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European *Oxybelus* with a note on *Oxybelus dusmeti* PEREZ, 1966 (Hymenoptera, Sphecidae)

K. M. Guichard

Abstract

Recently I have studied several large collections of *Oxybelus* from Europe and the appreciation of a very full range of variation in some of the more difficult species has made their identification easier. To those familiar with the genus as well as the literature with figures, I submit the following keys, since no key exists for all the European species. The male of *Oxybelus dusmeti* PEREZ, 1966 is still unknown.

Zusammenfassung

Die Arbeit präsentiert einen Bestimmungsschlüssel für die europäischen *Oxybelus*-Arten (Hymenoptera, Sphecidae), nebst kritischen Anmerkungen zu einigen Arten.

Keys

Females

- 1 A dense tuft of dark brown hairs on mesosternum, with further tufts on scapes, first and second antennal segments and front trochanters. (Pygidium and tibiae red. Terga closely and coarsely punctate. T1-2 with post-lateral white marks. Mesopleurae with vertical carinae. Squamae bifid. 7 mm) *dusmeti* PEREZ, 1966.
- Without hair tufts 2

- 2 Metanotum with broad joined squamae with a small central emargination. Scutellum without median longitudinal carina. Pygidium with a small apical emargination. (Iberian Peninsular, North Africa) *hastatus* FABRICIUS, 1804
- Squamae of metanotum separated. Scutellum with a median longitudinal carina 3
- 3 Mucron flattened, foliaceus, apically emarginate 4
- Mucron otherwise 5
- 4 Squamae simple. Metanotum yellow. Terga with fine punctation. Mucron dark ferruginous to black (Sardinia, Spain, Nord Africa)..... *diphyllus* (A. COSTA, 1882)
- Squamae apically bifid. Metanotum dark between the squamae. Terga with coarse punctures. Mucron usually ferruginous..... *lamellatus* OLIVIER, 1811
- 5 Femora 2 and 3 ferruginous or nearly so..... 6
- Femora 2 and 3 black or dark brown, more or less marked with yellow or ferruginous apically 9
- 6 Mesonotum marked with two or four yellow lines. Metanotum pale yellow between the squamae. Mucron wide, parallel-sided, usually apically emarginate..... *lineatus* (FABRICIUS, 1787)
- Mesonotum without yellow lines 7
- 7 Squamae simple. Mucron narrowed to a point..... *argentatus* CURTIS, 1883
- Squamae in profile clearly bifid. Mucron apically emarginate or rounded to truncate... 8
- 8 Mesosternum with coarse punctation, the interstices twice as wide as the punctures. Terga coarsely punctate but punctation not very dense. Mandibles black to dark ferruginous *latro* OLIVIER, 1811
- Mesosternum and terga with finer punctures, interstices smaller than punctures. Mandibles usually marked with yellow or ferruginous. (Iberian Peninsular, North Africa)..... *spectabilis* GERSTAECKER, 1867
- 9 Abdomen brilliant with a bronze reflection, punctation very fine and sparse. Lateral yellow marks on T1-2. Small species 5 - 5,5 mm *bipunctatus* OLIVIER, 1811
- Abdomen with more or less dense and obvious punctation, without bronze reflections 10
- 10 Tegulae reddish. Mucron short and usually broad, apically emarginate. Metanotum between the squamae normally with well defined parallel carinae. T1 especially and T2 normally with coarse, dense punctation. Markings of terga pale yellow to cream. *subspinosus* KLUG, 1835 with form *latidens* GERSTAECKER, 1867
- Tegulae not reddish, sometimes ferruginous tinged (*quatuordecimnotatus* JURINE). Mucron longer, usually more or less parallel-sided, sometimes narrow or apically rounded-truncate 11
- 11 Pygidium red. Mandibles partly yellow or ferruginous. Squamae bifid. 12
- Pygidium black or dark ferruginous 15
- 12 Front (frons) with silver pubescence directed laterally. Abdomen usually reddish, the terga centrally dark. In fresh examples the metanotum laterally with bright patches of silver pubescence. Terga closely punctate. Small species to 6 mm. *aurantiacus* MOCSARY, 1883
- Front with pubescence directed forwards. Larger species 13
- 13 S2 closely and evenly punctured across entire segment, denser laterally. Antennae orange beneath. Mandibles basally yellow. Terga densely punctured without distinct

- intervals between the punctures. Tibiae chiefly yellow
*quatuordecimnotatus* JURINE, 1807
- S2 in the middle with more dispersed punctured 14
- 14 Basitarsus 2 normally with two long lateral spines (sometimes broken). Terga densely punctured, the interstices narrower than punctures and the pale apical impressions clearly delimited and densely punctured. Mesopleurae entirely punctate-reticulate
 *victor* LEPELETIER, 1845
- Basitarsus 2 without lateral spines. Terga less densely punctured, the interstices generally wider than punctures, the apical impressions ill defined. Mesopleurae in front with sparser punctures, some interstices wider than punctures
 *variegatus* WESMAEL, 1852
- 15 Squamae in profile simple. Terga normally with white marks 16
- Squamae bifid, if only slightly (*trispinosus*) then tibiae 2 and 3 are black and tergal markings are yellow. Mandibles dark 18
- 16 Mucron pointed. Tibiae yellow, black beneath. Metanotum yellow between the squamae. Terga with pale yellow markings, entire on T3-*Soccitanicus* MARQUET, 1896
- Mucron apically truncate to rounded 17
- 17 Mesopleurae entirely reticulate. Terga with fine dense punctures, the apical margins of T2-5 narrow and almost entirely punctured. Front tarsal comb well developed, the apical spine of basitarsus only a little shorter than half this segment *uniglumis* LINNAEUS, 1758
- Front part of mesopleurae shining with scattered punctures. Terga with fine more sparse punctures, the apical margins of T2-5 impunctate. Fore tarsal comb short, the apical spine of the basitarsus much shorter than half this segment
 *mandibularis* DAHLBOM, 1845
- 18 Front in fresh specimens with red-brown pubescence. Legs and often the thorax black. Terga with fine and dense punctures. Squamae only slightly bifid. Tergal marks when present bright yellow *trispinosus* FABRICIUS, 1787
- Front with greyish pubescence. Squamae clearly bifid 19
- 19 Pale apical margins of T2-5 wide and upturned. Mucron pointed. (Central Europe).....
 *maculipes* F.SMITH, 1856
- Apical margins of T2-5 not upturned. Mucron otherwise 20
- 20 Front part of mesopleurae with more or less distinct separate punctures, sometimes with perceptible shining intervals between some of the punctures. Terga usually whitish, the punctures less dense with the interstices often wider than punctures
 *dissectus* DAHLBOM, 1845
- Mesopleurae confusedly punctate-reticulate without clear interstices. Terga frankly yellow-marked, punctures coarser and denser, the interstices usually narrower than punctures *mucronatus* FABRICIUS, 1793

Males (unknown: *dusmeti* PEREZ)

- 1 Metanotum with squamae joined and with a small median emargination. Lower part of mesopleurae with a more or less curved projection (greatly reduced in small

- examples) S3 with or without a small median tubercle on the posterior edge. Legs mostly reddish. (Iberian Peninsular, North Africa) *hastatus* FABRICIUS, 1804
- Squamae of metanotum more or less triangular and clearly separated 2
 - 2 Mucron flattened, foliaceus, apically emarginate 3
 - Mucron otherwise 4
 - 3 Squamae simple. T2 with fine punctation, interstices distinct. (Sardinia, Spain, North Africa) *diphyllus* (A.COSTA, 1882)
 - Squamae bifid. T2 with coarse dense punctation *lamellatus* OLIVIER, 1811
 - 4 Last sternites with dense erect pubescence different from that on preceeding sternites. Mucron wide and apically emarginate 5
 - Last sternites without dense pubescence. Mucron relatively narrow and apically of variable form 6
 - 5 Erect pubescence covering the posterior part of S6 and all of S7. Mandibles black to dark reddish. Femora 3 entirely black *latro* OLIVIER, 1811
 - Erect pubescence covering posterior part of S5 and all of S6-7. Mandibles reddish yellow. Femora 3 more or less ferruginous. (Iberian Peninsular, North Africa) *spectabilis* GERSTAECKER, 1867
 - 6 S3-6 basally with a close fringe of pale hairs 7
 - S3-6 without dense hair fringes 8
 - 7 Squamae bifid. Metanotum yellow between the squamae. Femora 2 and 3 red and yellow *lineatus* (FABRICIUS, 1787)
 - Squamae simple. Metanotum usually black. Femora 2 and 3 black more or less marked with yellow distally *mandibularis* DAHLBOM, 1845
 - 8 Abdomen shining with a bronze reflection, punctation very fine und indistinct. Face below ocelli with much reduced silver pubescence. Apical spine of basitarsus 1 at least as long as following segment. Tibiae mostly yellow *bipunctatus* OLIVIER, 1881
 - Abdomen without bronze refelction. Terga with dense punctation 9
 - 9 Squamae simple or only slightly bifid apically 10
 - Squamae clearly bifid 13
 - 10 Mucron narrowed more or less to a point. Tibiae yellow, darker beneath 11
 - Mucron more or less parallel-sided, not ending in a point 12
 - 11 Apical margin of terga brilliant, impunctate in middle. Abdomen without apophyses. Pubescence of last sternites sparse and scattered. Erect pubescence of scutum longer. Smaller species to 6 mm *occitanicus* MARQUET, 1896
 - Apical margin of terga finely and densely punctate across whole width of segment. Terga with apophyses. Semi-erect pubescence of last sternites obvious. Pubescence of scutum shorter, not longer than diameter of ocellus *argentatus* CURTIS, 1883
 - 12 Clypeus in profile with median projection strongly curved. Squamae simple. Femora 1 and 2 black, often with a small white apical spot. Terga with ivory white markings *uniglumis* LINNAEUS, 1758
 - Clypeus in profile with median projection shorter than lateral ones. Squamae twisted apically, slightly bifid. Femora 1 and 2 with a yellow patch beneath. Tergal markings yellow *trispinosus* FABRICIUS, 1787

- 13 Median projection of clypeus, viewed from in front wide and flattened. Apical spine of basitarsus 1 about as long as the following segment. Terga without apophyses
 *victor* LEPELETIER, 1845
- Median projection of clypeus more or less keeled (less so in *variegatus*)..... 14
- 14 Tegulae reddish. S2 in centre with the interstices at least twice as wide as a puncture. T1 especially and T2 coarsely punctured. Abdomen usually with five yellowish bands, sometimes feebly interrupted in middle. In profile, median projection of clypeus with a notch. In profile, the terga often have a more distinct individual convexity than other species.....*subspinosus* KLUG, 1835 and form *latidens* GERSTAECKER, 1867
- Tegulae otherwise, if partly with reddish tinge then S2 has dense even punctation right across segment 15
- 15 Mandibles partly yellow or light ferruginous, never black 16
- Mandibles black or dark ferruginous 17
- 16 S2 with fine and dense punctation across whole segment. Viewed frontally, width of front not much greater than width of an eye. Scutellum typically with two yellow dots. Terga dull with fine and very dense punctation. Abdomen usually with five yellow bands or pairs of markings. Last tergite usually dark orange.....
 *quatuordecimnotatus* JURINE, 1807
- S2 in middle with interstices much greater than punctures. Width of front clearly wider than width of an eye. Space between squamae always narrow with confused sculpture, the carinae never clearly defined. Clypeus viewed from in front with central projection slightly flattened, much less than in *victor*. Mesonotum often with coppery tinge. Scutellum black. Terga more or less shining, normally with only four pairs of yellow marks. Last tergite blackish *variegatus* WESMAEL, 1852
- 17 Pale apical margins of T2-5 wide, upturned. Terga, especially 1 and 2, with dense coarse punctures. Median projection of clypeus in profile unnotched. Mucron more or less pointed. Squamae bifid. (Central Europe) *maculipes* F.SMITH, 1856
- Apical margins of T2-5 normal 18
- 18 Median projection of clypeus ends in a single tooth. Terga densely and more coarsely punctured, the markings frankly yellow *mucronatus* FABRICIUS, 1793
- Median projection of clypeus ends in a more rounded tooth followed almost immediately by a second little tooth, the lateral projections of clypeus more or less bifid. Terga with punctures less dense, the markings usually pale yellow
 *dissectus* DAHLBOM, 1845

Apart from the keys, some additional remarks are necessary. The colour character yellow or white should be used with caution. I have a yellow-marked female *Oxybelus* from the Sierra Nevada in Spain that can only be a colour variety of *uniglumis*. Similarly, I have seen a strikingly white-marked *bipunctatus* from France. The two related species, *mucronatus* and *dissectus*, can also in the female be either white or yellow-marked, opposite to what one would expect. *O. dissectus* is normally white-marked in France, but I have three females from Bonifacio in Corsica which are strongly yellow-marked but have the other characters of *dissectus* including exceptionally well marked silver pubescent patches on the lower temples, which is never present to the same extent in *mucronatus*. From Greece I have a female yellow-marked *dissectus* with very well developed silvery

temples. Going further afield, Turkey has provided some bizarre specimens of *O. hastatus* both in colour and pattern, where the normal ivory white is replaced by an elaborate display of yellow which replaced even the red on the legs and the black and ferruginous on the antennae.

Here, *O. latidens* GERSTAECKER, 1867 is considered to be only a form of *O. subspinosus*, in agreement with FAESTER (1949: 26). Several *Oxybelus* keys (DE BEAUMONT 1942, GUIGLIA 1953, V. BALTHASAR 1972 and DOLFUSS 1991) rely almost entirely on dubious colour differences, especially on the legs, to separate the two. Structurally, *latidens* is said to differ from *subspinosus* in having the central carinae of the propodeum convergent instead of vertically parallel. This character often enough is difficult to appreciate when the carinae are indefinite. Populations of *subspinosus* vary quite enough as it is, particularly in the size of the punctures on T1-2 and in the intensity of the red on the tegulae of the female. It should also be noted that VERHOEFF (1948) in his key lumped *subspinosus* and *latidens* together in the same couplet.

The described male of *O. dusmeti* PEREZ, 1966 reveals a problem. Dr. Mingo PEREZ kindly sent one of the original DUSMET male co-types from Somosierra for examination. I am unable to distinguish it from the common *mucronatus*. The description of the male *dusmeti* does in fact apply equally to *mucronatus* and it seems there has been a wrong association with the striking female taken in the same locality. It is quite normal to find several species of *Oxybelus* occurring in the same area. With such a bizarre female, one would in any case expect the male to possess at least one easily perceived character to identify it. After I came to this conclusion, Professor GAYUBO, the chief authority on Spanish sphecidae, wrote from Salamanca to say he agreed with me and it was important to find the male of *dusmeti*. Doubtless the problem will soon be solved.

References

- DE BEAUMONT, J. - 1942. Les *Oxybelus* (Hym. Sphecid.) de la faune suisse. - Schweiz. Ent. Ges., 18: 416-428.
- BALTHASAR, V. - 1972. Grabwespen-Sphecoides. - Fauna CSSR, 20: 1-471.
- DOLFUSS, H. - 1991. Bestimmungsschlüssel der Grabwespen Nord- und Zentraleuropas. - Staphia, 24: 1-247.
- FAESTER, K. - 1949. Westeuropäische Spheciden. I-Oxybelus Latr. - Univ. Zool. Copenhagen, pp. 1-46.
- GUIGLIA, D. - 1953. Gli *Oxybelini* d'Italia. - Mus. Civ. Storia Nat. Genova, 66: 55-158.
- PEREZ, E.M. - 1966. Los *Oxybelini* de la Peninsula Iberica. - Graellsia, 22: 57-121.
- VERHOEFF, P.M.F. - 1948. Systematisches Verzeichnis der niederländischen *Oxybelus*-Arten. - Tijdschr. Ent., 89: 158-208.

Author's address:

K. M. GUICHARD
14 Bolton Gardens
London SW5 0AL

Literaturbesprechungen

LAMPERT, W., SOMMER, U.: Limnoökologie. - Georg Thieme Verlag, Stuttgart-New York, 1993. 440 S.

Die Wort-Neuschöpfung "Limnoökologie" soll einerseits unterstreichen, daß Limnologie, als die Wissenschaft von den Binnengewässern, ein Teilgebiet der Ökologie ist. Andererseits sollen ökologische Konzepte mit Beispielen aus dem limnischen Bereich erklärt werden. Drittens soll dieses "Lehrbuch" die Lücke füllen, die zwischen "reinen" Limnologie- und Ökologie-Lehrbüchern besteht, nämlich die Darstellung der Organismen und ihrer Interaktionen im Rahmen ihrer evolutionären Anpassungen. Die Bereiche der klassischen Limnologie (Physik, Chemie) werden nur kurz behandelt; die weiteren Kapitel sind: Das Individuum in seinem Lebensraum, Populationen, Interaktionen, Lebensgemeinschaften und Gewässer als Ökosystem. Grundsätzlich wird dieses Buch seinem Ansatz gerecht, allerdings sind die erläuternden Beispiele sehr spärlich gewählt. Auch die zitierte Literatur hält sich bei dieser kompakten Fülle des Stoffes sehr zurück. Der eingangs formulierte dritte Punkt, die Darstellung der Organismen, kommt eindeutig zu kurz: Die "Lebensgemeinschaften" werden nur marginal behandelt, das Kapitel "Trophiesystem" (es müßte eigentlich "Trophiesysteme" heißen) ist veraltet - gerade in der "Seetypenlehre" gibt es heute neuere Impulse. Der Benthic Quality Index wird verschwiegen, dafür werden die antiquierten "Chironomus"- und "Tanytarsus"-Seen wieder hervorgeholt. Die Tiefenwanderung der Chaoborus-Larven wurde auch in deutschen Seen untersucht, warum Beispiele aus den USA nehmen?

Vom Ansatz her, ist das Buch auf dem richtigen Weg; die kompakte Information (die übrigens sehr viel an biologischem Wissen voraussetzt) sollte bei einer geplanten Zweitauflage mit mehr und frischerem "Fleisch" gefüllt werden.

R. GERSTMEIER

KLÖTZLI, F.A.: Ökosysteme. - Gustav Fischer Verlag, StuttgartJena, 1993. 447 S., 3. Auflage, UTB 1479.

Anhand der vier Themengruppen "Die Struktur", "Der Kreislauf", "Die organisatorische Beziehung" und "Die Nutzung und Erhaltung der Ökosysteme" zeigt der Autor dieses Taschenbuches den ökologischen Zustand unserer heutigen Umwelt und die vielfältigen Angriffe des Menschen auf die Natur auf. Viele hochaktuelle und meist zweifarbige Grafiken vermitteln Einsichten zur globalen Ökologie und deren Verknüpfung mit Ökonomie, Soziologie und Politik. Die vorliegende Neuauflage enthält einige neuere Theorien (Chaostheorie, Selektivitätstheorie, Mosaik-Zyklus-Konzept) sowie Ergänzungen zu den Themenbereichen Evolution, Zelle, Waldschäden, Treibhaus-Effekt und Ozon. Auch die Auswirkungen der Katastrophe von Tschernobyl werden angerissen. Somit werden zahlreiche Anregungen zur Erneuerung "veralteter" Vorlesungen geliefert.

Eine empfehlenswerte Bereicherung auf dem ökologischen Sektor.

R. GERSTMEIER

KÄMPFE, L.: Evolution und Stammesgeschichte der Organismen. Gustav Fischer Verlag, Jena, 1992. 523 S., 3. Aufl., UTB 1691.

Unter Voraussetzung biologischer Grundkenntnisse vermittelt dieses Taschenbuch in kompakter Form die Wirkprinzipien der biologischen Evolution und der zu ihrer Aufklärung benutzten Methoden. Der Bogen spannt sich von der Entstehung des Lebens bis zur Menschwerdung, wobei in gebotem Maße auf unterschiedliche Vorstellungen eingegangen wird. Die stammesgeschichtliche Entwicklung in den großen Organismengruppen (Pflanzen- und Tierreich) wird nachgezeichnet. Eine Aktualisierung erfahren vor allem die Kapitel über die genetische Variabilität, die Entstehung des Lebens und die Vorstellungen über die Eucyte. Ebenso wurde die Darstellung der Viren, Prokaryoten und Pilze gegenüber den früheren Auflagen wesentlich vertieft. Eine Gratulation an das Greifswalder Quintett.

R. GERSTMEIER

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Wolfgang Schacht, Scherrerstraße 8, D-82296 Schöngeising.

Erika Scharnhop, Werner-Friedmann-Bogen 10, D-80993 München.

Thomas Witt, Tengstraße 33, D-80796 München.

Postadresse: Entomofauna, Münchhausenstraße 21, D-81247 München.

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