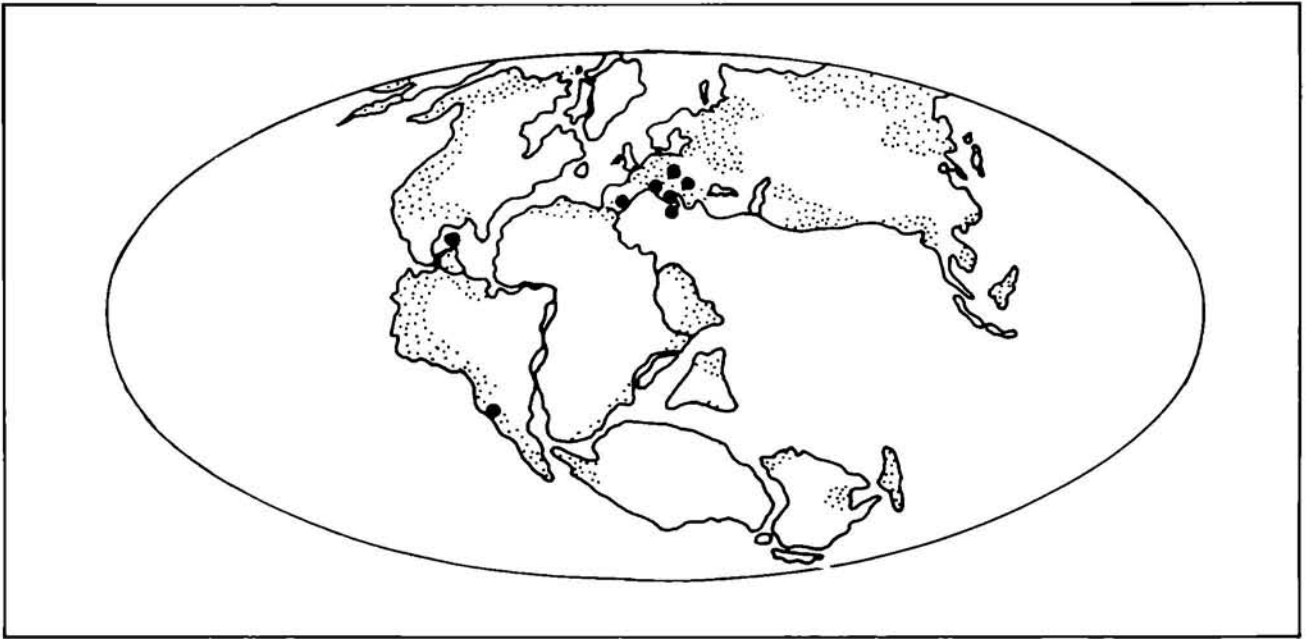


Fig. 4 - Geographical distribution of the genus *Simocosmoceras* Spath. Areas of maximal marine transgression are dotted. Paleogeographical reconstruction after Verma and Westermann, 1973. Distribution of that genus after Leanza and Oloriz, 1987 in press.

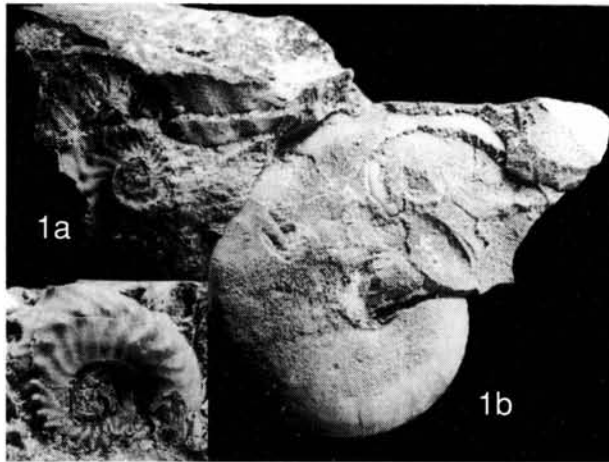


Plate 1 - Fig. 1 - *Simocosmoceras* sp. $\times 1,5$ (Fig. 1a) and *Pseudolissoceras zitteli* Burckhardt ... $\times 1,2$ (Fig. 1b), Lower Tithonian, Artemisa Fm., Sierra del Rosario, Pinar del Rio province.

monite fauna in the Jurassic, that is the Hispanic corridor sensu Westermann, 1984, (see also Fig. 4).

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