

ENZO COLONNELLI

A NEW GENUS AND ELEVEN NEW SPECIES OF CEUTORHYNCHINI FEEDING ON *EPHEDRA* (Coleoptera Curculionidae)

ABSTRACT - COLONNELLI E., 2005 - A new genus and eleven new species of Ceutorhynchini feeding on *Ephedra* (Coleoptera Curculionidae).

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Is described the new genus *Mucroxyonyx* to include the type species *M. mahmoudi* n. sp. from Egypt. *Mucroxyonyx* differs from the close *Macrosquamonyx* Korotyaev by the larger size, the smaller scales of vestiture, the toothed femora, the antenna inserted about in the middle of rostrum. *Pseudoxyonyx meregallii* n. sp. and *P. boroveci* n. sp. both from Morocco, and related with the western Asian *P. aghadjaniani* Hoffmann are described, as well as *Mesoxonyx osellanus* n. sp. from central Italy and Sardinia, *Theodorinus giustocaroli* n. sp. from central Turkey, and *Platypteronyx maximi* n. sp. from southern Turkey. Five species of *Paroxyonyx* Hustache are described as new: *P. maroccanus* n. sp. from Morocco, *P. audisioi* n. sp. from Algeria, *P. sicanus* n. sp. from Sicily, *P. squamiger* n. sp. from Egypt, and *P. russelli* n. sp. from Egypt. *Ceuthorrhynchus* (*Oxyonyx*) *maceratus* Peyerimhoff is moved from *Paroxyonyx* to *Mesoxonyx* Korotyaev (**comb. n.**). The record of *Paroxyonyx* and *Mesoxonyx* is the first for Italy. All the new species here described were collected on Ephedraceae of the genus *Ephedra* L.

KEY WORDS - Coleoptera, Curculionidae, Ceutorhynchini, *Ephedra*, New genus, New species.

RIASSUNTO - COLONNELLI E., 2005 - Un nuovo genere ed undici nuove specie di Ceutorhynchini associati ad *Ephedra* (Coleoptera Curculionidae).

È descritto il nuovo genere *Mucroxyonyx* per includervi la specie tipo *M. mahmoudi* n. sp. dell'Egitto. *Mucroxyonyx* differisce dal vicino *Macrosquamonyx* Korotyaev per le più grandi dimensioni, le squame del rivestimento assai più piccole, i femori dentati, le antenne inserite circa alla metà del rostro. Vengono anche descritte le seguenti nuove specie: *Pseudoxyonyx meregallii* n. sp. e *P. boroveci* n. sp. ambedue del Marocco e vicine a *P. aghadjaniani* Hoffmann dell'Asia occidentale, nonché *Mesoxonyx osellanus* n. sp. dell'Italia centrale e Sardegna, *Theodorinus giustocaroli* n. sp. dell'Anatolia, e *Platypteronyx maximi* n. sp. della Turchia meridionale. Cinque nuovi *Paroxyonyx* Hustache sono descritti: *P. maroccanus* n. sp. del Marocco, *P. audisioi* n.

sp. dell'Algeria, *P. sicanus* n. sp. di Sicilia, *P. squamiger* n. sp. e *P. russelli* n. sp. ambedue dell'Egitto. *Ceuthorrhynchus* (*Oxyonyx*) *maceratus* Peyerimhoff viene spostato dal genere *Paroxyonyx* a *Mesoxyonyx* Korotyaev (**comb. n.**). La segnalazione di *Paroxyonyx* e *Mesoxyonyx* è la prima per l'Italia. Tutte le nuove specie sono state raccolte su Ephedraceae del genere *Ephedra* L.

PAROLE CHIAVE - Coleoptera, Curculionidae, Ceutorhynchini, *Ephedra*, Nuovo genere, nuove specie.

INTRODUCTION

During the latest years a number of new taxa of Ceutorhynchini feeding on Ephedraceae of the genus *Ephedra* L. were encountered, and they are described in this paper. Measurements of specimens are taken the same way as explained in Colonnelli (2003). The order of descriptions follows a tentative taxonomic arrangement, although a revision of *Ephedra*-feeders Ceutorhynchini not only based upon morphological characters is still to be made. The following abbreviations are used for type depositories: BIA = Piotr Białooki collection, Sopot, Poland, BOR = Roman Borovec collection, Nechanice, Czech Republic; CAS = Roberto Casalini collection, Genazzano, Italy; COL = Enzo Colonnelli collection, Rome, Italy; CUE = Cairo University, Giza, Egypt; FRE = Jan Fremuth collection, Hradec Králové, Czech Republic; KOR = Boris Korotyaev collection, Sankt Peterburg, Russia; MAZ = Miguel Angel Alonso-Zarazaga collection, Madrid, Spain; MCR = Museo Civico di Zoologia, Rome, Italy; MER = Massimo Meregalli collection, Rivalta, Italy; MZU = Museo di Zoologia dell'Università di Roma «La Sapienza», Rome, Italy; OSE = Giuseppe Osella collection, L'Aquila, Italy; RUS = M. I. Russell collection, Peterborough, England; SUP = Wolfgang Suppantisch collection, Wien, Austria, SZY = Jerzy Szypula collection, Wrocław, Poland; YOS = Hiraku Yoshitake collection, Fukuoka, Japan.

Mucroxyonyx n. gen.

Type species: *Mucroxyonyx mahmoudi* n. sp.

Diagnosis

Generi Macrosquamonihi persimile, differt statura majore, squamulis vestiturae multo minoribus et in interstitiis elytrorum partim biseriatis,

integumento capitis et rostri baseos haud tegentis, femoribus mediis et posterioribus denticulo armatis.

Description

Integument reddish; head, prothorax and under side piceous-brown. Dorsal side clothed with recumbent elongate oval white scales that on head, on sides and on dorsal channel of pronotum are larger than those on light parts of elytra. On head those scales do not entirely conceal integument, and are arranged in 1-2 irregular rows on elytral interspaces. In addition there is on each interval a row of white narrow hair-like scales, rather similar to those of striae and to those covering the dark elytral and pronotal marks that are golden. Rostrum bare, except the extreme base. Antenna inserted about in the middle of rostrum. Frons slightly concave. Pronotum bell-shaped; disk rather flat and with shallow complete longitudinal sulcus. Base of elytra slightly bisinuate, disc flattened; humeral and preapical tubercles not very strong and with moderately minute rasp-like granules. Legs elongate. Femora toothed. Protibiae with apical comb formed by few large tooth-like spines not obviously inserted on outer margin. Tarsi elongate, all the joints with two rows of few spines below. Males with large sharp uncus at apex of all tibiae. Also females with stouter apical uncus, minute on metatibiae and obvious on meso and metatibiae.

Etymology

The presence of an apical mucro on all tibiae suggested the name of the new genus.

Remarks

The single species of *Mucroxyonyx* is very similar to those of *Macrosquamonyx* Korotyaev, 1982, to which the new genus is quite close. Both members of *Macrosquamonyx*, however, are smaller (mm 2.10-2.20 instead of mm 2.25-2.66) and have integument clothed with unusually large oval slightly impressed scales arranged in a single row on each elytral interspace, femora edentate, antenna inserted in the basal half of rostrum, scales of head and base of rostrum entirely concealing integument (Korotyaev 1982; Colonnelli 1995). Apart *Macrosquamonyx* it is impossible to confuse *Mucroxyonyx* with any other genus of Ceutorhynchini feeding on *Ephedra*.

Mucroxyonyx mahmoudi n. sp.*Type series*

Egypt, Sinai, Wadi Gosh, m 150, 29°13'N 33°03'E, 10.III.1999, 1♀ holotype (MCR), and 2 ♂♂, 1 ♀ paratypes (1 COL, 1 MER, 1 VOR), E. Colonnelli and M. Meregalli leg. on *Ephedra* sp.; Egypt, Sinai, Wadi an Natilah, m 400/430, 29°58'N 33°26'E, 3 ♂♂ and 5 ♀♀ paratypes (2 COL, 1 CUE, 3 MER, 2 RUS), 2.III.1999, E. Colonnelli, M. Meregalli and M. I. Russell leg. on *Ephedra alata* Decaisne; Egypt, Sinai, Wadi El Aqabah, m 750, 29°41'N 34°34'E, 1 ♀ paratype (COL), E. Colonnelli leg. on *Ephedra* sp.

Holotype

Length: mm 2.57. Dorsal pattern formed by two large blackish spots on each side of dorsal channel of pronotum, and of an ill-defined red-brown transverse stripe on middle of elytra. Humeral and preapical tubercles of elytra slightly darker than the adjacent parts. Under side clothed with dense white slightly slanted partly embricate scales. Rostrum 1.25 as long as pronotum, gently curved, slightly widening from base to apex; dorsal surface bare and smooth, with a thin lateral sulcus just above dorsal margin of scrobe, this sulcus becoming shallow and ending just apicad of antennal insertion. Antenna thin; scape gradually and weakly clubbed; funiculus 7-jointed; desmomerer 1 to 3 elongate, gradually diminishing in length; desmomerer 4 to 6 clearly longer than wide; 7 not transverse; club large, fusiform, slightly shorter than the combined length of joints 4-7. Pronotum 0.73 as long as wide, rather abruptly and strongly constricted at apex, gently so at base which is weakly bisinuose, maximum width just basad of midpoint. Elytra 1.12 as long as wide, sub-rectangular in shape; sides weakly curved; maximum width about in the middle. Strial furrows thin and with a row of narrow scales. Intervals quite flat, much wider than striae. Tibiae thin, slightly bisinuose; middle apical uncus longer and sharper than the pro and metatibial one. Femora elongate, weakly clubbed, tooth of profemora weaker and less sharp than that of middle and hind ones. Third tarsal joint not clearly wider than the preceding one. Urosternites 1 and 2 flat, 5 with a shallow fovea marked by two lateral tuft-shaped clusters of narrowly oval scales contrasting with the hair-like ones along the midline. Aedeagus: fig. I: 4. See also figs I: 1, 3.

Paratypes

Variation is low: in some examples the pattern is more definite than that of the holotype (fig. I: 2). Females have abdomen without impressions. Length: mm 2.25-2.66.

Etymology

The species is named after Mahmoud Saleh Abdel-Dayem of the Cairo University, who was with us in the Sinai peninsula, invaluablely helping us in many ways during our joint collecting trip.

Ecology

All the specimens were collected by sweeping *Ephedra alata* Decaisne and *Ephedra* sp., which are surely their host plants.

Pseudoxyonyx meregallii n. sp.

Diagnosis

Aliquo modo Pseudoxyonychi aghadjaniani ex Asia occidentale et centrale similis, sed loco cristae transversae disco thoracis quattuor tuberculis retusis praedito, thorace ipso antice dimidia parte tota albosquamosa, maculis vittisque elytrarum aliter dispositis, articulo tertio tarsorum secundi evidenter latiore facile distinguitur.

Type series

Morocco, Marrakech province, 24 Km S of Imi-n-Tanoute, m 1000, 31°02'38"N 9°01'24"W, 3.V.2000, 1 ♂ holotype (COL), E. Colonnelli leg. on *Ephedra* sp.; Morocco, Haut Atlas, route from Aziza to Tizi-n-Tabgourt, m 1500, 31°05'05"N 8°42'41"W, 31.V.2001, 6 ♂♂ and 7 ♀♀ (4 COL, 9 MER), M. Meregalli leg.; Morocco, Haut Atlas, 5 Km S of Ouirgane near Asni, m 1000, 9.V.2000, 1 ♂ paratype (BOR), R. Borovec leg. on *Ephedra* sp.; Morocco, Haut Atlas, Tizi-n-Tabgourt near Imi-n-Tanoute, m 1500, 31°05'05"N 8°42'41"W, 31.V.2001, 7 ♂♂ and 5 ♀♀ (9 BOR, 3 COL), R. Borovec leg.; Morocco, Haut Atlas, Ouirgane-Ijoukak, m 1000, 9.V.2000, 1 ♀ paratype (RUS), M. I. Russell leg. on *Ephedra* sp.

Holotype

Length: mm 2.97. Head and prothorax brown; elytra red-brown; rostrum, antenna and legs ferrous-red. Dorsal vestiture of recumbent embricate almost rounded milk-white, brown, golden-brownish and blackish scales (the darker ones smaller), forming the pattern of fig. I: 5. Scales on prothorax and the dark ones on elytra sulcate. In addition, elytra show white large concave scales on light patches. Dorsal sulcus of pronotum with a white spot in front of scutellum. Posterior half of elytra with a kind of X-shaped blackish mark. Under side clothed with recumbent slightly concave whitish and brownish scales, the latter covering metasternum and forming some lateral confuse spots on urosternites 2 to 5. Rostrum 0.86 as long as pronotum, gently curved, transversely compressed; dorsal surface of rostrum bare and smooth, with a thin lateral sulcus just above dorsal margin of scrobe, this sulcus becoming shallow and ending in a row of minute elongate punctures near apex; there are also 2 additional rows of punctures on each side of midline of rostrum from its base up to a short distance beyond antennal insertion. Antenna thin, inserted 0.56 times the rostral length from apex of rostrum; scape gradually and weakly clubbed; funiculus 7-jointed; desmomeres 1 to 3 very elongate, only slightly diminishing in length; desmomeres 4 to 7 clearly longer than wide; club fusiform, slightly longer than the combined length of desmomeres 6 and 7. Frons somewhat convex. Eyes transversely elongate-oval and only a little convex. Pronotum 0.76 as long as wide, rather abruptly and strongly constricted at apex, gently so at base which is weakly bisinuose. Disc slightly convex; antero-lateral depressions evident; dorsal sulcus shallow but wide and entire; two obtuse tubercles are on its sides just apicad of midpoint of pronotum; lateral tubercles also obtuse. Elytra 0.95 as long as wide, slightly concave on disc, widest at basal $1/5$; sides slightly curved, converging towards preapical tubercles; humeral calli bulging, preapical ones strong and formed by protuberances of almost equal size on intervals 4 to 7. Strial furrows very thin and with a row of piliform scales. Intervals flat, much wider than striae. Legs robust and relatively elongate, particularly the anterior ones. Femora distally shallowly sulcate for reception of tibia, all with a faint tooth-like process formed by few scales. Tibiae short, in particular the middle ones, and slightly curved, all with apical uncus, being unci of the middle tibiae the longest. Tarsi relatively short; first joint longer than the second, third bilobe; claws edentate, strongly divergent. Urosternites 1 and 2 with a shallow common impression; 5 with shallow fovea. Aedeagus: fig. I: 9. See also fig. I: 5.

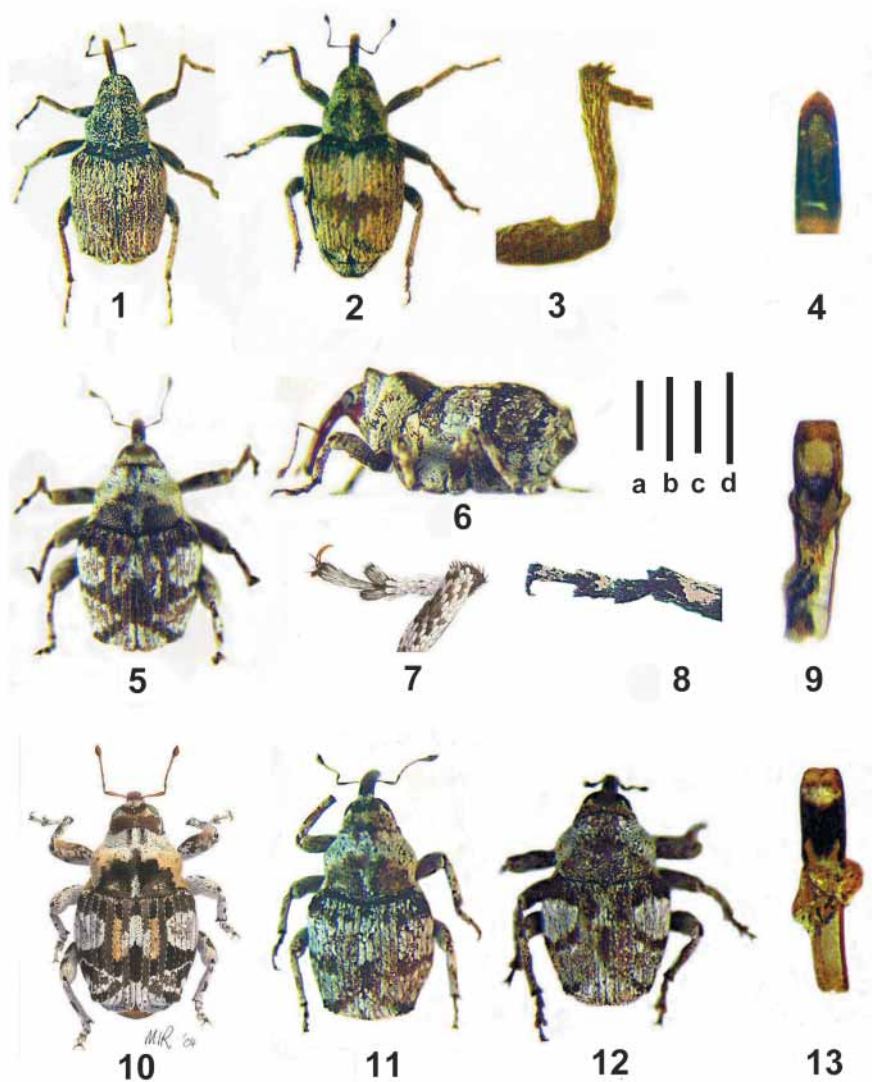


Fig. I. Habitus of: 1) *Mucroxyonyx mahmoudi* n. sp., holotype – 2) *Mucroxyonyx mahmoudi* n. sp., female paratype – 5) *Pseudoxyonyx meregallii* n. sp., holotype – 10) *Pseudoxyonyx meregallii* n. sp., female paratype from Ouirgane-Ijoukak – 11) *Pseudoxyonyx aghadjaniani* Hoffmann, female holotype – 12) *Pseudoxyonyx boroveci* n. sp., holotype. Right anterior tibia of: 3) *Mucroxyonyx mahmoudi* n. sp., holotype. Aedeagus of: 4) *Mucroxyonyx mahmoudi* n. sp., holotype – 9) *Pseudoxyonyx meregallii* n. sp., holotype – 13) *Pseudoxyonyx boroveci* n. sp., holotype. Lateral view of: 6) *Pseudoxyonyx meregallii* n. sp., male paratype from Tizi-n-Tabgourt. Tarsus of: 7) *Pseudoxyonyx meregallii* n. sp., female paratype from Ouirgane-Ijoukak – 8) *Pseudoxyonyx aghadjaniani* Hoffmann, female holotype. Scale bars: a = mm 1 (figs 1, 2, 5, 6, 10, 11, 12); b = mm 0.5 (figs 7, 8); c = mm 0.5 (fig. 3); d = mm 0.6 (figs 4, 9, 13).

Paratypes

Other specimens are basically similar to the holotype, apart for the brownish pattern slightly variable. spots can be more or less dark, and often the lateral pronotal tubercles are marked by a dark spot. Females are usually a trifle broader, with smoother rostrum about as long as pronotum, which is usually more transverse. All female tibiae at inner apical margin with a mucro clearly weaker than that of males. Length: mm 2.60- 3.60. See also figs I: 6, 7, 10.

Etymology

The species is named after Massimo Meregalli as a sign of my friendship.

Remarks

Pseudoxyonyx meregallii is similar to *P. aghadjaniani* Hoffmann, 1956 described from southeastern Turkey (Hoffmann 1956) and indicated from western and central Asia by Korotyaev (1998). The new species clearly differs from the latter by the lack of transverse keeled elevation on anterior third of pronotum, the anterior half of which is clothed by white scales, the different elytral pattern, and the third tarsal joint obviously bilobe and evidently wider than the second (figs I: 5, 7, 8, 10, 11).

Ecology

All specimens of the type series were beaten off an unidentified species of *Ephedra*, surely their host plant.

Pseudoxyonyx boroveci n. sp.*Diagnosis*

Structura tarsorum et corporis habitudine praecedenti simillimus, differt antennis crassioribus, rostro fortiter tricarinatus, lateribus thoracis magis rotundatis, squamulibus disci pronoti multo subtilioribus, ipso thorace sulco dorsale in medio destituto, elytris sine signo x-nigro in tertio posteriore.

Type series

Morocco, vicinity of Essaouira, 31°29'N 9°46'W, 28.IV.2000, 1 ♂ holotype (COL), and 1 ♀ paratype (COL), E. Colonnelli leg. on *Ephedra* sp.; Morocco, 10 Km E of Essaouira, m 100, 1 ♂ and 1 ♀ paratypes (BOR), R. Borovec leg.

Holotype

Length: mm 2.67. Ferrous-red. Dorsal vestiture of partly recumbent embricate oval milk-white, brown, golden-brownish and blackish scales (the darker ones smaller) forming the pattern of fig. I: 12. Scales on prothorax and the dark ones on elytra faintly sulcate; in addition, midline of pronotum with golden-brownish narrowly elongate scales not forming a white patch in front of scutellum. Posterior half of elytra without an X-shaped blackish mark. Under side clothed with recumbent oval rather dense whitish scales intermingled with some darker ones but not forming any clear pattern. Rostrum as long as pronotum, gently curved, transversely compressed and clearly widening from base to apex. Dorsal surface of rostrum bare and smooth, strongly quadrisulcate and thus tricarinate from base up to half the distance between the antennal insertion and beak apex. Antenna rather thin, inserted at the midpoint of rostrum; scape gradually clubbed; funiculus 7-jointed; desmomerer 1 to 3 elongate and only slightly diminishing in length; desmomerer 4 to 7 longer than wide; club fusiform, as long as the combined length of desmomerer 5 to 7. Frons somewhat concave. Eyes oval and a little protruding from head sides. Pronotum 0.69 as long as wide, and strongly constricted towards apex, sides curved and narrowing also toward base, which is faintly bisinuose. Disc convex, coarsely and finely punctured; antero-lateral depressions evident; dorsal sulcus reduced to two shallow depressions, one at apex and another at base; lateral tubercles large but obtuse. Elytra 0.94 as long as wide, slightly longer than wide, flattened on disc, widest at basal 1/5; sides curved, converging toward preapical tubercles; humeral calli bulging, preapical ones strong and formed by protuberances of almost equal size on intervals 4 and 6, whereas that of interspace 5 is clearly weaker. Strial furrows thin, a little curved and with a row of thin piliform scales. Intervals almost flat, wider than striae, dark spots of scales on interspaces 1, 3, 5 and 7 slightly lifted. Legs rather robust. Femora distally shallowly sulcate for reception of tibia, all with an evident tooth-like process formed by lifted scales. Tibiae curved, the hind ones slightly bisinuate,

all with apical uncus, being unci of the middle and hind tibiae long and sharp. Tarsi relatively short; first joint longer than the second, third bilobe; claws edentate, strongly divergent. Urosternites 1 and 2 flattened; 5 with very faint fovea. Aedeagus: fig. I: 13. See also fig. I: 12.

Paratypes

Very similar to the holotype. The male paratype lacks of left middle and hind legs. Females have rostrum slightly longer than pronotum, and the apical uncus of all their tibiae is more obtuse. Length: mm 2.67-2.70.

Etymology

The species is named after my friend Roman Borovec, who collected part of the type specimens.

Remarks

Pseudoxyonyx boroveci is closely related to *P. meregallii* due to the structure of tarsi and general shape. It differs from the latter by the tricarinate rostrum, the lack of dorsal channel on pronotal disc, the reddish-coloured prothorax, the narrowly lanceolate scales on the mid-line of pronotum itself, the everywhere smallest elytral scales, the dissimilar pattern of pronotum and elytra, on posterior third of which in particular does not exist any X-shaped blackish mark, the tubercle of preapical callus on interval 5 much smaller than that of both adjacent ones, the narrower aedeagus (figs I: 7, 8, 12, 13).

Ecology

All known examples were collected on *Ephedra* sp.

Paroxyonyx maroccanus n. sp.

Diagnosis

Magnopere Paroxyonychi fallacioso e Mauritania similis et affinis, solo statura saepissime plusculum majore, tegumento obscuriore, disco thoracis paullulum convexiore, aedeago latiore, mucrone maris tibiarum

anticorum minutissimo cujus apice ambigue bifido, illoque mucronis tibiarum posticorum magis evidenter bifido aegre cognoscendus.

Type series

Morocco, Taroudannt province, Aoulouz, Oued Souss, m 750, 30°41'49"N 8°9'12W, 5.II.2002, 1 ♂ holotype (MCR) and 20 ♂♂, 44 ♀♀ paratypes (2 BIA, 2 BOR, 2 FRE, 46 COL, 2 KOR, 2 MCR, 2 MZU, 2 RUS, 2 SZY, 2 YOS), E. Colonnelli leg. on *Ephedra* sp.; same locality, 23.III.1997, 2 ♂♂ and 8 ♀♀ paratypes (1 MAZ, 9 COL), E. Colonnelli leg. on *Ephedra* sp.; Morocco, Taroudannt, «Souss Ebene», 29.XII.1990, 1 ♀ paratype (COL), W. Suppantisch leg. «an Ginster»; Morocco, Haut Atlas, Ouirgane-Ijoukak, m 1000, 9.V.2000, 4 ♂♂ 3 ♀♀ paratypes (6 RUS, 1 COL), M. I. Russell leg on *Ephedra* sp.; Morocco, Haut Atlas, 5 Km S Ouirgane, m 1000, 8.V.2000, 1 ♀ paratype (RUS), M. I. Russell leg., and 3 ♂♂, 1 ♀ paratypes (3 BOR, 1 COL), R. Borovec leg. on *Ephedra* sp.; Morocco, Haut Atlas, 15 Km N of Ijoukak, m 1200, 9.V.2000, 6 ♂♂, 1 ♀ paratypes (6 BOR, 1 COL), R. Borovec leg.

Holotype

Length: mm 2.02. Ferrous-red; extreme base of rostrum, dorsal half of head and pronotum, meso, metasternum and abdomen (urosternite 5 and pigyidium excepted), a cruciform patch on middle of elytra plus 2 spots on basal fifth of interval 5, and under side of femora brown; humeral and preapical tubercles blackish-brown. Dorsal vestiture of slanted hairlike white, brown, and golden scales, and of recumbent white lanceolate scales concentrated on dorsal sulcus and sides of prothorax, basal half of suture and scattered on light zones of elytra. Under side clothed with moderately dense recumbent narrowly lanceolate white scales. Rostrum 1.08 as pronotum, rather thin, gently curved, bare and smooth on dorsal surface, finely sulcate laterally on basal half. Antenna rather thin, inserted at the midpoint of rostrum; scape clubbed; funiculus 7-jointed; desmomeres 1 and 2 elongate, 3 and 4 about twice longer than wide, 5-6 still longer than wide, 7 not transverse; club shortly fusiform, as long as the combined length of desmomeres 5 to 7. Frons flat. Eyes a little protruding from sides of head. Pronotum 0.70 as long as wide, quite strongly constricted at apex, sides curved and narrowing towards base, which is feebly bisinuose. Disc convex, coarsely and strongly punctured; dorsal sulcus wide but shallow, entire; lateral tubercles wanting. Elytra as long as wide, rather flattened on disc, widest

at middle; sides gently curved; humeral tubercles slightly protruding, preapical ones relatively strong and formed by rasp-like granules arranged in 2 irregular transverse rows on intervals 3 to 6. Strial furrows deep, catenulate and with a row of excessively thin recumbent hair difficult to see. Intervals a little convex, hardly wider than striae, coarsely transversely wrinkled. Legs robust. Femora clubbed, middle and hind ones with a very faint tooth-like protuberance. Tibiae almost straight, gently and regularly widened apically. Protibial unci very minute, apically blunt and indistinctly notched. Unci of middle tibiae rather long and sharp. Metatibial unci stout and apically somewhat bifid. Tarsi short; claws divergent, edentate but basally widened. Urosternites 1 and 2 with a large very shallow common depression; 5 with very faint and wide fovea. Aedeagus: figs II: 8, 10. See also figs II: 1, 6.

Paratypes

Basically similar to the holotype: low variation involves integumental colour that can be a little darker or brighter, and shape of dorsal scales, more or less thin. Females differ by the lack of sternal depressions and tibial unci. Length: mm 2.00-2.33.

Etymology

The Latin name makes reference to the country where the new species was collected.

Remarks

Extremely close to *P. fallaciosus* (Desbrochers, 1896) also from Morocco, the few differences are the following. Size on the average larger (mm 2.00-2.33 instead of mm 1.71-2.03), integument usually darker (ferrous-red and dark brown instead of honey-red and brown, like in the absolute majority of *P. fallaciosus* studied), teeth of preapical tubercles larger and clearly darker than those of *P. fallaciosus*, more convex pronotum, tibiae much less enlarged toward apex, minute uncus of male fore tibiae apically blunt and with somewhat indistinct shallow incision (in *P. fallaciosus* larger and sharp), apical uncus of male hind tibiae weakly bifurcate at apex instead of quite sharp, and wider aedeagus (figs II: 1, 2, 6, 7, 9, 11). The other close Moroccan species *P. albiplumis* Peyerimhoff, 1926 already differs from both *P. maroccanus* and *P. fallaciosus* by the scales of upper and under side completely white (figs II: 1, 3).

Ecology

All specimens were beaten off an unidentified species of *Ephedra*. The indication by W. Suppantchitch of the collecting of a female on «Ginster» is surely false since at first sight an *Ephedra* can be easily mistaken for a *Retama retam* L., a common broom in the Taroudannt area. *Paroxyonyx fallaciosus* apparently breeds on an *Ephedra* growing along the Moroccan coast, whereas *P. maroccanus* has always been found on a seemingly different species of the same genus living in the interior of the country.

Paroxyonyx audisioi n. sp.

Diagnosis

Valde Paroxyonychi fallaciosi iterum simillimus, sed tegumento clariore, mucrone maris tibiaram posteriorum bifido, aedeagi apice evidenter latiore certe differens.

Type series

Algeria, Mostaganem province, dunes of Stidia [35°50'N 00°01'W], 22.V.1984, 1 ♂ holotype (MZU) and 1 ♂, 1 ♀ paratypes (COL), P. Audisio leg. on *Ephedra* sp.

Holotype

Length: mm 1.72. Honey-red, funiculus, disc of pronotum, two spots at base of elytra, a transverse stripe on middle of elytra, preapical calli, meso, metasternum and urosternites pale red-brownish, extreme base and minute granules on preapical tubercles of elytra brown. Dorsal vestiture of almost recumbent brownish and milk-white narrow scales pointing backward on head and toward the midpoint on pronotum; white recumbent lanceolate scales are along dorsal channel and on sides of pronotum, and on basal half of suture, at base of interspace 2 and a few are scattered on light zones of elytra. Under side clothed with moderately dense recumbent white narrowly lanceolate and a few oval scales. Rostrum 1.17 as pronotum, thin, slightly curved, bare and smooth on dorsal surface, finely tricarinate on basal half up to a short distance beyond antennal insertion. Antenna thin, inserted at the midpoint of

rostrum; scape slightly and regularly enlarged towards apex; funiculus 7-jointed; joints 1 to 3 elongate, diminishing in length; 4-5 clearly longer than wide; 6 rounded, 7 hardly transverse; club fusiform, slightly longer than joints 5-7 together. Frons rather flat, strongly punctured. Eyes only a little convex. Pronotum 0.77 as long as wide, widest at the mid-point, strongly and abruptly constricted at apex, base slightly bisinuose, sides strongly curved. Disc rather convex, very coarsely punctured; antero-lateral depressions evident; dorsal sulcus complete, wide and shallow, lateral tubercles lacking. Elytra as long as wide, flattened on disc, widest at middle; sides moderately curved; humeral tubercles moderately protruding, preapical ones also relatively feeble and with a cluster of very minute rasp-like granules. Strial furrows deep, catenulate, with extremely thin setae difficult to see. Intervals a little convex, hardly wider than striae, coarsely transversely wrinkled, their margin slightly notched by points of striae. Legs robust. Femora clubbed, middle and hind ones with an extremely weak tooth. Tibiae almost straight, gently widened apically. Protibial unci minute, those of middle tibiae moderately sharp, metatibial unci apically thinly bifid. Tarsi short; claws divergent, simple and basally widened. Urosternites 1 and 2 with large very shallow common depression; 5 with very faint and wide fovea. Aedeagus: fig. II: 12. See also fig. II: 4.

Paratypes

The male is very similar to the holotype: its length is mm 1.90. The female differs by the longer rostrum (1.35 times as pronotum) and by the usual lack of sternal depressions and tibial unci: its length is mm 1.87.

Etymology

The species takes its name from my close friend and an outstanding Nitidulidae specialist Paolo Audisio, who collected all the known examples.

Remarks

The present species was misidentified by Colonnelli (1995) for *P. fallaciosus* to which it is very closely related. However, *P. audisioi* differs from *P. fallaciosus* by the apex of aedeagus much broader (figs II: 11, 12) and the apical uncus of hind male tibia bifid. The ground colour of integument of the three known specimens is also clearly paler.

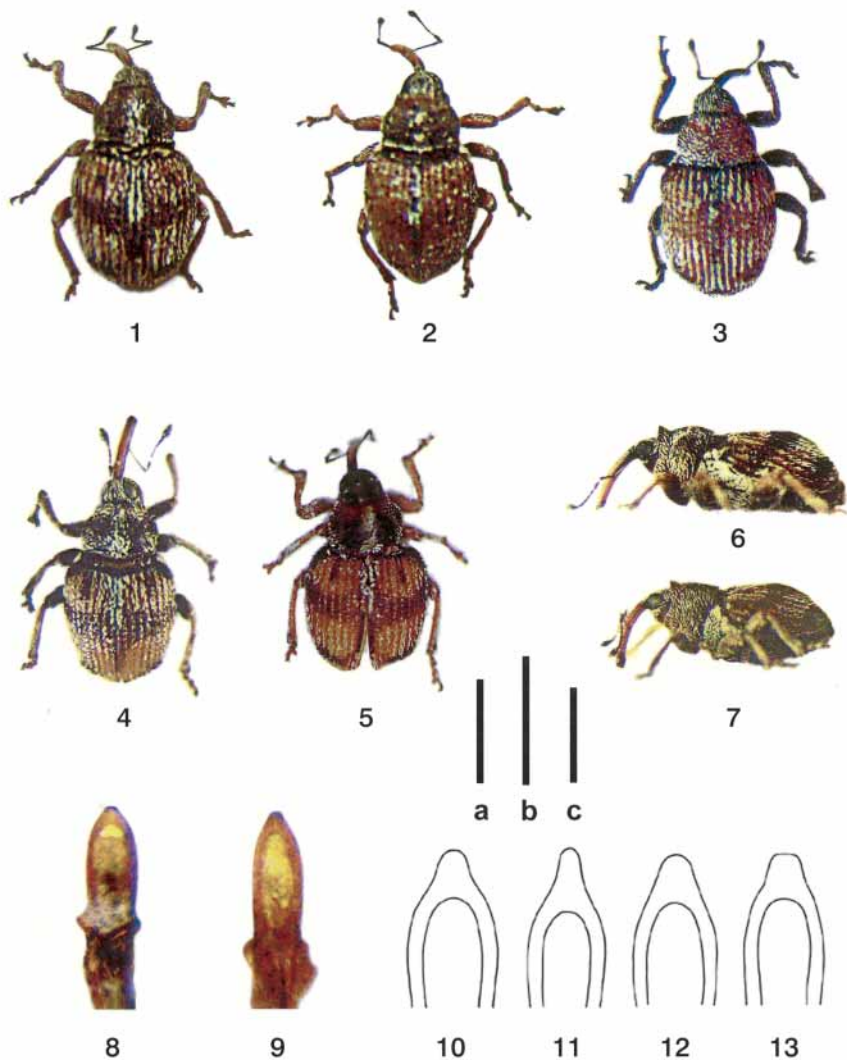


Fig. II. Habitus of: 1) *Paroxyonyx maroccanus* n. sp., holotype – 2) *Paroxyonyx fallaciosus* (Desbrochers), male from Morocco: Casablanca province, El Jadida, Sidi Ouadoud – 3) *Paroxyonyx albiplumis* (Peyerimhoff), male from Morocco, Taroudannt province, Aouluz, Oued Souss – 4) *Paroxyonyx audisioi* n. sp., holotype – 5) *Paroxyonyx sicanus* n. sp., holotype. Lateral view of: 6) *Paroxyonyx maroccanus* n. sp., holotype in side view – 7) *Paroxyonyx fallaciosus* (Desbrochers) male from Morocco: Marrakech province, Essaouira. Aedeagus of: 8) *Paroxyonyx maroccanus* n. sp., holotype – 9) *Paroxyonyx fallaciosus* (Desbrochers) from Morocco: Casablanca province, El Jadida, Sidi Ouadoud. Schematic drawings of the apex of aedeagus of: 10) *Paroxyonyx maroccanus* n. sp., holotype – 11) *P. fallaciosus* (Desbrochers) from Morocco: Casablanca province, El Jadida, Sidi Ouadoud – 12) *P. audisioi* n. sp., holotype – 13) *P. sicanus* n. sp., paratype. Scale bars: a = mm 1 (figs 1, 2, 3, 4, 5, 6, 7); b = mm 0.5 (figs 8, 9); c = mm 0.3 (figs 10, 11, 12, 13).

Ecology

All specimens were collected on the branches of an unknown species of *Ephedra*.

Paroxyonyx sicanus n. sp.*Diagnosis*

Praecedenti mirabiliter similis, statura plusculum majore, interstriis elytrarum paullulum planatioribus, mucronibus maris tiliarum posticorum longioribus atque haud apice bifidis, apice aedeagi latiore solo distinguendus.

Type series

Italy, Sicily, Ragusa province, mouth of Irminio river 4 Km E of Marina di Ragusa [36°46'N 14°36'E], 5.VI.1992, 1 ♂ holotype (OSE) and 3 ♀♀ paratypes (1 COL, 2 OSE), J. Di Pinto leg.; same locality, 20.IV.2002, 7 ♂♂ and 4 ♀♀ paratypes (7 COL, 4 MZU), P. Audisio and A. De Biase leg. on *Ephedra fragilis* Desfontaine

Holotype

Length: mm 2.00. Fairly dull, coarsely punctured, honey-reddish, funiculus, head, base of rostrum, disc of pronotum, two spots at base of elytra, a transverse stripe on middle of elytra, preapical calli, meso, metasternum and first two urosternites red-brownish, extreme base of elytra blackish. Dorsal vestiture of head and pronotum consisting of almost recumbent brownish and milk-white narrow scales pointing backward on head and toward the midpoint on pronotum; dorsal sulcus of prothorax with white lanceolate scales along dorsal channel and on sides, pointing forward apicad of middle of disc, and more numerous and with a sunburned pattern in front of scutellum. Elytral intervals each with 1-2 irregular rows of slanted narrow triangular white scales that are brown only on the above mentioned dark spots. In addition, suture with a longitudinal stripe of lanceolate white scales from base to about the middle of elytra. Under side clothed by rather dense narrow and lanceolate white scales. Rostrum 1.20 as pronotum, very slightly curved, faintly bisulcate laterally up to just beyond antennal insertion, the rest shining and glabrous. Antenna inserted about in the midpoint of rostrum; scape slightly and regularly enlarged towards apex;

funiculus 7-jointed; joints 1 to 3 elongate, diminishing in length; 4-5 clearly longer than wide; 6 rounded, 7 transverse; club fusiform, slightly longer than joints 5-7 together. Frons rather flat, strongly punctured. Eyes only a little convex. Pronotum 0.70 as long as wide, widest in the middle, strongly and abruptly constricted at apex, base slightly bisinuose, sides strongly curved and somewhat angulated immediately apicad of midpoint. Disc rather convex, very coarsely punctured; antero-lateral depressions evident; dorsal sulcus shallow but wide and entire, lateral tubercles wanting. Elytra as long as wide, moderately convex, widest at basal third, sides slightly and uniformly curved up to preapical tubercles; humeral calli evident, preapical ones strong, finely muricate. Strial furrows deep, catenulate, with an exceedingly thin setae hard to see. Intervals slightly wider than striae, almost flat, shining, very minutely muricate, their margins not noticeably notched by points of striae. Legs robust and short; femora strongly clubbed but edentate. Tibiae straight, clearly enlarged from base to apex, all tibiae with a sharp mucro at apex, pro and metatibial ones weaker than that of middle tibiae. Tarsi short; claws edentate but widened basally. Urosternites 1-2 flat, 5 with very shallow fovea. Aedeagus: fig. II: 13. See also fig. II: 5.

Paratypes

Some variation is in the shape of dorsal scales that can be slightly narrower than those of the holotype, and in the integumental colour more or less reddish. Females, apart the lack of tibial mucros and sternal flattening, have rostrum a little longer (1.41-1.42 as pronotum). Length: mm 1.93- 2.00.

Etymology

The Latin name refers to the island in which the new species was collected.

Remarks

So similar to *P. audisioi* n. sp. that, although elytral interspaces are just a little more flattened, striae a trifle deeper, and femora apparently edentate, it is only possible to differentiate it with certainty by the sharp mucro of hind male tibiae and the wider apex of aedeagus (figs II: 12, 13).

The close species of *Paroxyonyx* Hustache, 1931 with plump

pronotal and elytral shape and apex of aedeagus bent downward, here defined as the *fallaciosus* group, can be distinguished as follows.

- 1 – Scales entirely white. Moroccan Atlas ... *albiplumis* (Peyerimhoff)
- 1' – Scales in part brownish o golden 2
- 2 – Apex of aedeagus narrowly rounded (fig. II:11). Apical uncus of hind male tibia sharp. Atlantic coast of Morocco
..... *fallaciosus* (Desbrochers)
- 2 – Apex of aedeagus broadly rounded (figs II: 10, 12, 13) 3
- 3 – Apical uncus of hind male tibia bifid. Apex of aedeagus less broad (figs II: 10, 12) 4
- 3' – Apical uncus of hind male tibia sharp. Apex of aedeagus broader (fig. II: 13). Sicily *sicanus* n. sp.
- 4 – Size larger (mm. 2.00-2.33). Integument darker, ferrous-red with at least elytral tubercles blackish. Mountain range of Morocco south of Marrakech *maroccanus* n. sp.
- 4' – Size smaller (mm 1.72-1.90). Integument paler, honey-red with ferrous-red elytral tubercles. Western coast of Algeria
..... *audisioi* n. sp.

The distribution of all the above species is shown on fig. III.

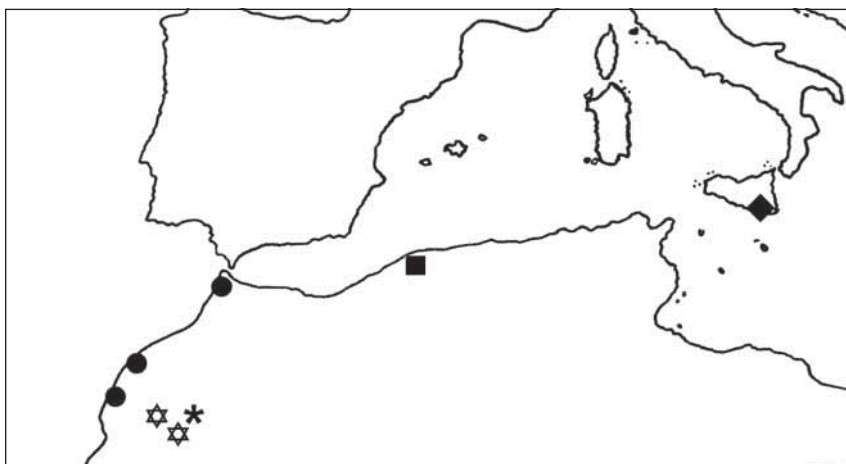


Fig. III. Distribution of members of the *Paroxyonyx fallaciosus* group: asterisk = *P. albiplumis* (Peyerimhoff); square = *P. audisioi* n. sp.; dots = *P. fallaciosus* n. sp.; jewish stars = *P. maroccanus* n. sp.; rhombus = *P. sicanus* n. sp.

Ecology

Paolo Audisio and Alessio De Biase collected all their specimens from *Ephedra fragilis* Desfontaine growing along the seashore.

Paroxyonyx squamiger n. sp.

Diagnosis

Satis Paroxyonychi petrae e Palestina similis, sed elytris planatioribus densisque squamulibus ovalibus praeditis et granulis tuberculorum posticorum plusculum majoribus, thoracis lateribus minus rotundatis, aedeagi apice truncato subito differens.

Type series

Egypt, Sinai, Wadi an Natilah, m 400/430, 29°58'N 33°26'E, 2.III.1999, 1 ♂ holotype (MCR) and 8 ♂♂, 13 ♀♀ paratypes (7 COL, 1 MAZ, 3 MER, 9 RUS, 1 VOR), E. Colonnelli, M. Meregalli and M. Russell leg. on *Ephedra alata* Decaisne; Egypt, Sinai, Wadi Gosh, m 150, 29°13'N 33°03'E, 9/10.III.1999, 4 ♂♂ and 9 ♀♀ paratypes (5 COL, 3 MER, 4 RUS, 1 VOR), E. Colonnelli, M. Meregalli and M. Russell leg. on *Ephedra alata* Decaisne; Egypt, Sinai, Wadi Sudr, m 50, 29°37'N 32°49'E, 10.III.1999, 5 ♀♀ paratypes (3 COL, 1 MER, 1 VOR), E. Colonnelli and M. Meregalli leg. on *Ephedra* sp.

Holotype

Length: mm 2.30. Ferrous-red, extreme base of rostrum, head, apical constriction of pronotum, base of elytra, preapical tubercles, abdomen (urosternite 5 and pygidium excepted) dark brown; antennal club, a very faint transverse band on middle of elytra, base of femora and claws red-brown. Dorsal vestiture of dense recumbent milk-white elongate-oval scales: on each elytral interval these are arranged in 2-3 irregular rows and intermingled with narrower pale golden scales particularly numerous on the faint band of elytra. Under side clothed with moderately dense recumbent white narrowly lanceolate scales. Rostrum 1.29 as pronotum, thin, gently curved, bare and smooth on dorsal surface, finely tricarinate on basal half up to a short distance beyond antennal insertion and slightly widening apically. Antenna thin, inserted

about at the midpoint of rostrum; scape very slightly enlarged towards apex; funiculus 7-jointed; joints 1 to 3 elongate, diminishing in length; 4-6 clearly longer than wide; 7 not transverse; club fusiform, slightly longer than joints 5-7 together. Frons flat. Eyes only a little convex. Pronotum 0.60 as long as wide, widest at base, constricted toward apex, very slightly bisinuose at base, sides bisinuose. Disc rather flat, quite coarsely punctured; antero-lateral depressions relatively moderate; dorsal sulcus wide and very shallow, indistinct in the middle, lateral tubercles lacking. Elytra 1.13 times longer than wide, flattened on disc, widest at basal fourth; sides faintly curved; humeral tubercles protruding, preapical ones relatively feeble and with a cluster of rasp-like granules. Striae rather deep, punctured, with extremely thin indistinct setae. Intervals wider than striae, flat, shining, transversely somewhat wrinkled. Legs relatively thin. Femora gently clubbed, middle and hind ones with an excessively weak tooth. Tibiae almost straight, a little widened apically. Protibial unci stout, very minute, unci of middle tibiae sharp, metatibial ones stout and obviously bifid. Tarsi quite narrow; claws simple and basally slightly widened. Urosternites 1 and 2 with a large very shallow common depression; 5 with very faint fovea flanked by 2 spots of more condensed scales. Apex of almost parallel-sided aedeagus truncate. See also fig. IV: 1.

Paratypes

Similar to the holotype: the pronotum of some examples is almost uniformly reddish, the transverse median brownish mark on elytra may be even wanting in some others, and the clothing of scales is more or slightly less dense. Females have not tibial unci, and their abdomen is lacking of depressions. Length: mm 1.84-2.27.

Etymology

The Latin name refers to the several adpressed whitish scales of the integument.

Remarks

Somewhat similar to *P. petrae* Korotyaev, 1997 from Jordan and Israel (Korotyaev 1997), whose clothing, however, does not consist of dense white scales on almost the whole of dorsal side, but (apart for the usual sutural elongate patch of oval scales) of narrow hair-like scales

arranged in 2 rows on elytral intervals. The pronotum of *P. petrae* is much more convex, its dorsal channel is shallow but entire and the maximum width is just basad of midpoint. Elytra of *P. petrae* are again more convex and more narrowed toward apex (figs IV: 1, 2). The aedeagus of *P. petrae* is broadly narrowing at apex and not truncate like in *P. squamiger*. The new species differs by the kind of vestiture and by the flattened body also from the southwestern Mediterranean *P. cinctus* (Chevrolat, 1861), and from the Ukrainian *P. maltsevi* Korotyaev, 1997, both having aedeagus with more or less the same shape as in *P. squamiger* (figs IV: 1, 3).

Ecology

Nearly all the type specimens were beaten off *Ephedra alata* Decaisne. Small holes most probably caused by emerged weevils were observed at the basis of some branches of the bush in Wadi Gosh.

Paroxyonyx russelli n. sp.

Diagnosis

Pariter Paroxyonychi petrae et praecipue praecedenti simillimus, differt a primo statura majore, fasciis tuberculisque elytrarum fere nigro-castaneis, squamulibus albis densioribus, a secundo itidem statura multo majore, thorace elytrisque convexioribus, vestitura paullulo minus densa, signatura alia et aedeago apice leviter attenuato.

Type series

Egypt, Sinai, Wadi an Natilah, main road, m 430, 29°58'N 33°26'E, 1 ♂ holotype (MCR), and 1 ♂, 4 ♀ paratypes (2 COL, 1 CUE, 2 RUS), 2.III.1999, M. I. Russell and E. Colonnelli leg. on *Ephedra alata* Decaisne.

Holotype

Length: mm 2.43. Ferrous-red, antennal club and tip of rostrum slightly darker; extreme base of rostrum, head, apical constriction of pronotum, base of elytra, preapical tubercles, a V-shaped transverse stripe on middle of elytra, mesosternum, metasternum and first 2 urosternites brown. Dorsal vestiture of rather dense recumbent milk-

white elongate-oval scales, which on elytral interval are arranged in 2-3 irregular rows and replaced by narrower golden scales on the dark stripe. Golden scales are on sides of dorsal channel of pronotum, which is covered by narrow white scales. Under side clothed with rather dense recumbent white narrowly lanceolate scales. Rostrum 1.30 as pronotum, thin, moderately curved, bare (extreme base excepted) and rather dull on dorsal surface, finely tricarinate on basal half up to a short distance beyond antennal insertion and barely widening apically. Antenna thin, inserted about at the midpoint of rostrum; scape very slightly enlarged towards apex; funiculus 7-jointed; joints 1 to 3 elongate, diminishing in length; 4-6 clearly longer than wide; 7 not transverse; club fusiform, slightly longer than joints 5-7 together. Frons flat. Eyes only a little convex. Pronotum 0.65 as long as wide, widest at middle, strongly constricted toward apex, very slightly bisinuose at base, sides rounded. Disc rather convex, quite coarsely punctured; antero-lateral depressions evident; dorsal sulcus wide and shallow, less obvious in the middle, lateral tubercles wanting. Elytra 1.06 times longer than wide, flattened on disc, widest at basal fifth; sides slightly curved, converging toward preapical tubercles; humeral calli protruding, preapical ones feebler and with a cluster of quite strong rasp-like granules. Striae deep, punctured, with extremely thin indistinct setae. Intervals only slightly wider than striae, flat. Legs relatively robust. Femora clubbed, middle and hind ones with a faint tooth-like tuft of scales. Tibiae weakly curved at base, widening apically. Protibial unci excessively minute, unci of middle tibiae stout and quite sharp, metatibial ones the strongest and obviously bifid. Tarsi quite narrow; claws simple and basally slightly widened. Urosternites 1 and 2 with a large faint common depression; 5 with very shallow broad fovea. Aedeagus broadly narrowing toward the truncate apex. See also fig. IV: 4.

Paratypes

Essentially alike the holotype. The stripe on elytra can be paler. One female has elytral scales more regularly arranged in 2 rows and only a few of oval scales. Females differs by the lack of unci and of sternal depressions. Length: mm 2.50-2.67.

Etymology

The species is named after my good friend Mark Russell, who very much enjoyed the collecting of these beetles in the Sinai desert. Fur-

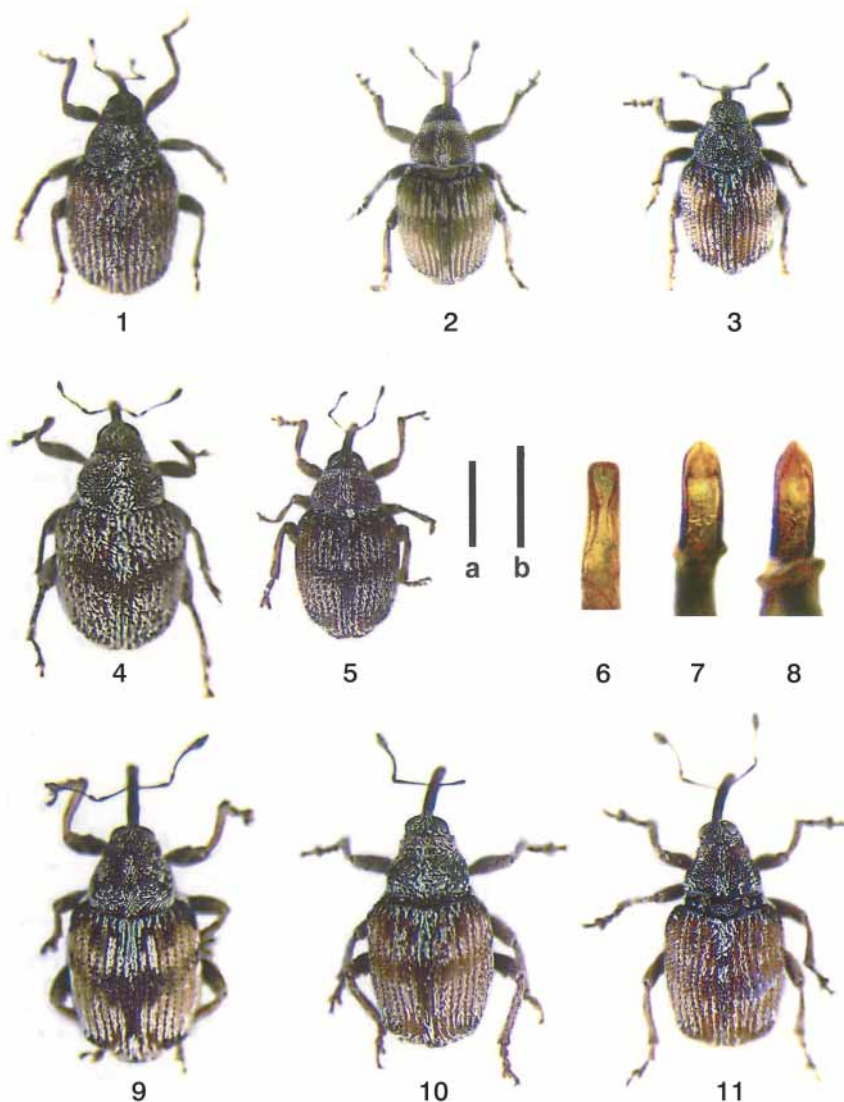


Fig. IV. Habitus of: 1) *Paroxyonyx squamiger* n. sp., holotype – 2) *Paroxyonyx petrae* Korotyaev, male from Israel: Asguelon – 3) *Paroxyonyx maltsevi* Korotyaev, paratype – 4) *Paroxyonyx russelli* n. sp., holotype – 5) *Paroxyonyx piceonotatus* (Pic) male from Cyprus: Cavo Grecco – 9) *Mesoxonyx osellanus* n. sp., holotype – 10) *Mesoxonyx sicardi* (Hustache) from France: Hérault, dunes de Carnon – 11) *Mesoxonyx hispanicus* (Hustache), topotype from Spain: vicinity of Albarracin. Aedeagus of: 6) *Mesoxonyx osellanus* n. sp., paratype – 7) *Platypteronyx maximi* n. sp., holotype – 8) *Platypteronyx auritus* (Kirsch) from Turkey: Erzurum province, Horasan. Scale bars: a = mm 1 (figs 1, 2, 3, 4, 5, 9, 10, 11); b = mm 0.5 (figs 6, 7, 8).

thermore, Mark Russell is the artist author of the beautiful drawing of fig. I: 10.

Remarks

Rather similar to *P. petrae*, but, apart the larger size (mm 2.43-2.67 instead of mm 2.15-2.50), quite easily recognizable by the denser vestiture of scales, the dark prothorax, humeri, preapical calli and oblique stripes on elytra, the less convex pronotal disk. Very similar also to *P. squamiger*, from which, apart the larger size, can be differentiated by the more convex body (particularly the pronotum), the usually less dense vestiture, the aedeagus broadly narrowing at apex. Analogous aedeagal shape is shown by the other two species *P. piceonotatus* (Pic, 1923) from Cyprus, Israel, Jordan and Iraq, and *P. imitator* (Wagner, 1928) from Spain. They are very close each other, and the Spanish species can be separated by the oriental one only by the darker pronotum and the larger granules on preapical elytral tubercles. *P. russelli* differs from both by the elongate oval scales, the larger size, the less convex pronotum (figs. IV: 4, 5). Is worthy of note that some characters of the new species (e.g. middle and hind femora feebly toothed, large size, sides of elytra converging toward preapical calli) are shared with some species of *Mesoxonyx* Korotyaev, 1997 and namely with its type species *M. syriacus* (Schultze, 1899) from Syria and Israel and with *M. arabicus* Korotyaev, 1997 from Saudi Arabia. Although this could imply that the distinction of these supposed genera is not so unambiguous, they are still considered separate until a careful revision of all members of both is not made.

Ecology

Ephedra alata Decaisne must be considered at least one of the host plants since all the specimens were obtained beating its branches.

Mesoxonyx osellanus n. sp.

Diagnosis

Valde Mesoxonychi sicardi e Gallia meridionale et Hispania proximus, sed rostro saepior usque fere at apice nigricante aut dimidio apicale solum rufescente, signatura plerumque multo evidentiore, margine

antico thoraci nigrum vel tantum lateraliter rubro, granulis tuberculorum antepicalium elytrarum paullulo majoribus satis differre videtur.

Type series

Italy, Abruzzes, L'Aquila province, Raiano, Gole S. Venanzio, m 420, 42°06'55"N 13°17'69"E, 10.V.2002, 1 ♂ holotype (OSE) and 18 ♂♂, 20 ♀♀ paratypes (2 COL, 37 OSE), B. Osella leg. on *Ephedra major* Host; same locality, 16.V.2002, 24 ♂♂, 22 ♀♀ paratypes (33 COL, 2 MCR, 11 OSE), E. Colonnelli and B. Osella leg. on *Ephedra major* Host; same locality, 27.V.2002, 11 ♂♂, 15 ♀♀ paratypes (19 CAS, 7 COL), R. Casalini and E. Colonnelli leg. on *Ephedra major* Host.

Other material

Italy, Sardinia, Nuoro province, Orgosolo, Monte Novo S. Giovanni [40°07'N 9°24'E], m 1300, 29.V.2002, 14 exx. (2 COL, 12 OSE), B. Osella leg. on *Ephedra major* Host; Italy, Sardinia, Nuoro province, Orgosolo, Punta Corrasì [40°14'N 9°25'E], m 950, 3.VI.2002, 60 exx. (10 COL, 50 OSE), B. Osella leg. on *Ephedra major* Host

Holotype

Length: mm 2.56. Fairly dull, coarsely punctured, honey-reddish; rostrum, head, prothorax (under side of front margin and two spots above for coxae reddish excepted), basal margin of elytra, base of intervals 1, 2, 4, 7 and 8, an elongate heart-shaped mark on middle of elytra, preapical tubercles, basal 2/3 of femora, apex of tarsal claw segment, underside (extreme apex of urosternite 5 and pygidium excepted) dark brown; antenna and extreme apex of tibiae dark red-brown. Dorsal vestiture consisting of recumbent milk-white narrowly lanceolate scales and of slanted hair-like dorsal sulcus of prothorax with white lanceolate scales along dorsal channel and on sides, forming the pattern of fig. IV: 9. Elytral intervals with 2-3 irregular rows of scales that are dark brown on the dark spots. Rostrum 1.11 as pronotum, moderately curved, bisulcate laterally up to just beyond antennal insertion, the rest finely punctured, shining and glabrous. Antenna inserted about in the midpoint of rostrum; scape slightly enlarged toward apex; funiculus 7-jointed; joints 1 and 2 elongate, 3-6 clearly longer than wide, diminishing in length; 7 not transverse; club fusiform, slightly longer than joints 5-7 together. Frons slightly concave, strongly punctured.

Eyes moderately convex. Pronotum 0.77 as long as wide, widest at basal third, somewhat constricted at apex, base slightly bisinuose, sides moderately curved; disc a little convex, very coarsely punctured; antero-lateral depressions evident; dorsal sulcus shallow but wide and entire, lateral tubercles wanting. Elytra 1.11 as long as wide, flattened at base, widest at humeri, sides almost straight, moderately narrowing toward preapical tubercles; humeral calli quite strong, preapical ones moderate but enhanced by two irregular rows of quite strong rasp-like tubercles. Strial furrows deep, catenulate, apparently bare. Intervals slightly wider than striae, almost flat, shining, very minutely muricate. Legs robust and short. Femora moderately clubbed, toothed. Tibiae curved at base, clearly enlarged from base to apex, all with a minute uncus at apex, being the middle one the strongest. Tarsi short; claws edentate but widened basally. Urosternites 1-2 flat, 5 with a central and two lateral shallow depressions. See also fig. IV: 9. The holotype, like all the other samples collected the same date, is slightly immature.

Other specimens

Integumental colour of paratypes, shape and colour pattern are somewhat variable, as well as the form of dorsal lanceolate scales that can be more or less broad. In addition, hair-like scales can be more or less slanted. Few paratypes have a honey-red elongate lateral band along sides of anterior margin of prothorax, which appears from above like a spot on each side of pronotal constriction. Specimens from Sardinia were not included in the type series because the great majority of them have integument slightly paler, somewhat less striking pattern, brown rostrum with dark ferrous-red apical half, lateral pale marks of pronotal constriction always present, dark spots on elytral tubercles usually smaller. However, due to variation of individuals of both populations, there is a fraction of specimens from Abruzzes that cannot be distinguished from some Sardinian ones. Females differ by the lack of sternal depressions and tibial unci. Aedeagus: fig. IV: 6. Length: mm 2.25-2.96.

Etymology

It is a pleasure to name this species after Giuseppe Bartolomeo Osella, who firstly discovered it in the course of his careful exploration of the central Apennines and of Sardinia.

Remarks

Very close to *M. sicardi* (Hustache, 1931) from northern Spain and southwestern France, the new species differs from it by the darker integument with the rostrum blackish and sometime brown apicad of antennal insertion instead of being brown near base and light ferrous-red at apex, the antenna usually dark brown or blackish instead of ferrous-red with the club usually darker, the much more numerous dark scales causing the pattern being much more distinct, the anterior margin of prothorax pitchy-brown or at most only laterally reddish instead of being entirely reddish (figs IV: 9, 10). *Mesoxyonyx osellanus* differs from *M. hispanicus* (Hustache, 1926) from Spain and Morocco by the thicker rostrum, the shorter elytra, the less protruding eyes, the profemoral tooth less sharp (figs IV: 9, 11). On the other hand, *M. conicollis* (Schultze, 1898) from Algeria and Morocco has paler integument, elytra and legs covered in part by polished white scales appearing somewhat stuck to integument, and much less contrasting pattern (figs IV: 9, V: 1). The new species is readily distinguished from both *M. syriacus* (Schultze, 1899) and *M. arabicus* Korotyaev, 1997 by the shape of elytra being not remarkably narrowing toward preapical calli (figs IV: 9, V: 2). Finally, *M. osellanus* is much larger (mm 2.25-2.96 instead of mm 2.00-2.20) than *M. maceratus* (Peyerimhoff, 1926) from Morocco. Note that *Ceuthorrhynchus* (*Oxyonyx*) *maceratus* Peyerimhoff, 1926 was included by mistake in *Paroxyonyx* by Colonnelli (2004), and is here moved from *Paroxyonyx* to *Mesoxyonyx* Korotyaev, 1997 (**comb. nov.**).

Ecology

All specimens, both from central Italy and from Sardinia were collected by beating *Ephedra major* Host branches.

Theodorinus giustocaroli n. sp.

Diagnosis

Similis Theodorino transcaucasico e Transcaucasia et Theodorino multidentato ex Asia media, sed colore elytrarum toto nigricante, et signatura alia subito differt.

Type

Turkey, Kırıkkale province, 4 Km W of Kırıkkale [39°51'N 33°28'E], m 680, 28.V.2002, 1 ♀ holotype (COL), C. Giusto and S. Zoia leg. on *Ephedra* sp.

Holotype

Length: mm 1.88. Head, prothorax, elytra and under side pitchy-brown; rostrum and anterior margin of pronotum brown; legs dark ferrous-red with basal half of femora and claws slightly darker. Dorsal vestiture of recumbent large embricate oval white, and of triangular more or less dark golden-brownish scales forming the pattern of fig. V: 4. Under side clothed with recumbent slender white scales rather dense everywhere except the first two urosternites where they are much sparser. Rostrum 1.39 as long as pronotum, gently curved, transversely barely compressed, almost parallel-sided; dorsal surface bare, strongly quadrisulcate and thus tricarinate from base up to a short distance beyond antennal insertion, and with two lateral row of fine punctures reaching almost the apex. Antenna thin, inserted about in the middle of rostrum; scape gradually and weakly clubbed; funiculus 7-jointed; desmomerer 1 to 3 elongate, diminishing in length; desmomerer 4 to 6 clearly longer than wide; 7 subtriangular, not transverse; club fusiform, slightly longer than the combined length of desmomerer 5-7. Frons flat. Eyes relatively small and not protruding from head convexity. Pronotum 0.64 as long as wide, coarsely punctures, more strongly constricted at apex than at bisinuate base; anterior margin incised in the middle. Disc slightly convex; antero-lateral depressions evident; dorsal sulcus rather shallow, wide and entire; lateral tubercles wanting. Elytra 0.90 as long as wide, flattened on disc and slightly concave near scutellum, widest at humeri; sides almost straight, converging towards preapical tubercles. Humeral calli bulging and with minute granules; preapical ones formed by a row of strong rasp-like spines of almost equal size on intervals 3, 4 and 6, whereas that on interspace 7 is smaller, and that on interval 5 is larger and advanced to the base. Striae deep, wide, catenulate and with a row of extremely thin setae. Intervals flat, slightly wider than striae. Legs robust but elongate. Femora unarmed, moderately clubbed. Tibiae slightly curved, all with apical unci, unci of middle tibiae the longest. Tarsi narrow, rather elongate; third joint weakly bilobe; claws edentate, divergent. Urosternites 1 and 2 with a common longitudinal thin groove; 5 shallowly foveate. See also figs V: 3, 4.

Etymology

The species is named after one of its collector Carlo Giusto, who in addition was so kind to present me with the single known specimen.

Remarks

Similar to *T. multidentatus* (Pic, 1914) from Kazakhstan and Turkmenia (Korotyaev 1982), and to *T. transcausicus* Korotyaev, 1989 from Armenia, Azerbaijan, Dagestan, Georgia and northeastern Turkey (Korotyaev and Cholakava 1989; Colonnelli 2004) which are the only two other species of the genus, being also very alike each other. *Theodorinus giustocaroli* is easily distinguishable from both by the dark colour of the integument, particularly that of the completely blackish elytra, and the different pattern not with the transverse light brownish stripes shown by the two above mentioned species of *Theodorinus* Korotyaev, 1982 (figs V: 4, 5).

Ecology

This single specimen was collected on an unidentified species of *Ephedra* along the road.

Platypteronyx maximi n. sp.*Diagnosis*

Simillimus *Platypteronychi aurito* ex *Asia occidentale*, sed *signatura multo evidentiore, corpore latiore et aedeagi apice minus acuto vix distinctus*.

Type series

Turkey, Niğde province, Aladağlar, Demirlazık, m 1600, 37°51'71"N 35°06'13"E, 2.V.2004, 1 ♂ holotype (COL) and 1 ♀ paratype (COL), E. Colonnelli leg. on *Ephedra major* Host.

Holotype

Length: mm 2.18. Ferrous-red, antenna slightly darker; head, prothorax, basal half and tip of rostrum, underside, apex of claw segment

of tarsi and elytral spots pitchy-brown. Dorsal vestiture of not very dense almost recumbent milk-white narrowly elongate and of golden-brown or brown slightly slanted scales forming the pattern of figs V: 6, 7. Under side clothed with dense recumbent white oval elongate scales. Rostrum 1.20 as pronotum, rather thin, moderately curved, bare beyond basal fifth, tricarinate on basal half up to a short distance basad of antennal insertion and finely punctured apicad of it. Antenna thin, elongate, inserted just beyond the midpoint of rostrum; scape very slightly enlarged towards apex; funiculus 7-jointed; joints 1 and 2 elongate, 3-6 evidently longer than wide, diminishing in length, 7 still longer than wide; club fusiform, slightly shorter than the four preceding desmomerer. Frons concave. Eyes clearly protruding from head convexity. Pronotum 0.78 as long as wide, widest at middle, slightly constricted toward apex, very slightly bisinuose at base, sides gently rounded. Disc rather convex, coarsely punctured; antero-lateral depressions shallow; dorsal sulcus complete, shallow, greatly widening at apical margin, no lateral tubercles. Elytra 1.11 times longer than wide, flattened on disc, widest at middle; sides slightly curved, converging toward preapical tubercles; humeral calli moderate, preapical ones bulging and with a cluster of strong rasp-like tubercles. Striae deep, not very strongly punctured, with a row of golden-brownish hair-like scales. Intervals flat, coarsely punctured, wider than striae. Legs elongate. Femora moderately clubbed, all with a tooth. Tibiae slightly curved, faintly widening apically, all with apical sharp uncus. In addition, metatibiae have a lamella on inner margin at a short distance from apex. Tarsi narrow; claws simple and basally slightly widened. Urosternites 1 and 2 with a large faint common depression; 5 with quite a deep fovea. Aedeagus: fig. IV: 7. See also fig. V: 6.

Paratype

Similar to the holotype; its pattern is more contrasting (fig. 45), antenna are inserted apicad of middle of rostrum at 0.55 times the rostral length from base, elytra are broader (1.06 times longer than wide), urosternite 5 has a faint sub-triangular groove, pygidium is very deeply excavated, and tibial unci are lacking. Length: mm 2.77

Etymology

The new species is named in honour of Massimo Cristofaro for the support and help he gave me in Turkey during our joint collecting trip in early spring of 2004.

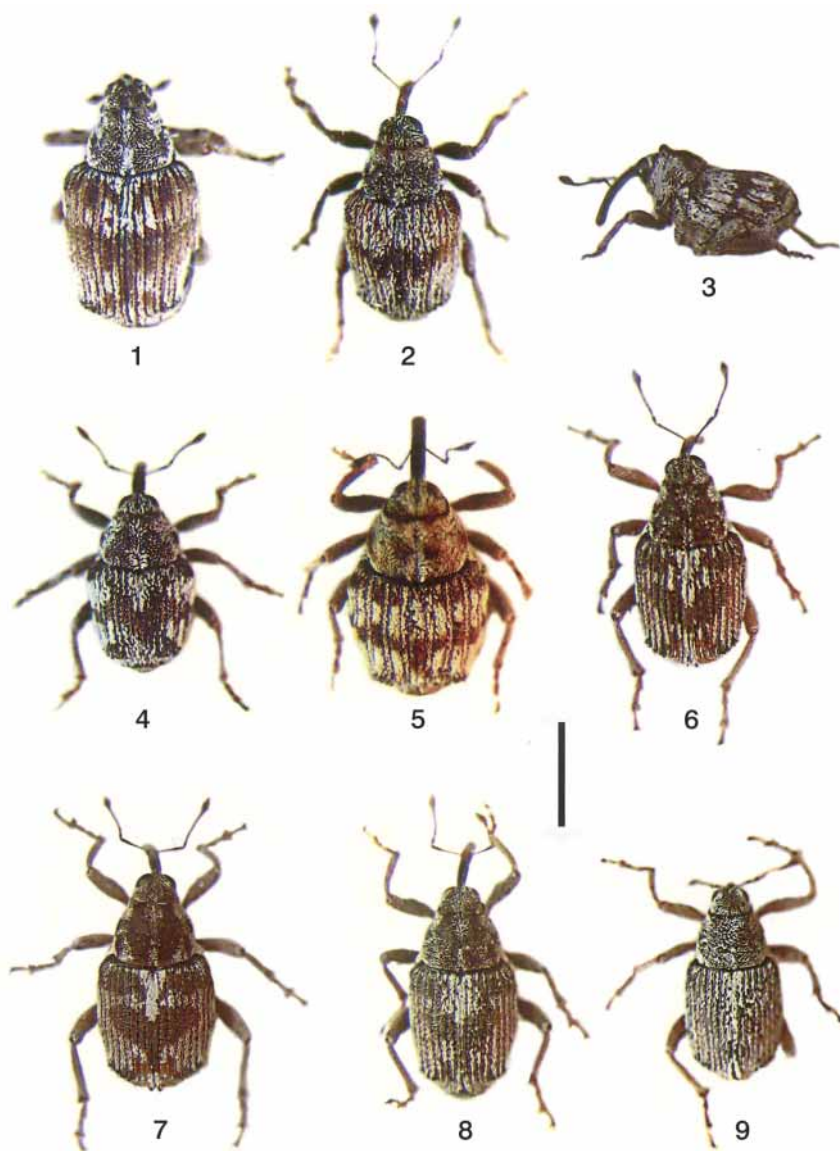


Fig. V. Habitus of: 1) *Mesoxynyx conicollis* (Schultze) from Algeria: vicinity of Oran – 2) *Mesoxynyx syriacus* (Schultze) from Israel: Rishon Le Ziyon – 3) *Theodorinus giustocaroli* n. sp., holotype in side view – 4) *Theodorinus giustocaroli* n. sp., holotype from above – 5) *Theodorinus transcaucasicus* Korotyaev, paratype – 6) *Platypteronyx maximi* n. sp., holotype – 7) *Platypteronyx maximi* n. sp., paratype – 8) *Platypteronyx auritus* (Kirsch), male from Turkey: Erzurum province, Horasan – 9) *Platypteronyx volkovitschi* Korotyaev, male paratype. Scale bar: 1 mm.

Remarks

Very similar to *Platypteronyx auritus* (Kirsch, 1879) from north-eastern Turkey, Georgia, Iran and Kirgizstan, collected on *Ephedra procera* Fischer et C. A. Meyer and also on *Ephedra major* in northeastern Turkey (Colonnelli 2004). The pattern of *P. maximi* is, however, more contrasting, particularly the heart-shaped patch on disc of elytra posteriad of middle, elytra are wider (1.11 in the male and 1.06 in the female instead of 1.13-1.16 in males and 1.09-1.19 in females) with their sides slightly more curved, fovea of male urosternite is a little deeper, and apex of the broader aedeagus is less sharp (figs IV: 7, 8; V: 6, 7, 8). The new species differs from the only other member of the genus, *P. volkovitshi* Korotyaev, 1994 from central Asia, by the more evident elytral patter, the longer elytra (figs V: 6, 7, 9), and the male pygidium lacking narrow triangular elevation in the middle.

Ecology

This couple of samples was collected on some *Ephedra major* Host bushes which grew on vertical cliffs of a gorge.

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