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THE NAMES OF THE EUROPEAN SPECIES OF THE GENUS
XANTHO LEACH, 1814 (CRUSTACEA DECAPODA BRACHYURA)

BY

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In a well documented and beautifully illustrated report DRACH and FOREST (1953) gave a revision of the European species of the Crustacean genus *Xantho* Leach, 1814. From a taxonomic point of view this report leaves little to be desired; it makes the systematic status of the various European *Xantho* species perfectly clear. However, the names given by DRACH and FOREST to several of the species dealt with by them cannot be accepted, since they are invalid from a nomenclatorial point of view. The position of these names is discussed below.

I. *Xantho floridus* (Montagu, 1808)

By giving the name of one of the species as *Xantho floridus* (Montagu, 1808) DRACH and FOREST, like most previous authors, evidently consider MONTAGU's *Cancer floridus* as a new species. This, however, is entirely incorrect. MONTAGU (1808, p. 85), namely, did not intend at all to describe a new species, but identified his specimen with *Cancer floridus* L., 1767, as is distinctly shown by his reference to "Cancer floridus. *Linn. Syst.* p. 1041. *Herbst.* ii. t. 21. f. 120." and by his remarks "This species, I believe, has never been placed in the catalogue of British *Cancris*; but being now discovered to be indigenous to this island, it may be thought deserving a place amongst the literary communications of this country, notwithstanding it has been figured by Herbst." and "it is however in all probability the *Cancer floridus* of Linnaeus." The true *Cancer floridus* L. is a common Indo-West Pacific species, that at present is known under the name *Atergatis floridus* (L.).

It is evident therefore that the name *floridus* cannot be used for the European *Xantho*, to which species it was erroneously given by MONTAGU, who misidentified his British material.

The first valid name given to MONTAGU's species is that of *Cancer incisus* Leach (1814), and therefore it should be known under the name *Xantho incisus* (Leach, 1814).

The Mediterranean form named by DRACH and FOREST *Xantho floridus* var. *granulicarpus* Forest in my opinion is a subspecies rather than a variety since it replaces the typical *Xantho incisus* in the Mediterranean;

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it should therefore be known as *Xantho incisus* ssp. *granulicarpus* Forest. I even am inclined, basing myself on the account of DRACH and FOREST and on material examined by myself, to elevate the Mediterranean form to the rank of a full species, *Xantho granulicarpus* Forest.

II. *Xantho rivulosus* (Risso, 1816)

Cancer poressa Olivi (1792) has been identified by many authors, like HELLER (1863, p. 67), PESTA (1918, p. 423), BOUVIER (1940, p. 265), and GIORDANI SOIKA (1943, p. 85), with *Cancer floridus* Montagu (non L.). As far as I know only GIORDANI SOIKA actually substituted the name *poressa* for *floridus*, which under the circumstances was a perfectly justified action. DRACH and FOREST (1953, p. 11, footnote) remark: "*Cancer poressa* est probablement identique au *X. floridus*, mais Olivi n'en donne pratiquement pas de description et la figure est assez peu caractéristique". When I found that the name *floridus* is not available for a European *Xantho*, I first was of the opinion, basing myself on PESTA's and BOUVIER's monographs, that the specific name *floridus* for that species should be substituted by that of *poressa* Olivi, as had already done GIORDANI SOIKA. After a careful examination of OLIVI's (1792, p. 48, pl. 2 fig. 3) description and figure of his *Cancer Poressa*, however, I found that I had to disagree with the authors mentioned above. In the first place I think it very well possible to identify OLIVI's *Cancer Poressa* from the figure and description given, and secondly I have become fully convinced that OLIVI's species is not *Xantho granulicarpus* Forest, but *Xantho rivulosus* (Risso). In OLIVI's figure of *Cancer Poressa*, namely, the anterolateral teeth of the carapace are broad, little pronounced and directed anteriorly, just as in *Xantho rivulosus*; in *X. granulicarpus* these teeth are narrower, more pronounced and directed more outward. The sculpturation of the carapace of *Cancer Poressa* is faint as in *X. rivulosus*, in *X. granulicarpus* it is far deeper and more distinct. The front probably is incorrectly drawn by OLIVI, since neither *X. rivulosus* nor *X. granulicarpus* has a four-lobed front; it is of course also possible, as suggested by some authors, that the front in OLIVI's specimen is abnormal. The legs and the chelipeds of *Cancer Poressa* in OLIVI's drawing are shown to be quite smooth, just as in *X. rivulosus*; in *X. granulicarpus* the surface of these legs, and especially that of the carpus of the chelipeds, generally is very uneven. The dentition of the fixed finger of the large chela in *Cancer Poressa* is peculiar by having the larger part of the cutting edge unarmed, only two distinct blunt teeth being placed in the extreme basal part of the edge. This dentition has been well illustrated by DRACH and FOREST (1953, figs. 6, 12) for *Xantho rivulosus*. In my material of *X. rivulosus* I also found this dentition, while it does not occur in any of the *X. granulicarpus* specimens examined by me. Finally OLIVI in his description of *Cancer Poressa* states: "Abita tra le fessure dei sassi del litorale, e delle lagune", what is exactly where *X. rivulosus* is very

abundant. PESTA (1918, p. 422) remarks that *X. rivulosus* "liebt den sandig-steinigen Uferstrand, wo sie stets mehr oder weniger häufig schon in ganz geringen Tiefen angetroffen wird, ja an manchen ihr besonders zusagenden Lokalitäten auch ausserhalb des Wassers (in der Brandungszone) unter Steinen im feuchten Sand verkrochen sich aufhält", while the same author (p. 425) says of the Adriatic *X. granulicarpus*: "wurde aus dem adriatischen Meere bisher viel weniger oft gemeldet als der nächstverwandte *X. hydrophilus* [= *X. rivulosus*]; der Hauptaufenthaltort dürfte eben nicht so sehr das seichte Ufer als vielmehr die untere Litoralzone (40–100 m) sein". All this in my opinion proves the identity of *Cancer Poressa* Olivi and *Xantho rivulosus* (Risso) beyond any doubt. The specific name *poressa* thus should be substituted for *rivulosus*, as it is the older of the two.

There exists another synonym of *Cancer rivulosus* Risso, 1816, namely *Cancer levifrons* Rafinesque, 1814. In his publication RAFINESQUE described this Sicilian species on p. 20: "*Cancer levifrons*. Glabre, jambes pubescentes, épaules à 5 dents obtuses, les 3 antérieures plus petites, front égal et entier, doigts noirs". Though this description is very meagre, it gives enough details of the specimen to make certain that it belongs in the genus *Xantho*, no other Mediterranean genus showing all the characters enumerated by RAFINESQUE for his species. RAFINESQUE's description of the anterolateral teeth fits better for *X. rivulosus* than for *X. granulicarpus*, while moreover *X. rivulosus* is by far the more common of the two species. For these reasons we are allowed, I believe, to synonymize *Cancer levifrons* with *Cancer Poressa* and *Cancer rivulosus*. Of these three specific names *poressa* is the oldest and should be used, the name of the species thereby becoming *Xantho poressa* (Olivi, 1792). The word *poressa* is a noun, being derived from the Venetian vernacular name *Poressa salvadega* (cf. OLIVI, 1792, p. 48), and thus should be left unchanged even when used in combination with the generic name *Xantho*, which generally is considered to be of the masculine gender.

The following table lists the four European forms of *Xantho* both under the names as given by DRACH and FOREST and under their nomenclatorially correct names:

Names used by DRACH & FOREST (1953)	Correct names
<i>Xantho floridus</i> (Montagu, 1808)	<i>Xantho incisus</i> (Leach, 1814)
<i>Xantho floridus</i> var. <i>granulicarpus</i> Forest, 1953	<i>Xantho incisus</i> ssp. <i>granulicarpus</i> Forest, 1953
<i>Xantho rivulosus</i> (Risso, 1816)	<i>Xantho poressa</i> (Olivi, 1792)
<i>Xantho pilipes</i> A. Milne Edwards, 1867	<i>Xantho pilipes</i> A. Milne Edwards, 1867

It might be suggested that the above changes, though nomenclatorially correct, are undesirable and should be prevented by making use of the plenary powers of the International Commission on Zoological Nomen-

elature. Personally I do not think that a use of these plenary powers is justified in the present cases. As far as the name *floridus* is concerned, this question is not purely nomenclatorial, but is mainly taxonomical. Here it is not simply a question of the priority of one name over the other, but one of taxonomic misidentification. And even if we considered *Xantho incisus* as having been described as a new species by MONTAGU under the name *Cancer floridus*, then we still cannot validate this latter name by suppressing under plenary powers all use of it previous to 1808, since that would do away with *Cancer floridus* L., 1767, and thus invalidate the widely used name *Atergatis floridus* (L.) for a common Indo-West Pacific species of crab. The only solution for this problem as I see it is to follow the Rules strictly and to use the name *Xantho incisus* (Leach, 1814) for the species that formerly was generally known under the name *Xantho floridus*.

The case of the names *poressa* vs. *rivulosus* is a totally different one, this indeed is a purely nomenclatorial problem. The specific names *poressa* Olivi, 1792, *levifrons* Rafinesque, 1814, and *rivulosus* Risso, 1816, have been given by their authors to species that they thought to be new, while later these three species proved to be identical. It would be possible to validate the specific name *rivulosus* by the suppression of the other two names under the plenary powers of the International Commission on Zoological Nomenclature. One might ask whether this drastic action is justified in the present case. In my opinion the answer to this question must be negative. Though in older literature the name *rivulosus* has frequently been used, in modern handbooks on European crabs (e.g., PESTA, 1918, p. 420; BALSS, 1926, p. 43; Marine Biological Association, 1931, p. 218; BOUVIER, 1940, p. 266; ZARIQUET, 1946, p. 161) the species has currently been indicated with the name *hydrophilus* Herbst, 1790. DRACH and FOREST quite correctly showed that Herbst's name is untenable for the European species, since it is based on a Xanthid from the Indo-West Pacific region. Therefore the two French authors reintroduced the long forgotten specific name *rivulosus*. Since at present *rivulosus* is not a current name, there seems to be little sense in preserving it by a double suspension of the Rules (once for the suppression of *Cancer poressa* and once for that of *Cancer levifrons*). In this case too it seems best to follow the Rules strictly and to adopt the name *Xantho poressa* (Olivi, 1792) for the species.

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