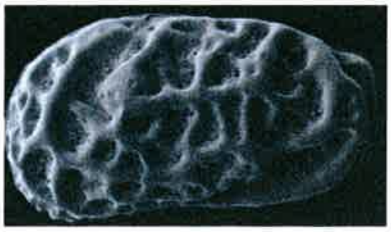

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Abstracts

Le Canigou

Vue sur Banyuls-sur-Mer

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Art Roman de la cathédrale d'Elne

Sieve-type pores on the valves of Timiriaseviinae ostracods. Their interest for the systematics of selected taxa

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Sieve-type pores occur in many marine ostracod groups, both in living and fossil taxa. The diversity of their shape has been used for (palaeo)ecology (*e.g.* Rosenfeld & Vesper, 1977) and for systematics (*e.g.* Puri, 1974) of various ostracod groups. They are less well documented for non-marine ostracods.

Jean-Paul Colin realized the potential interest of the sieve-type pores when studying with several of us (OK, MCC, MY) a new species of *Gomphocythere* Sars, 1924, from Turkey. Colin's idea was that sieve pores occur in fixed positions on the valves of *Gomphocythere*, specific for various taxa, hence their potential use for systematics of selected taxa of Timiriaseviinae. Following Colin's ideas we: (i) review the general literature on the sieve-type pores; (ii) show how to map the complete distribution of the sieve plates on a valve of *Gomphocythere,* a method which should become a model for future research of these structures; (iii) provide information on the general shape, size variation and density of the sieve plates on the valves of species belonging to different genera of Timiriaseviinae, from published bibliography and from recent and fossil specimens, coming from environments differing in salinity, particularly *Gomphocythere, Gomphodella* De Deckker, 1981 and the fossil *Theriosynoecum* (Branson, 1935); and finally, (iv) offer comparative information on several genera of Limnocytherinae.

In this communication we will show that: (1) Timiriaseviinae taxa display a special type of sieve-pores (Fig. 1), namely plates with a variable number of minute tubuli and devoid of a normal seta within the "sieve" area and a separate single pore with a seta – Type D of sieve pores in Puri & Dickau (1969), different from Type C (sieve plates with a normal seta within the sieve plate area) found in Limnocytherinae (Whatley & Cholich, 1974; Martens, 1990) and in many marine cytherid groups (*cf. inter alia*, Puri & Dickau, 1969; Puri, 1974).

(2) In all of the studied specimens the sieve plates are also visible in the interior of the valves, where they show less shape variation.

(3) The distribution of the sieve plates on the carapace appears to be similar within a genus: for instance, covering all the surface and with a round or elongated shape in *Gomphocythere* at a mean density of 2.3 plates for a standard unit of 3876 μm^2. In *Gomphodella* the sieve plates, generally round, are extremely abundant, covering all the surface and at a density of 14 to 23 plates for standardized surfaces of 1517 μm^2. In *Cytheridella* Daday, 1905 sieve plates

are very small, roughly circular, and sparsely distributed, mainly on the posterior part of the valve. In *Theriosynoecum,* for which we have information only from the inner side of the valve, we found few sieve plates but of very large size.

(4) The number of sieve plates, their shape and the number of tubuli within a plate on the carapace are morphologic traits which could be useful for taxonomic purposes *e.g.* species of the genus *Gomphodella* have a high number of sieve plates whereas in the case of *Gomphocythere* and *Cytheridella* species the number of plates is much lower.

(5) We show that *Metacypris cordata* does not display sieve plates, as assumed by Martens (1995) and more recently by Karanovic & Humphreys (2014). Also, representatives of other Timiriaseviinae genera like *Elpidium* Müller, 1880, *Kovalevskiella* Klein, 1963 and *Dolekiella* Gidó, Artheau, Colin, Danielopol, Marmonier, 2007, do not have sieve plates.

(6) Within the genus *Gomphodella, G. maia* De Deckker, 1981 has small round sieve plates (~2 µm) with around 14-17 tubuli, *G. aura* Karanovic, 2009 has roughly circular sieve plates (~2 µm) with around 18-26 tubuli, whereas *G. quasihirsuta* Karanovic, 2009 has more ovoid sieve plates (~3.5-4.6 µm) with a range of tubuli similar to those of *G. aura*. It is possible that the difference in size and in the shape of the sieve-plates of *G. quasihirsuta*, as compared to the other two *Gomphodella* species, may also be related to the salinity of the habitat.

In conclusion, we hope the information presented here will stimulate new research for the progress of the systematics and phylogeny of Timiriaseviinae, as well as for controlled (experimental) observations on the possible variation of sieve plates related to water chemistry. In that way, this project is the best tribute we can offer to the late Jean-Paul Colin.

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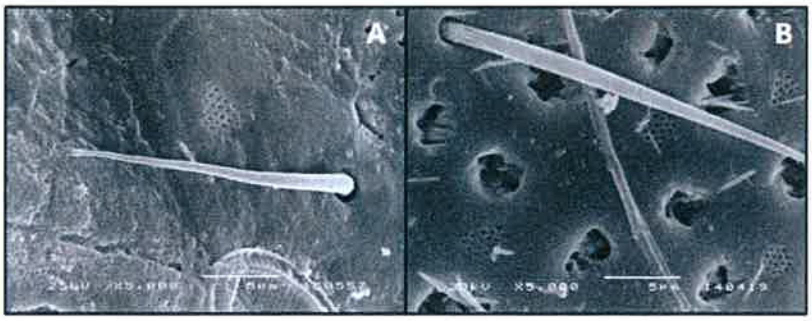

Figure 1 – Sieve-plates and single pore with a seta in: A – *Gomphocythere* sp., Adıyaman,Turkey; B – *Gomphodella maia* De Deckker, 1981, Turners Spring, Australia.