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Two new species of *Cymothoidae* (Crustacea, Isopoda)
from fishes of the shelf of North-West Africa

Dwa nowe gatunki z rodziny *Cymothoidae* (Crustacea, Isopoda)
pasożytujące na rybach szelfu północno-zachodniej Afryki

Abstract

ROKICKI J. 1986. Two new species of *Cymothoidae* (Crustacea, Isopoda) from fishes of the shelf of North-West Africa. *Acta parasit. pol.*, 30, 251-258.

Cymothoa slusarskii sp.n. from the mouth of *Dentex macrophthalmus* of the coastal region of West Sahara is most similar to *C. plebeia* Schioedte et Meinert, 1884, but differs from it by distinct carinae on the basis of VII pereopods, lack of appendix masculinum in female stage, greater body dimensions, and by the host. *Irona trillesi* sp.n. based on a transit specimen and a male from gills of *Belone belone* of the Senegal coast resembles *I. nana* Schioedte et Meinert, 1884 and *I. renardi* (Bleeker, 1856). It is distinguished from the former by the structure of mouth parts, shape of pleopods II, and the position of pleonite I. It differs from *I. renardi* by the body-shape, the structure of mouth parts, and the width to length ratio of telson. *I. trillesi* sp.n. is also different from both in its geographical distribution. Female and male isopods reported by TRILLES 1979 as *Irona* sp. 1 are classified as belonging to *Irona trillesi* sp.n.

The material on which the present paper is based was collected during one of Polish fishing expeditions performed on the fishing grounds at the coastal regions of North-West Africa. Among this material there were undescribed parasitic *Isopoda*, viz. *Cymothoa* sp. from *Dentex macrophthalmus* (Bloch) and *Irona* sp. from *Belone belone* (L.). Of the 803 examined dentexes one was found to harbour 2 *Cymothoa* specimens in the glossal area of its mouth cavity. Only one gar-fish was caught. Its examination revealed 2 *Irona* specimens fixed on the gills. *Belone belone* is a rare fish in that region which is the southern border of its distribution range in the eastern Atlantic.

The genus *Cymothoa* Fabricius, 1787 is one of the most poorly understood of all the cymothoid genera. Species within this genus, in so far as they are known, are distinguished from one another mainly by the shape of pereonites, coxae and cephalon. Of the more than 30 known species only three or four have been described in this century. Only one species, viz.

Cymothoa plebeia Schioedte et Meinert, 1884, has been reported from the shelf of North-West Africa. Another species is described here. The genus *Irona* Schioedte et Meinert, 1884 contains fewer species than the genus *Cymothoa*. The body of female representatives of this genus is twisted to one side, while that of males is more symmetric. The species of *Irona* have never been found on the shelf of North-West Africa, but one hitherto unknown species is described in the present paper.

In the ensuing pages a description of the two species mentioned above is given. It affords me the great pleasure to name one of them in honour of my esteemed teacher – Professor W. Ślusarski of the Institute of Parasitology, Warsaw, on the occasion of this 70th Birthday. Another species is named in honour of Professor Jean-Paul Trilles, Université des Sciences et Techniques du Languedoc, Montpellier.

Descriptions

Cymothoa slusarskii sp.n. (Figs. 1–3)

Material examined: Holotype ♀ (Museum of Natural History, University

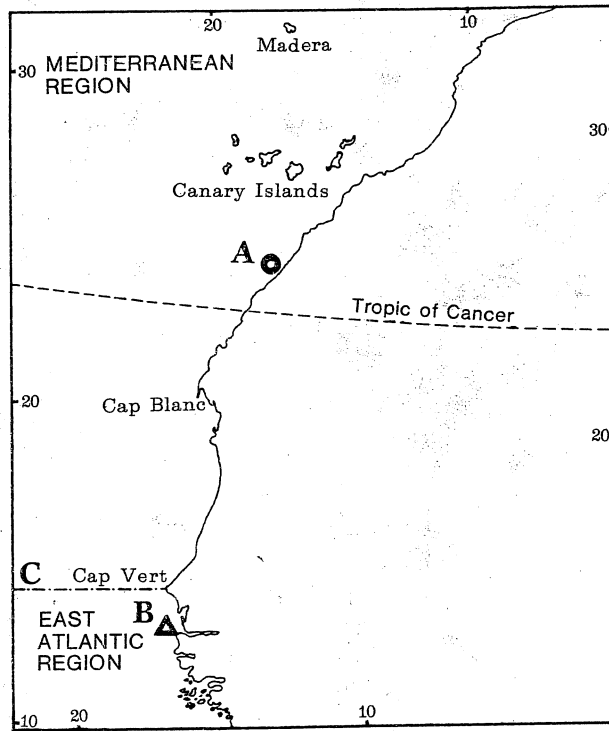


Fig. 1. Map showing the position of the places in the shelf of North-West Africa in which the new species were recorded: A – *Cymothoa slusarskii* sp.n., B – *Irona trillesi* sp.n., C – border between regions (after BRIGGS 1974)

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ecies mentioned above is of them in honour of my Institute of Parasitology, other species is named in s Sciences et Techniques

of Wrocław, No. 540); allotype: ♂ (Museum of Natural History, University of Wrocław, No. 540) from the mouth of *Dentex macrophthalmus* (Bloch), coast of West Sahara (25°08'N and 15°06'W), (Fig. 1).

Female (Figs. 2 A and 3). Body: Width 14.1 mm, length 33.6 mm; body index 2.4. Colour (in alcohol): light tan.

Cephalon: Width 1.4 times the length; frontal margin rounded and slightly turned in; posterior margin straight, closely adjoined pereonite I. Eyes covered. Antennae I of 8 articles, with articles gradually decreasing (Fig. 3 A), not extended to posterior border of cephalon. Antennae II of 8 articles, with articles gradually decreasing (Fig. 3 B). Maxilliped with 4 spines on distal articles (Fig. 3 F). Maxilla I with 4 terminal spines (Fig. 3 C). Exopod of maxilla II with 3 smaller, terminal spines; endopod with 1 terminal spine (Fig. 3 D). Mandible as illustrated (Fig. 3 E).

Pereon: Pereonite I the longest; II-IV subequal in length; V-VII the shortest. Posterolateral angles of all pereonites smoothly rounded. All coxae not extended beyond posterior margins of their respective segments. Pereopods V-VII with carinae on the basis; posterior pereopods with more distinct carinae (Fig. 3 I).

Pleon: Pleonites V longest and broadest. Pleopods with lamellar accessory gill and pocket (Fig. 3 J-N). Pleotelson: with 2.0 times the length.

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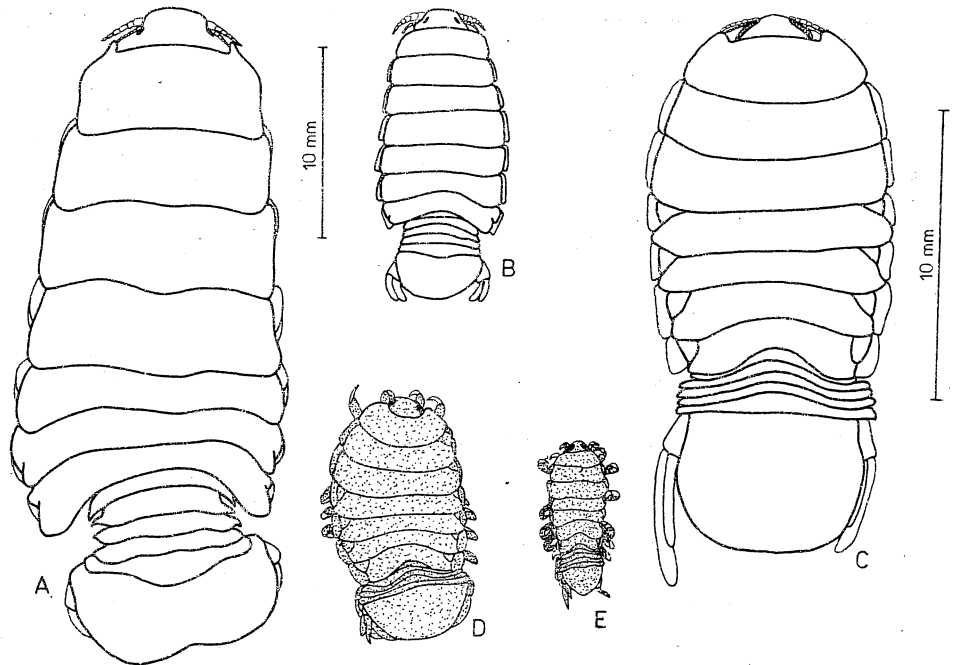
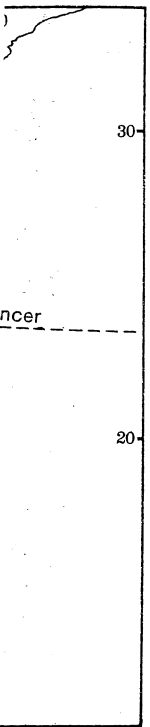


Fig. 2. A-B - *Cymothoa slusarskii* sp.n. from *Dentex macrophthalmus* (Bloch): A - female, B - male; C - *Irona trillesi* sp.n., transit specimen from *Belone belone* (L.); D-E - *I. trillesi* sp.n. (= *Irona* sp. 1 of Trilles, 1979) from *Abiennes hians* (Val.) (after TRILLES 1979); D - female, E - male

North-West Africa in which the *Irona trillesi* sp.n., C - border 4)

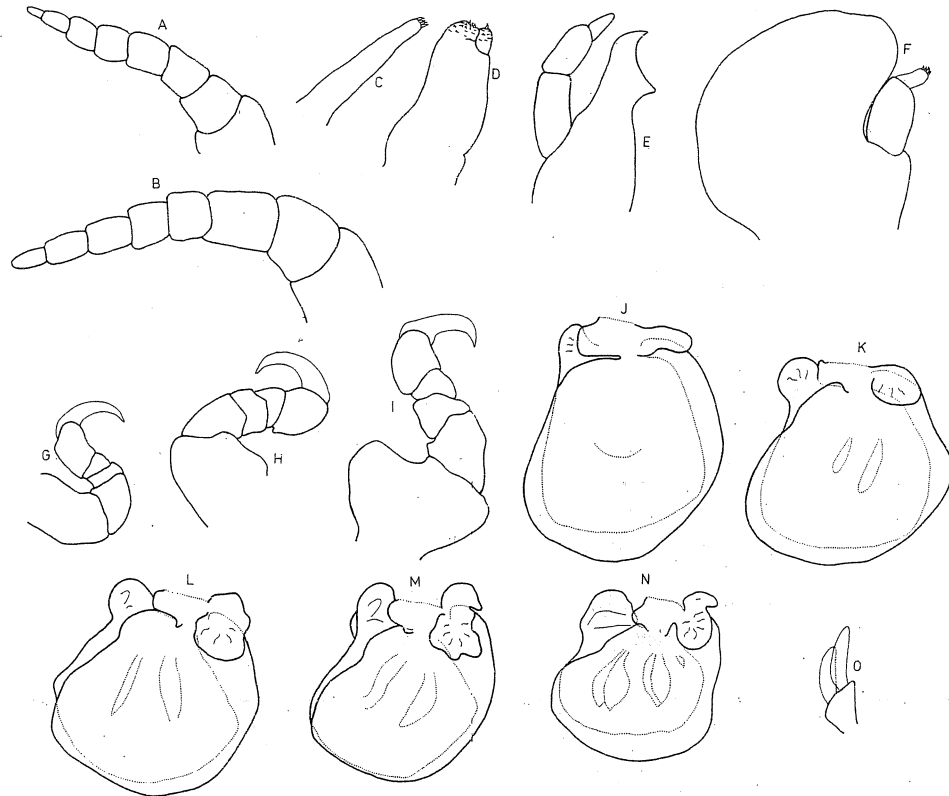


Fig. 3. *C. slusarskii* sp.n., female; A - antenna I, B - antenna II, C - maxilla I, D - maxilla II, E - mandible, F - maxilliped, G - pereopod I, H - pereopod V, I - pereopod VII, J - pleopod I, K - pleopod II, L - pleopod III, M - pleopod IV, N - pleopod V, O - uropod

Posterior margin of pleotelson with incision. Uropods short, not reaching posterior border of pleotelson; exopod and endopod similar in shape; endopods slightly larger than exopod (Fig. 3 O).

Male (Fig. 2 B). Body: 6.6 mm wide, 15.0 mm long; body index 2.2. Similar to female except for the following: body smaller and narrower; pereonites and pleonites less bent; pleotelson broadly rounded; appendix masculinum subequal to the length of endopod of II pleopods; uropods extended slightly beyond the posterior margin of pleotelson.

Remarks. *Cymothoa slusarskii* sp.n. is similar to *Cymothoa plebeia* Schioedte et Meinert, 1884, but shows the following differences: distinct carinae on the basis of the VII pereopods, lack of appendix masculinum in the female stage and greater body dimensions. *C. plebeia* was collected only from *Brachydeuterus auritus* (Val.) while *C. slusarskii* sp.n. occurred in *Dentex macrophthalmus* (Bloch).

Irona trillesi sp.n. (Figs. 2 C and 4)

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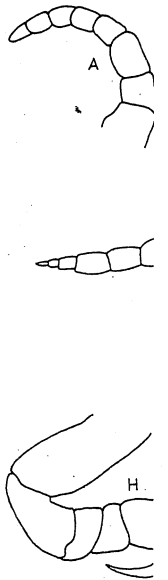
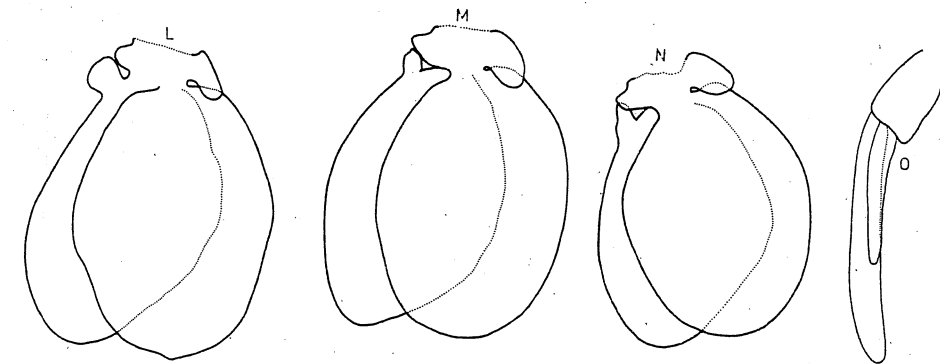
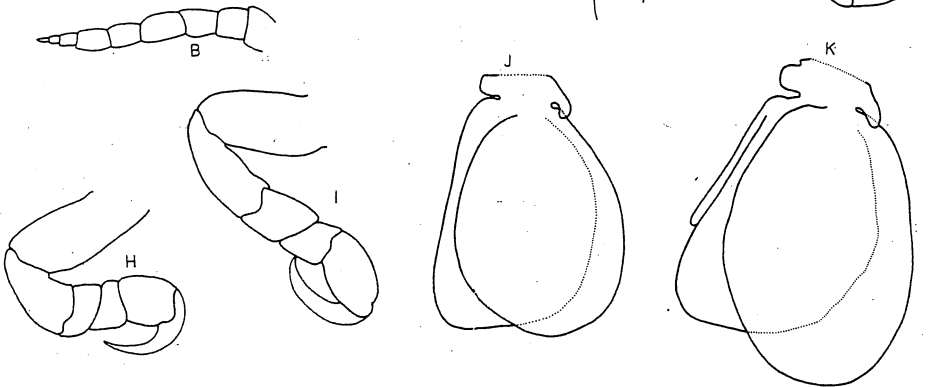
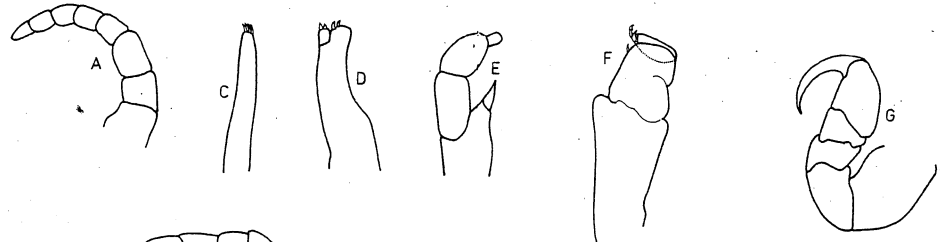
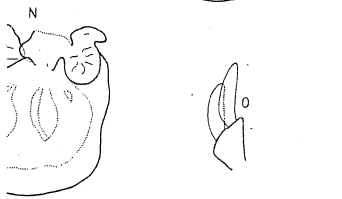
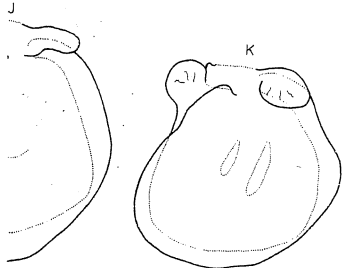
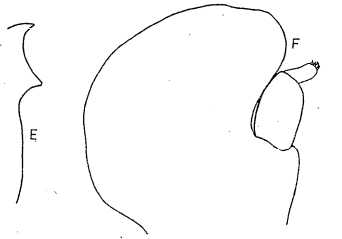


Fig. 4. *I. trillesi*
E - mandible,
J - pleopod I

History, University of Wrocław, vial No. 541) from the gills of *Belone belone* (L.) of the Senegal coast (12°55'N and 17°04'W); allotype ♂ (Museum of Natural History, University of Wrocław, vial No. 541) from the skin near the gill cover of *Belone belone* (L.) of the Senegal coast (12°55'N and 17°04'W).

Transit. Body: width 8.3 mm, length 18.3 mm; body index 2.2. Colour (when in alcohol) light tan.

Cephalon: Width 1.2 times the length; posterior border not trisinate, weakly to moderately adjoined to pereonite I. Eyes well developed. Antennae I of 8 articles; articles 4-8 subequal in length (Fig. 4 A), extended to anterior



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Fig. 4. *I. trillesi* sp.n., transit: A - antenna I, B - antenna II, C - maxilla I, D - maxilla II, E - mandible, F - maxilliped, G - pereopod I, H - pereopod IV, I - pereopod VII, J - pleopod I, K - pleopod II, L - pleopod III, M - pleopod IV, N - pleopod V, O - uropod

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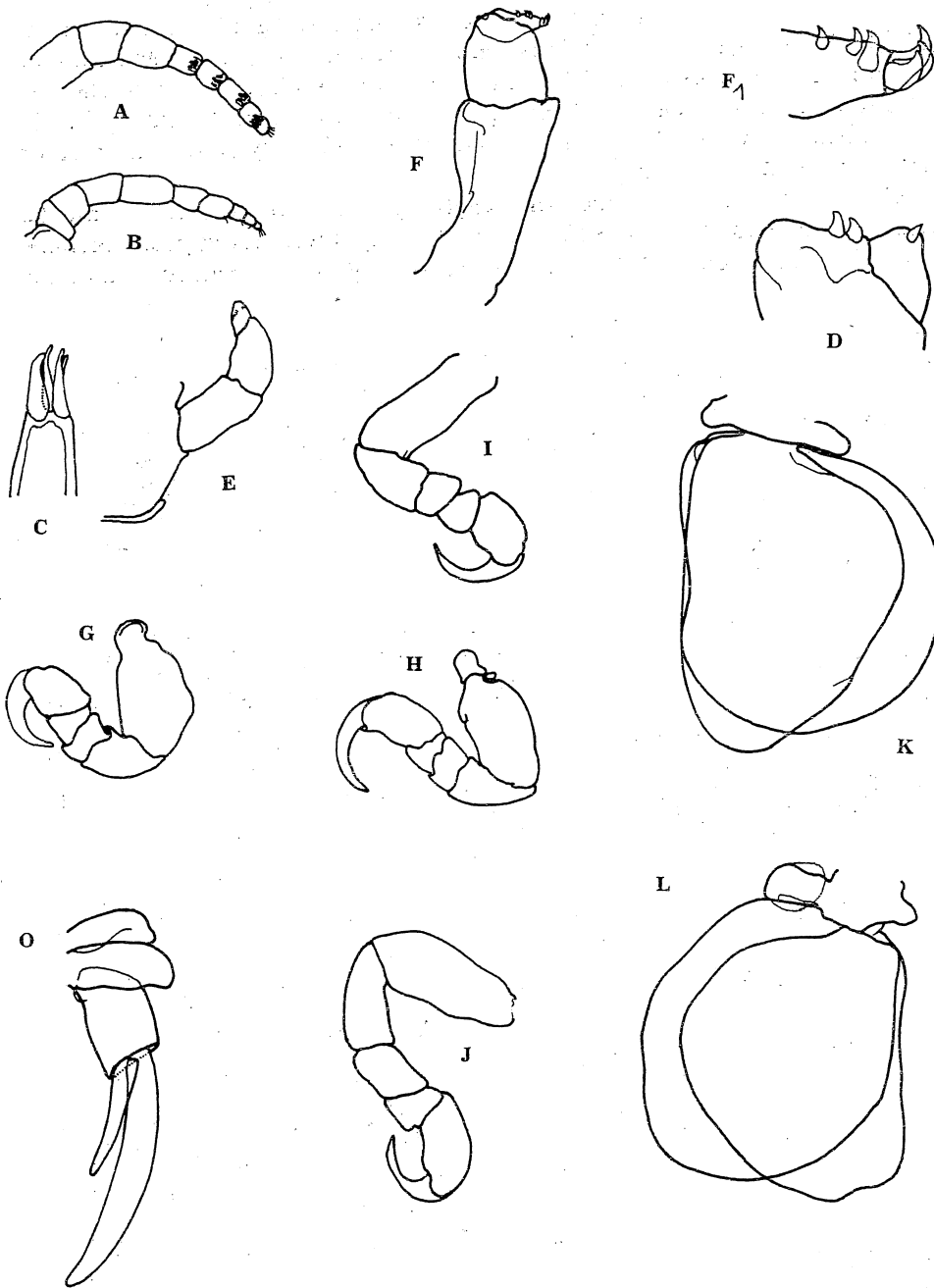


Fig. 5. *I. trillesi* sp.n. (= *Irona* sp. 1 of Trilles, 1979), female (after TRILLES 1979): A — antenna I, B — antenna II, C — maxilla I, D — maxilla II, E — palp of mandible, FF₁ — maxilliped, G — pereopod I, H — pereopod III, I — pereopod IV, J — pereopod VII, K — pleopod I, L — pleopod II, O — uropod

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pereonite I. Antennae II of 9 articles; articles 7-9 gradually decreasing in size (Fig. 4 B), extended to anterior pereonite I. Maxilliped with 4 spines on distal article (Fig. 4 F). Maxilla I with 4 terminal spines (Fig. 4 C). Maxilla II with two spines on the inner lobe, two spines on the outer lobe (Fig. 4 D). Mandible as illustrated (Fig. 4 E).

Pereon: Pereonite I the longest; pereonite VII the shortest; II-III and IV-VI subequal in length. Pereonites III-IV the widest. Posterolateral angles: in all pereonites not produced; pereonites I-III directly, IV-VII acute. Coxae with posterior angles rounded, not extended to the posterior margin of respective pereonites; coxae II-III larger. Pereopods increasing gradually in length posteriorly. Penes moderately well developed.

Pleon: Pleonites I-IV subequal in length in medial line; V the longest in medial line. Pleopods well developed. Appendix masculinum attains $2/3$ the length of pleopods II (Fig. 4 K). Pleotelson wider than long, width 1.3 times the length; posterior margin rounded. Uropods different in length, the right shorter than the left; exopod longer and wider than endopod; endopods are shorter than or the same length as posterior margin of pleotelson; exopods extend beyond terminal margin of pleotelson.

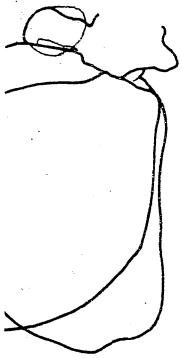
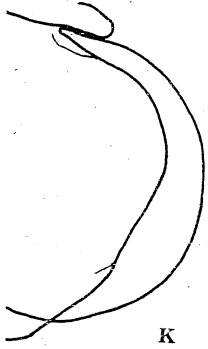
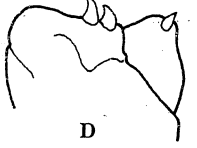
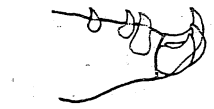
Male. Width 5.8 mm; length 16.6 mm; body index 2.86. Similar to transit except for the following: the body smaller and narrower, eyes larger, coxal plates less visible in dorsal view.

Remarks. *Irona trillesi* sp.n. resembles *Irona nana* Schioedte et Meinert, 1884 and *Irona renardi* (Bleeker, 1856). However, it differs from *Irona nana* by the structure of mouth parts, the shape of pleopods II, and in that pleonite I is less immersed in VII pereonite. *Irona nana* sp.n. occurs along the Atlantic coasts of North and South America and in the Mediterranean Sea. It also differs from *Irona renardi* by the body shape which is more ovate, the structure of mouth parts, and the width to length ratio of the telson. *Irona renardi* occurs in the Indo-Pacific region.

The female and the male from *Ablennes hians* (Val.) (*Belonidae*) of the Senegal coast, reported and drawn by TRILLES 1979 as *Irona* sp. 1 (his Figs. 1-33) bear characters which fall within the range of specific diagnosis of the present *Irona trillesi* sp.n. TRILLES 1979 gave an illustrated description which is applicable to the present specimens from *Belone belone* (L.). This view is supported by a comparison of certain specific discriminants of *I. trillesi* sp.n. (Fig. 4 in this paper) with those of *Irona* sp. 1 of TRILLES 1979 (Figs. 2 D-E and 5 in this paper).

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 SCHIOEDTE J. C., MEINERT F. 1884. Symbolae ad monographium cymothoarum crustaceorum isopodum familiae. 4. *Cymothoidae*. *Naturh. Tidsskr.*, 14(3), 353-454.



1979): A - antenna
 e, FF₁ - maxilliped,
 VII, K - pleopod I,

TRILLES J. P. 1979. Éléments pour la faune parasitaire de Sénégal. Sur quelques *Cymothoidae* (*Isopoda*, *Flabellifera*: parasites de poissons) en collection à l'IFAN. *Bull. Inst. fr. Afr. noire*, 41, 522-554.

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STRESZCZENIE

Autor opisał dwa nieznanne dotąd gatunki pasożytniczych równonogów z rodziny *Cymothoidae*. Opis *Cymothoa slusarskii* sp.n. jest oparty na 1 samicy i 1 samcu, które zostały znalezione w jamie gębowej jednej spośród 803 zbadanych ryb, *Dentex macrophthalmus* (Bloch) z Atlantyku u wybrzeży zachodniej Sahary. Drugi gatunek, *Irona trillesi* sp.n. opisany jest na podstawie 1 okazu w stadium przejściowym oraz 1 samca znalezionego na skórze *Belone belone* (L.), z Atlantyku u wybrzeży Senegalu. Autor stwierdził, że samiec i samica opisane przez TRILLES 1979 jako *Irona* sp. 1, a znalezione w jamie skrzelowej *Ablennes hians* (Val.) (*Belonidae*) u wybrzeży Senegalu, są przedstawicielami *Irona trillesi* sp.n.