* espèce connue par 1 exemplaire du Zimbabwe; tête vue de face rectangulaire; corps d'un brun moyen (propodéum un peu plus pâle), pattes claires, antennes à scape et pédicelle clairs, et flagelle brun, fort élargi apicalement, avec les flagellomères basaux transverses; mésoscutum et axilles ponctués, scutellum ponctué plus éparsement; bord antérieur du gaster étroit, incurvé étroitement autour du goulot propodéal

C. (P.) punctatellus DESSART, 1990

* espèce connue par 1 exemplaire de la République Sud Africaine; tête, vue de face, rectangulaire; corps brun clair, pattes probablement pâles, antennes pâles, peut-être légèrement et graduellement assombries vers l'apex, avec le flagellomère grêle et les flagellomères non apicaux allongés; mésoscutum et axilles ponctués, scutellum lisse, sauf latéralement; bord antérieur du gaster probablement peu large

C. (P.) vegrandis DESSART, 1990

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On a collection of Spring Odonata from Iran, with the description of *Coenagrion australocaspicum* n.sp.*

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Abstract

In late April 1995, we collected 30 species of Odonata from 6 localities in Iran, chiefly in the South and South-East, although a new species of Zygoptera was recorded from the North-West of the country. Three first records for Iran were Oriental species. We also recorded 3 libellulids of African origin, two of which are new to Iran, as far East as Balutchistan, and confirmed the presence in Iran of two South-West Asiatic and one wide-ranging, Afrotropical-Oriental species. It is argued that so much novelty from a single, short collecting effort is indicative of our poor level of knowledge of the Iranian Odonate fauna.

Key words: Odonata, Iran, Biogeography, Taxonomy.

Introduction

Since the review by SCHMIDT (1954), there have only been punctual additions to our knowledge of the dragonfly fauna of Iran, either in the form of the description of new species (LOHMANN, 1993a,b), or in the framework of biogeographical work on Western Asia (ASAHINA, 1963; BLOM, 1982; LOHMANN, 1990b, 1992; DUMONT & BORISOV, 1995; DUMONT *et al.*, 1995).

This is regrettable, since Iran is at the crossroads between the Palaearctic, Oriental, and - to a lesser extent- Afrotropical regions, and recent work on the Arabian peninsula (AL SAFADI,1990; DUMONT & AL SAFADI, 1991; SCHNEIDER, 1985, 1988; SCHNEIDER & KRUPP, 1993; WATERSTON,

* Received: 29.VI.1995.

1980, 1985 ; WATERSTON & PITTAWAY,1991) has now revealed on Arabian territory numerous Oriental species that have not yet been recorded in Iran. Moreover, the enormous variety of topographical and climatic features of Iran, allowing as well Euro-Siberian species typical of cold and temperate climates as indicator species of the arid climates of Southwest Asia, Arabia and even Africa, to co-exist here, should guarantee a local faunal richness equalling the c. 100 species of dragonflies known from Turkey (DUMONT, 1977; DEMIRSOY, 1982).

Here, we present the result of a short but intense dragonfly collecting effort, carried out between 20 and 29 April 1995. Because of the enormous size of Iran, long distance travel was conducted by plane, followed by field trips by car.

List of localities visited (Fig. 1)

Loc. 1. Siah-Kashim, the protected part of the Anzali wetland, western zone of the Iranian Caspian lowland, 20 April 1995. The Anzali wetland is a recognized Ramsar site; a discussion of its flora and fauna can be found in RIAZI (1991). No dragonflies had been recorded here before, except for *Anax imperator* (RIAZI, loc. cit.).

Loc. 2. Sarab-Dokhtaran: powerful karstic spring, feeding arapidly flowing river, along main road Shiraz-Kazerun,c. 20 km from Kazerun, 24 April 1995.

Loc. 3. Lake Parishan, an ornithological reserve close to Kazerun city, 24 April 1995.

Loc. 4. Minah area, two small rivers, rich in reeds and other aquatic macrophytes, 26 April 1995.

Loc. 5. Zahedan, 28 April 1995. Ditch with running water in irrigated garden, at S. entrance of Zahedan city, and pool in riverbed along main road to Iranshahr, c. 30 km N. of Khash.

Loc. 6. River Sarbaz c. 20 km upstream of Sarbaz city, 28 April 1995. The river has permanent water, consisting of trickles of running water connecting large, deep pools. It is the westernmost site of occurrence of the Indian crocodile, *Crocodylus palustris*. 28 April 1995. Also, temporary pool c. 30 km N. of Sarbaz, along road to Iranshahr, 29 April 1995.

Species list

Asterisked species are new to science, new to Iran, or confirmations of doubtful records for Iran. Each species name is followed by the locality number(s) where it occurred.

Zygoptera

1. *Calopteryx splendens* ssp.: 2
2. *Epallage fatime* (CHARPENTIER): 2
3. *Ischnura e. elegans* (VANDER LINDEN): 1

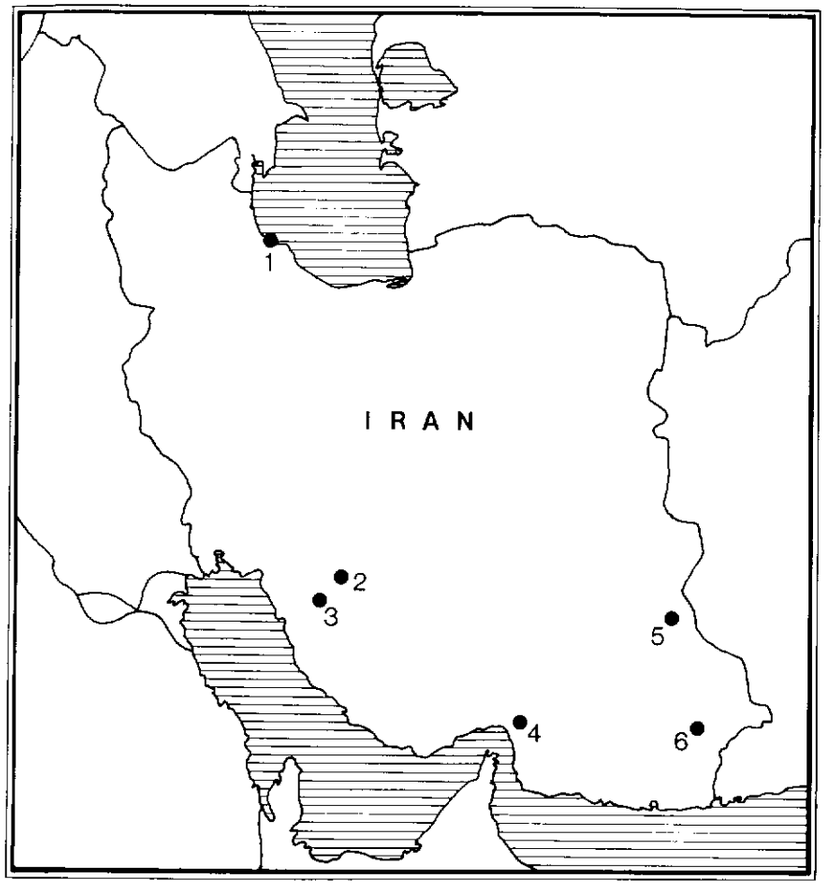


Fig. 1. Map showing the dragonfly collecting sites in Iran in April 1995.

4. *Ischnura aurora* BRAUER: 5
5. *Ischnura evansi* MORTON: 2,3,4
* 6. *Ischnura forcipata* MORTON: 5
* 7. *Coenagrion australocaspicum* n.sp.: 1
* 8. *Agriocnemis pygmaea* (RAMBUR): 6

Anisoptera

9. *Anax parthenope* (SÉLYS): 1,3
10. *Lindenia tetraphylla* (VANDER LINDEN): 4
11. *Paragomphus lineatus* (SÉLYS): 4,6
12. *Libellula depressa* (L.): 1
13. *Crocothemis erythraea* (BRULLÉ): 1,3,4,5,6

14. *Crocothemis servilia* (DRURY): 6
15. *Orthetrum sabina* (DRURY): 1,3,4,6
16. *Orthetrum taeniolatum* (SCHNEIDER): 3,4,5,6
17. *Orthetrum anceps* (SCHNEIDER): 4
* 18. *Orthetrum trinacria* (SÉLYS): 2
* 19. *Orthetrum chrysostigma* (BÜRMEISTER): 4,5
* 20. *Orthetrum luzonicum* (BRAUER): 4
21. *Orthetrum brunneum* (B. DE FONSCOLOMBE): 5
22. *Orthetrum ransonneti* (BRAUER): 5,6
* 23. *Brachythemis fuscopalliata* (SÉLYS): 3
24. *Trithemis annulata* (P. DE BEAUVOIS): 3,4,5
* 25. *Trithemis aurora* (BÜRMEISTER): 6
26. *Trithemis kirbyi* (SÉLYS): 4,5,6
27. *Trithemis festiva* (RAMBUR): 4,5,6
* 28. *Tramea basilaris* (P. DE BEAUVOIS): 4
29. *Pantala flavescens* (FABRICIUS): 5,6
30. *Selysiothemis nigra* (VANDER LINDEN): 3

Species descriptions and miscellaneous comments

1. *Calopteryx splendens* ssp.

Material examined: 21♂♂, 6♀♀.

The population sampled was situated in the far south of the species' range. Expected to be part of the *intermedia* complex, we were surprised to find a phenotype which was, on average, more nearly *xanthostoma*-like, with the male's wing covered to the tip by a blue metallic spot, but hardly extending basad of the nodus (basal extent of spots exactly at nodus in 9 specimens, 1-2 cells basad to nodus but spot not fully invading subcentral space in 4 specimens, spot extending at least 3 cells basad to nodus in 8 specimens). The ventrum of the terminalia, in live specimens, was bright citron yellow, however. All females were gynochromous. The taxonomic position of this population must remain unresolved until integrated in a full revision of the species complex.

2. *Epallage fatime* (CHARPENTIER)

In the company of the preceding, and identical with specimens from Anatolia. Apical wing spot rather reduced (2-3 cells wide).

3. *Ischnura e. elegans* VANDER LINDEN

Large numbers of this species were in evidence all across the Anzali lagoon. Structurally, we failed to find any differences with central and west European examples. Hence, we classify these as the nominal subspecies.

4. *Ischnura aurora* BRAUER

This tiny species occurred in shallow, stagnant sections of the Sarbaz river, associated with grasses emerging from the water, usually together

with *Agriocnemis pygmaea*. Both are inconspicuous damselflies, and often need to be chased up from their perches to be seen.

5. *Ischnura evansi* MORTON

A widespread inhabitant of arid north Africa, the Levant, and Arabia, that was reasonably common in central-south Iran. The related *I. fountaineae*, with which it often co-occurs, was not seen.

6. *Ischnura forcipata* MORTON

Although this species had been cited by SCHMIDT (1954) from NE Iran, DUMONT & BORISOV (1995) (fide S. Asahina), relegated these records to *I. intermedia* DUMONT. However, here we report a certified population (10 ♂♂) from within the confines of Iran, yet east of the Kavir-Lut deserts, which have supposedly formed a barreer between both taxa since Holocene times. This population, moreover, shows that *I. forcipata* can occur in rather arid climatic environments.

7. *Coenagrion australocaspicum* n.sp. (Figs 2-8)

Material examined: 10♂♂, 1♀.

Holotype: a male, deposited at the royal institute of natural sciences, Brussels, Belgium (KBINW); accession number 28266
Female paratype: a female, same repository as holotype, accession number 28266, partly dismembered for SEM-work.
Paratypes: 2 males, deposited in the collection of the Plant Pests and Diseases Research Institute, Teheran; 6 males, deposited in the senior author's collection; one male, deposited in the KBINW, Brussels.

Diagnosis:

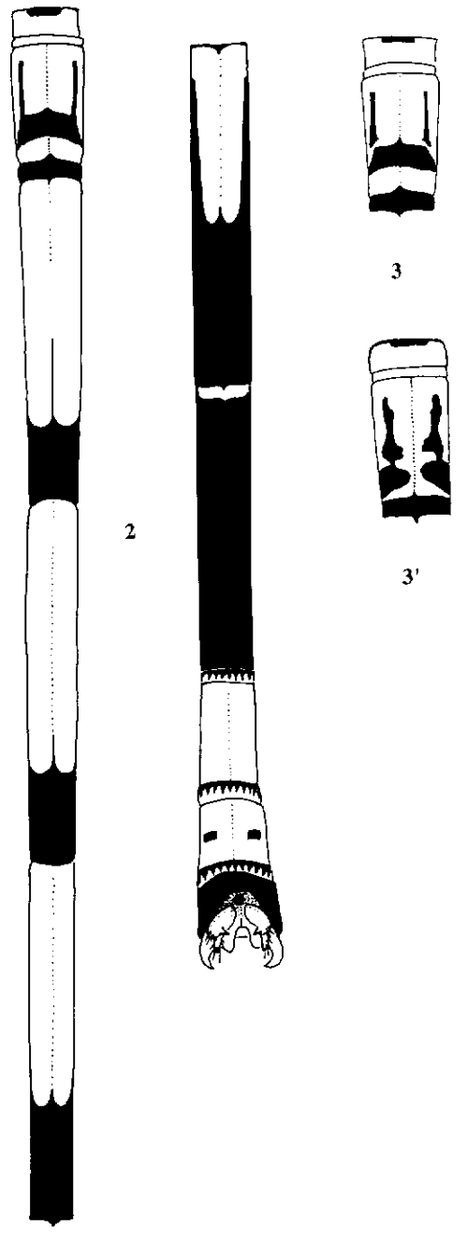
A *Coenagrion puella*-like damselfly, with the male's appendices superiores widely separated at their base, external flanges strongly developed, and appendices inferiores slender, about as long as abdominal segment 10 (S 10). Female with posterior rim of pronotum broadly but weakly raised, with small median notch, and laminae mesostigmales broadly triangular, hollowed out, with raised margins all around.

Description:

Female

Abdomen 28 mm, forewing 19 mm.

Head: mouth parts greenish-yellow; labrum yellow, with wide black stripe at base; anteclypeus greenisch, postclypeus metallic black, genae greenish to level of antennal sockets; frons greenish; vertex and rear of head black, save for two triangular blue postocular spots, and a greenish-blue occipital bar. Antennae black.



Figs 2-3'. *Coenagrion australocaspicum* n. sp., male. 2.abdominal marking patterns. 3-3' marking variants on segment 2.

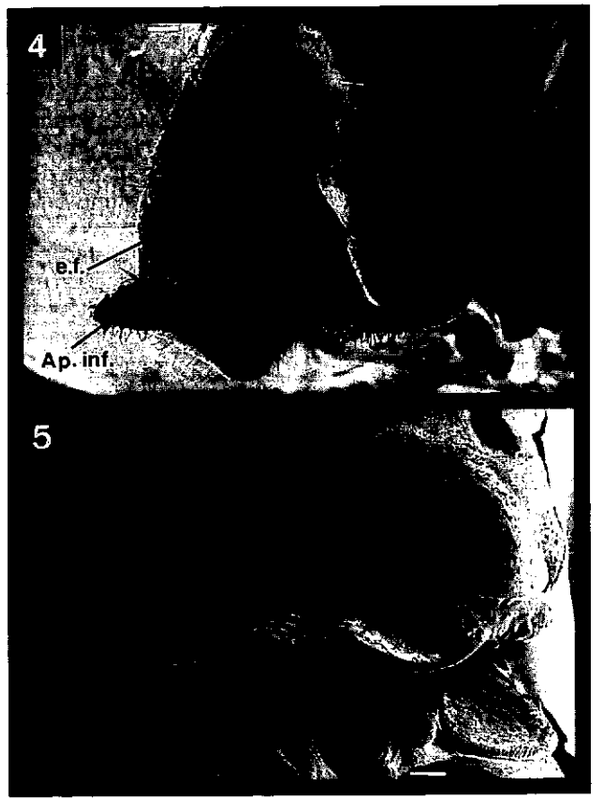
Pronotum black, save for blue anterior collar, rims of posterior collar, and pronotum flanks; a small blue dot on median lobes, laterally. *Hind lobe of pronotum broadly but only moderately raised* (Fig. 5).
Pterothorax: lamina mesostigmalis broadly triangular, hollowed out, with margins raised all around, but especially posteriorly. Carinal fork long, with reinforced inner margins anteriorly (Fig. 5). Antehumeral green-blue stripe narrower than humeral black, somewhat constricted in its distal third, widening against alar sinuses. Some black on suture 2(Su 2); a black stripe descending to halfway from alar sinus along Su. 1.
Legs: femora black on outer surface, green on inner surface; tibiae largely greenish, with narrow black line running along base of tibial spines.
Wing venation black. Pt trapezoidal, black, framed in yellow.
Abdomen largely black, with reduced blue-green markings as in heteromorphic females of *C. puella*-group.

Male

Abdomen 29-31 mm, forewing 20.5-22 mm. Colour pattern of head, pronotum and synthorax much as in the female, but with blue colour more vivid. Hind ridge of pronotum very broadly arched, with a slight medial notch. Lamina mesostigmalis triangular, but not framed with elevated ridges. Legs largely black, but outer surface of tibiae blue.
Wings as in female.
Abdominal colour pattern as in Fig. 2, identical to *C. puella*, but dorsal markings on S2 reduced to 3 isolated streaks (Fig. 3') in 4 specimens, U-shaped (Fig. 2) in five specimens, and with the transverse bar lacking in one specimen (Fig. 3). Dorsal embayment of S 10 wide.
Appendages (Fig. 4, 6-8): Appendices superiores with dorsal branch massive, but with small internal spine, and both appendages widely separated at their base. Exterior flange strongly developed, extending to halfway the length of the appendices inferiores. Ventral hook strong, its pointed apex slightly curved, usually lodged inside the ventral expansion of the appendices inferiores.
Appendices inferiores long and slender, finely pointed apically, almost as long as S 10. Ventral part swollen and excavated internally.

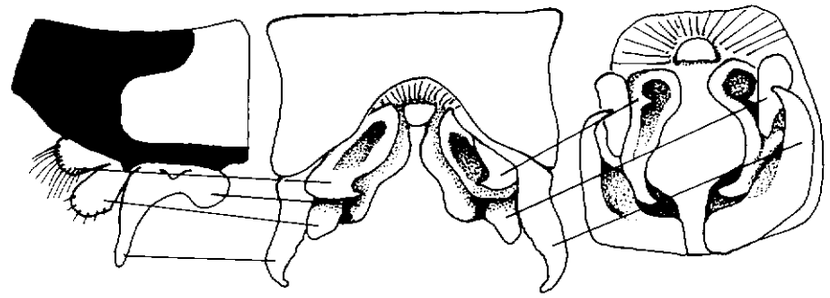
Differential diagnosis and status

On the wing, and at first sight, this species looks identical with *C. puella*, with which it is doubtlessly closely related. It differs, from *C. ponticum*- and *C. syriacum* by the widely separated app. sup. of the males, a character it only shares with *C. puella s.s.* (see BATTIN, 1993); from the latter, it can also be differentiated by its longer app. inf., a character also found in *C. syriacum*, and where it is even more strongly expressed.
The female is unique by the shape of its lamina mesostigmalis. The only other species where this is broadly triangular as well is *C. ponticum*, but here the triangle is flat, not hollowed out, and not bordered posteriorly by a chitinous ridge.



Figs 4-5. *Coenagrion australocaspicum* n.sp. 4. male terminalia in hind view (e.f. = external flange of *appendix superior*; second arrow indicates small internal hook on same appendix); Ap. inf = *appendix inferior* (note that the right app. inf. has been removed). 5. Pronotum and *lamina mesostigmalis* of the female.(white bar = 0.1 mm).

Our decision to assign full specific level to this taxon was influenced by Battin's (1993) careful revision of the *C. puella*-group, and by the fact that, along the Pontic coast of Turkey, such closely allied forms as *C. puella* and *C. ponticum* locally co-occur without evidence of interbreeding (e.g. at Kara Gol near Savsat, pers. obs. in July 1994). By morphology, *C. australocaspicum* is at least as well differentiated as each of the two aforecited species. The records of *Agrion puella* by BARTENEF (1916) from Astrabad, and *Coenagrion syriacum* by SCHMIDT (1954) from Tahergurab (close to Anzali) are believed to really represent examples of *C. australocaspicum* (SCHNEIDER, 1986, map 28 sub *Coenagrion* n.sp. 1; LOHMANN, 1993a).



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Figs 6-8. *Coenagrion australocaspicum* n.sp. Lateral, dorsal and posterior view of male terminalia. Equivalent structures are indicated.

Derivatio nominis

The species is named after its terra typica, the southern shoreland of the Caspian Sea.

8. *Agriocnemis pygmaea* (RAMBUR)

Common, and massively emerging at loc.6. This first record for Iran was to be expected, since the species had also been reported from neighbouring Afghanistan by SCHMIDT (1961), and is known in the Pakistani part of Baluchistan (YOUSUF, pers. comm.), as well as elsewhere in Pakistan (FRASER, 1933; YOUSUF & CHISHTI, 1986).

9. *Anax parthenope* (SÉLYS)

Numerous specimens were maturating in the woodlands bordering Anzali lagoon (loc.1); at lake Parishan (loc.3), males were patroling sections of the lake shore.

10. *Lindenia tetraphylla* (VANDER LINDEN)

Few specimens were patroling a reedy section of a smallish river near Minah (loc.4), a characteristic habit of this species in this part of the world. The species is also widespread in Arabia (WATERSTON, 1980; SCHNEIDER, 1988; SCHNEIDER & KRUPP, 1993).

11. *Paragomphus lineatus* (SÉLYS)

In view of the commonness of *P. sinaiticus* (MORTON) on the opposite shore of the Persian Gulf in Arabia, we paid particular attention to Iranian representatives of *Paragomphus*. Like SCHMIDT (1954), however, we could only find *P. lineatus*, a species widely distributed between the Indian subcontinent (FRASER, 1934) and Anatolia (DUMONT, 1977).

12. *Libellula depressa* (L.)

This northern spring species, reported from several localities in northern Iran (SCHMIDT, 1954), was seen flying over Anzali lagoon, in the less eutrophic section of the nature reserve.

13-14. *Crocothemis erythraea* (BRULLÉ) and *Crocothemis servilia* (DRURY) (Figs 9-14)

In view of the commonness of both species in western Asia, where they often co-occur (SCHNEIDER, 1985), we were surprised to find only a single female of *C. servilia* at loc.6, mixed with several males of *C. erythraea*. This might suggest a partial temporal segregation, *C. erythraea* emerging first, and *C. servilia* possibly slightly later.

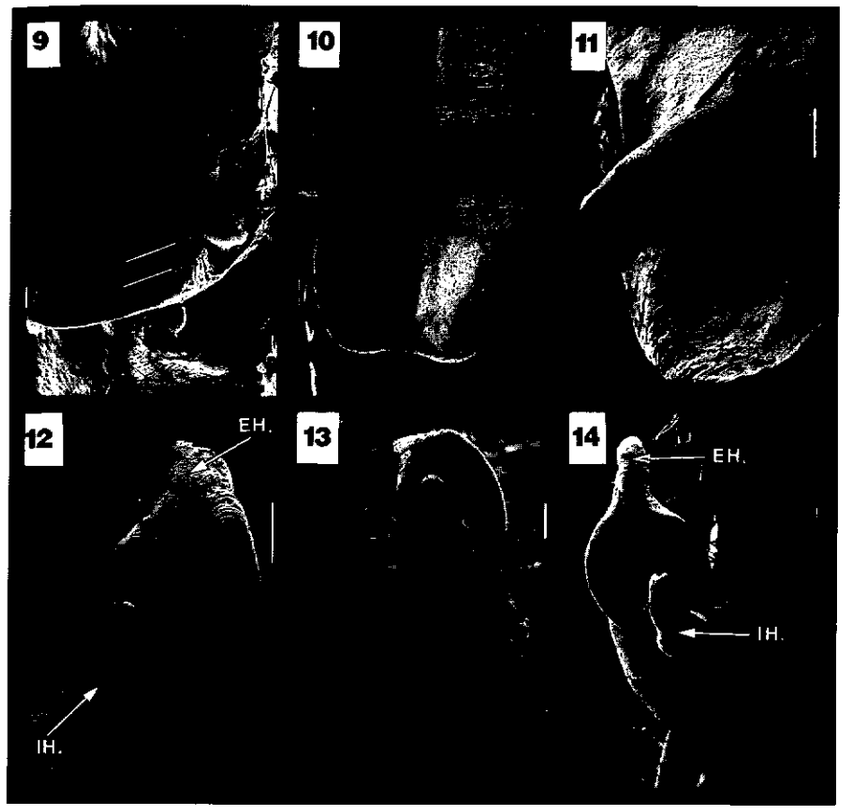
The demarcation of these two species has long produced problems, until Lohmann (1981) described morphological differences between the *vesica spermalis* of both; later, SCHNEIDER (1985) added that the internal hook (IH) of the hamulus is bifid (Fig. 12) in *erythraea* but pointed in *servilia*, while he also discovered differences in the relief of the valvules of the female. These are quite difficult to picture by drawing techniques, and therefore we here offer some SEM's. In *C. erythraea*, there is a single transverse swelling that runs on either side of the valvules (Figs 10-11), over up to 2/3 of the distance from the rim to the carina at mid-point. In *C. servilia*, this swelling is more in lateral position, somewhat egg-shaped and preceded by a second bulge, the two separated by a narrow cleft (Fig. 9, arrows). The male hamulus in *servilia* has a much stronger internal hook (IH), and the external hook (EH) is distinctly hollowed out and spoon-shaped (Figs 13-14) with thickened ridges. In *erythraea*, the EH is more expanded distally, and its inner surface is smooth, not hollowed out, without thickened ridges and with a much larger surface area than in *servilia* (Fig. 12). It is likely that these differences in structure of male and female function as a lock-antilock mechanism during mating. Perhaps the EH of the hamulus is pressed against the ridges, while the IH hooks behind the rim of the valvules.

15-16. *Orthetrum sabina* (DRURY) and *O. taeniolatum* (SCHNEIDER)

These two species, of Oriental origin, were both extremely abundant, and are possibly among the commonest dragonfly species of Iran. Their range extends west as far as western Anatolia, and south, well into northern Africa.

17. *Orthetrum anceps* (SCHNEIDER)

A single male, but quite typical, was captured at loc.4, on the Mokhran coast; SCHMIDT (1954) gives records from Zahedan, Khash and Iranshahr in Iranian Balutschistan as well. It reaches Quetta in Pakistan (FRASER, 1936).



Figs 9-14. *Crocothemis*. 6. valvules of *C. servilia* , lateral view (arrows highlight the cleft in front of the lateral swelling, and the bulge distal to this swelling); 7-8. valvule of *C. erythraea* in ventral and lateral view (enlarged). 9. *C. erythraea*, hamulus (seen from inside). IH: internal hook, EH: external hook; 10-11. *C. servilia*, hamulus (11, enlarged).

18. *Orthetrum trinacria* (SÉLYS)

Males and females of this species were patroling the shore of Lake Parishan, from time to time clashing there with *Anax parthenope*. This species, a first record for Iran, is of African origin. It is still widespread in the Levant and Anatolia (DUMONT, 1977, 1991), but- like several of the species discussed hereafter- it probably reaches its limit of eastward extent in south-central Iran.

19-20. *Orthetrum chrysostigma* (BÜRM.) and *O. luzonicum* (BRAUER)

Both are first records for Iran. They are particularly significant as the first species is Afrotropical, while the second, an Oriental species, is still often listed as a subspecies to *chrysostigma*. However, both are structurally well differenciated. The accessory genitalia of male *luzonicum*, shown in Fig. 15, are characterized by an upright, posteriorly curved upper branch of the hamulus. In the specimen from loc. 4 figured, this feature is somewhat attenuated by pressure from the *vesica spermalis*, which was half extruded (not shown on the figure). This narrows the gap between the two branches (the upper and lower) of the hamulus, and produces a pincer, probably assisting in anchoring the male genitalia to the female valvules during mating. A similar pincer-like deformation of the branches of the hamuli may be common in libellulids. In *Orthetrum*, it even lead to the description of a new species, *O. helena*, by BUCHHOLZ (1954). The specimens involved were, however, none other than males of *O. anceps* with inflated *vesica spermalis*. In *O. chrysostigma*, the interior (upper) branch of the hamulus is much shorter and curved outward, not backwards. Another useful difference between *O. chrysostigma* and *O. luzonicum* is the colour of the front legs, which is bright yellow in males, dull yellow in females of *luzonicum*, but black in *chrysostigma*.
To these arguments, we add the fact that a couple of *O. luzonicum* was captured in the same locality as several *O. chrysostigma*. Such co-occurrences of morphologically typical, yet related species, plead in favour of their specific status. Moreover, for both taxa, South Iran now appears to represent the limit of eastward and westward extent of an Oriental and African species, respectively.

21. *Orthetrum brunneum* (B. DE FONSCOLOMBE)

Several couples of this species were cruising over the irrigation ditches of loc.4. SCHMIDT (1954) had specimens from the same locality.

22. *Orthetrum ransonneti* (BRAUER)

This large species was rather common, in both sexes, in the semi-desertic locs 5 and 6 in Balutchistan. It was previously known only from northern Iran (SCHMIDT, 1954). The present record therefore constitutes a range extension towards the south-east.

23. *Brachythemis fuscopalliata* (SÉLYS)

Included by SCHMIDT (1954) in the dragonfly fauna of Iran, on evidence of its occurrence at Fao, on the Irakian side of the Iran-Irak border, in the marshes of the Shatt al-Arab . The presence of the species at Lake Parishan, where it had apparently just begun to emerge (many tenerals, few mature specimens seen) not only confirms Schmidt's prediction, but widens the range of the animal by some 350 km to the east. It now extends from the Alanya area in Anatolia (SEIDENBUSCH, 1995) to Lake Parishan in Iran.

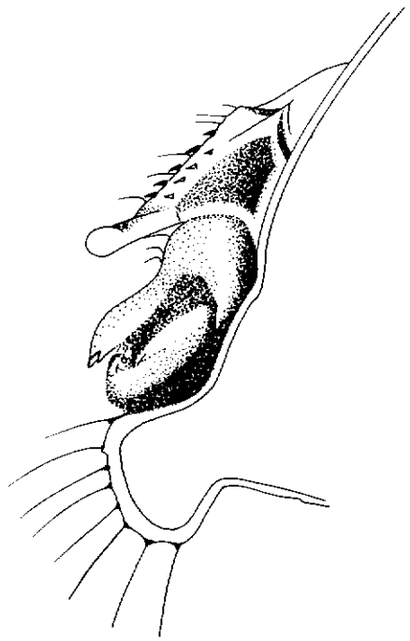


Fig. 15. *Orthetrum luzonicum* male. Accessory genitalia in lateral view. Pressure from the *vesica spermalis* (not shown) has somewhat depressed the posteriorly directed, upward hook of the hamuli.

24-25. *Trithemis annulata* (P. DE BEAUVOIS) and *T. aurora* (BÜRM.)

T. annulata is the third Afrotropical libellulid in our collection, and the fact that, at Zahedan, it was found close to the Pakistani border makes it likely that it even extends into eastern Balutchistan. Remarkably, it was not seen in the Sarbaz river valley. There, *T. aurora* occurred, an Oriental species, which is here reported for the first time from Iran. Both species have a superficially similar habitus, but can easily be separated structurally. Also, *T. aurora* lacks the purple shines of *T. annulata* and is slightly less robust, two features that are useful in the field. Again, we seem to have here a couple of related species, one of African, one of Oriental origin, whose ranges meet in Balutchistan.

26. *Trithemis kirbyi* (SÉLYS)

We refrain from assigning a subspecific status to our material because, unlike in Schmidt's (1954) material from the Zahedan-Khash-Iranchar area, we did not find evidence of a reduction of the orange wing spots in the male, typical of the nominal subspecies, supposedly living in India. Our specimens (c. 15 males examined) rather agree with material from the

African Sahara and Sahel as well as from Arabia, believed to represent ssp. *ardens*.

27. *Trithemis festiva* (RAMBUR)

It is remarkable that so few specimens of this Oriental species had become known from Iran (SCHMIDT, 1954), where we have now found it in great abundance in the south. It is one of the more expansive species of the Indian fauna, which is still quite common in the Levant, and extends to western Anatolia.

28. *Tramea basilaris* (P. DE BEAUVOIS)

A single specimen (not captured) was chasing over a river near Minah; however, the sighting was sufficiently close to permit a positive identification. *T. basilaris* is one of several libellulids (*Tholymis tillarga*, already recorded from Iran by ASAHINA, 1963, is another case), whose range encompasses both the Oriental and Afrotropical areas, including the south of the Arabian subcontinent (SCHNEIDER & KRUPP, 1993). Although an addition to the fauna of Iran, its presence here was quite to be expected.

29. *Pantala flavescens* (FABRICIUS)

A common, circumtropical dragonfly; at loc.6, several specimens were hunting over water. The environment was a temporary rainpool, a type of biotope often favoured by this species for oviposition and (rapid) larval development.

30. *Selysiothemis nigra* (VANDER LINDEN)

An Irano-Turanian species, common in the arid and semi-arid zones of western Asia and northern Africa, including the east mediterranean, but much rarer in the west mediterranean basin. Like in *B. fuscopalliata*, with which it co-occurred on Lake Parishan like in many other biotopes of Asia Minor, its emergence had only just started (many tenerals, few mature individuals seen).

Conclusions

With corrections and additions to Schmidt's (1954) seminal paper, the dragonfly fauna of Iran stood at c. 77 species. To these, we now add seven species, and confirm two others (including the redefinition of *Coenagrion australocaspicum* as a new species), i.e. an expansion of the list by almost 10%. This is indicative of the lacunae that existed and, no doubt, continue to exist in our knowledge of the dragonfly fauna of this vast country, the south-east of which seems to be the meeting ground of many African and Asian species. In addition, one wonders about endemic Zygoptera in the Zagros mountains and in Balutchistan. The existence of several such species in South Arabia (see review by SCHNEIDER & KRUPP, 1993) now requires a similar reseach effort on the opposite side of the

Persian Gulf, to find out whether this narrow, shallow sea really represents a faunal barreer, or whether there exists a circum-gulf dragonfly fauna.

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Étude des taxocénoses de Carabides du Domaine de Mérode à Wavre-Rixensart (Carabidae, Coleoptera)*

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Summary

An inventory of carabid beetles in the Merode's property in Wavre-Rixensart (Brabant Wallon) was realised in 1993 as reference. A total of 72 species (10516 individuals) were recorded among which 25 were observed there for the first time. The presence of 6 species rare at the regional scale (less than 50 UTM squares on the Belgian grid) is noted. The biogeographical interest of species constitutes a criterion to be taken account in future management.

Key-words: Carabid beetles, inventory, distribution, rarity, biological assessment.

Résumé

Un inventaire des Carabides du Domaine de Mérode à Wavre-Rixensart (Brabant Wallon) a été réalisé en 1993 dans le but de servir de référence. Un total de 10516 individus représentant 72 espèces a été recensé. Parmi celles-ci, 25 espèces ont été observées pour la première fois dans cette région. La présence de 6 espèces très rares, c'est-à-dire occupant moins de 50 carrés UTM sur l'ensemble du territoire belge, est également à noter. L'intérêt biogéographique des espèces constitue par conséquent un critère dont il faudra tenir compte dans tout aménagement ultérieur.

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