

# BULLETIN

# ZOÖLOGISCH MUSEUM

U N I V E R S I T E I T V A N A M S T E R D A M

Vol. 13 No. 16 1993

## TWO NEW EUROPEAN SPECIES OF *DICRANOMYIA* STEPHENS, 1829, RELATED TO *D.* (S.STR.) *CHOREA* (MEIGEN, 1818) (DIPTERA, LIMNONIIDAE)

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### ABSTRACT

Diagnostic features of the so-called *Dicranomyia chorea* group are discussed. Two new species are described, *D.* (s. str.) *radegasti* sp. n. from Czechoslovakia and *D.* (s. str.) *kamakensis* sp. n. from Bulgaria, and their male genitalia are illustrated. Attention is paid to the shape of the tarsal claws, as an auxiliary criterion in distinguishing the species.

### INTRODUCTION

The so-called *Dicranomyia chorea* group was last treated by Geiger (1985), who enumerated and commented on the European species and described two new species from Switzerland. The characterization of the group by Lackschewitz (1928) and Lackschewitz and Pagast (1941) is based on a single useful character, namely a strongly retracted  $Sc_2$ , situated opposite the tip of  $A_2$ . Other features, suggested as diagnostic for the group by the latter authors, are largely distributed throughout the genus. Additional taxonomically significant characters should be searched for in the shape of head, the length of rostrum and, above all, in the length of cervical sclerite (lateral cervicale) and antepronotum. The two latter sclerites appear longer in the species around *D. chorea* than in other groups of the genus.

In addition to the species enumerated by Geiger (1985), *D. didyma* (Meigen, 1804) certainly should be referred to the *D. chorea* group on the basis of the retracted  $Sc_2$  and the above-suggested characters. The tendency to the prolongation of the cervix and antepronotum may relate another species to the group, namely *D. longicollis* (Macquart, 1846), in which this condition is enormously pronounced. Based on this character, even a separate genus, *Telecephala* Pierre, 1921, was proposed for this species, although considered a synonym of *Dicranomyia* recently (cf. e.g. Alexander, 1972). Possibly also *D. longicollis*, as the most apomorphic in this respect, may prove to belong to the *D. chorea* complex.

The difficulties this group presents concern the separation of species. Some seem to be extremely variable in body colouration, others are extremely similar

to each other in general appearance. Even the male genitalia are considerably uniform in a great amount of species. It appears now that under the *mitis*-like structure of the hypopygium, more than one species are represented.

Ventral dististyle (termed outer by Geiger, 1985, but probably not homologous with the outer dististyle of other Limoniidae) often is the most indicative part of the male genitalia, especially as to its overall outline, the shape of its rostral prolongation and the position and length of the rostral spines. Unfortunately, due to the highly plastic nature of the ventral dististyle, differences are sometimes very difficult to detect, describe and even illustrate. Moreover, the dististyle is fleshy and membranous in *Dicranomyia* (and some other genera) and subject to deformation during mounting processes and manipulation. Thus, beside other things, purely technical problems may play a role in the recognition of the species.

Separation of some species within the *D. chorea* group is conditioned on thorough study and comparison of taxonomically important parts of the male genitalia with characters of the female genitalia (not studied at all) and some external traits. The shape of the tarsal claws, first employed in taxonomy of the group by Vaillant (1952), although likewise not studied in detail as yet, appears to be a hopeful auxiliary criterion, independent of genitalic characters. Considering the overall situation, for the time being, only two comparatively clearly definable species are described herewith.

*Dicranomyia* (s. str.) *radegasti* sp. n.  
(Figs. 1-5)

#### Type material

Holotype ♂: Czechoslovakia, Moravia, Moravskoslezské Beskydy Mts., Tanecnice (900-1000 m), 19.vi.1985 (J. Stary leg.); deposited in coll. Slezské muzeum, Opava.

Paratypes (28 ♀♀, 5 ♂♂): same locality as holotype, 10.vii.1984, 2 ♂♂, 19.vi.1985, 5 ♂♂, 1 ♀, 26.vi.1985, 10 ♂♂, 4 ♀♀, 18.vii.1985, 1 ♂, 22.vi.1988, 4 ♂♂, 12.vii.1990, 5 ♂♂; Moravskoslezské Beskydy Mts., Malinová (700-800 m), 6.vi.1991, 1 ♂ (all J. Stary leg.); deposited in coll. J. Stary, Olomouc, Slezské muzeum, Opava and Instituut voor Taxonomische Zoölogie, Amsterdam.

#### Diagnosis

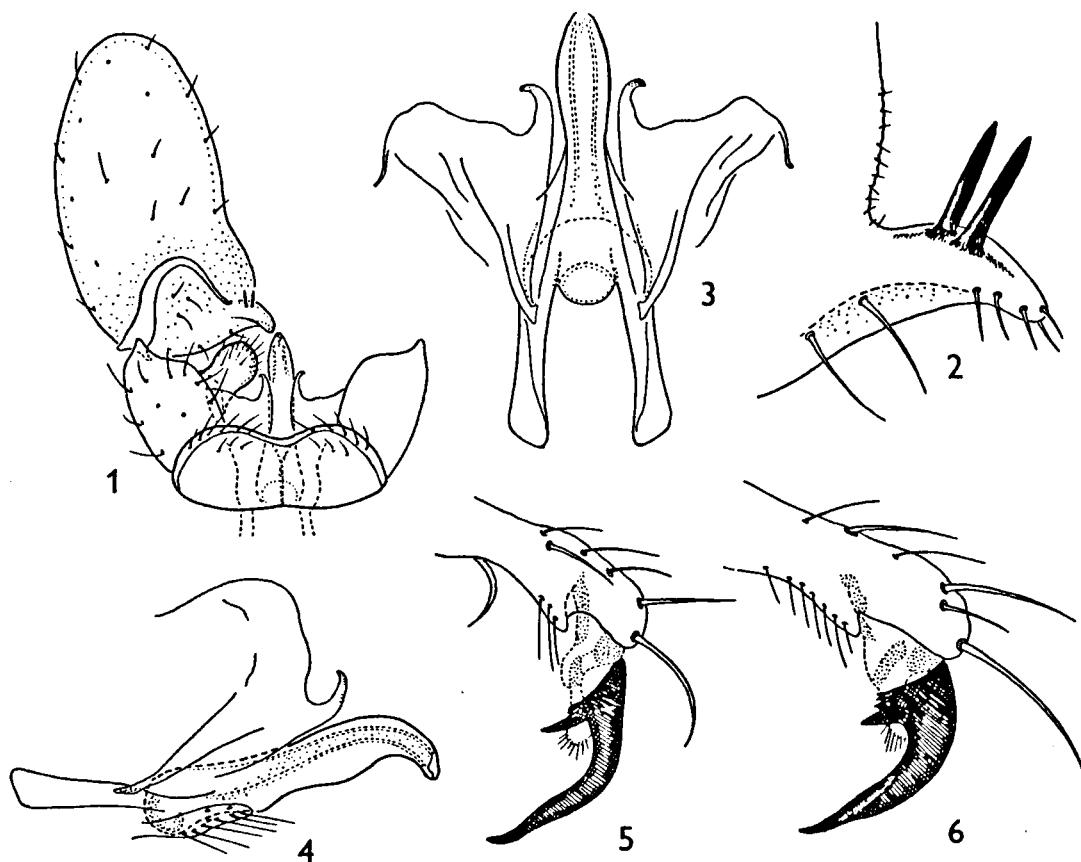
A comparatively small species within the group. General colouration of body yellow, with whitish pruinosity on pleurae, without any conspicuous pattern. Wings hyaline, slightly tinged with yellow, and iridescent. Stigma indistinct. Abdomen somewhat darker than thorax, yellowish brown to brown. Body length 5-7 mm, wing length 7-8 mm.

#### DESCRIPTION

Male: Head with ashy-grey pruinosity on frons and vertex, rostrum yellowish brown to brown. Antennae short, brown. Flagellar segments short-oval, with verticils shorter than, or roughly equal in length to the respective segments.

Thorax entirely yellow, sometimes restrictedly darkened on central part of prescutum, on scutal lobes and on posterior part of postscutellum. Dorsal parts subshining, pleurae more whitish pruinose. Wings hyaline, slightly tinged with yellow, and iridescent. Stigma indistinct. Veins yellow. Sc<sub>1</sub> without macrotrichia. Venation as usual for the group. Sc<sub>2</sub> vestigial, hardly detectable. Legs yellow, with only extreme tips of tibiae and distal tarsal segments slightly infuscated. Tarsal claws relatively long (in relation to the length of the last tarsal segment) and slender, gently undulated distally, with a single well-developed tooth at base (Fig. 5). (*D. chorea*, Fig. 6, and some other species have a similar shape of the tarsal claws, with the tooth, or teeth, very close to the base.) Halteres pale yellow on stem, knob slightly infuscated.

Abdomen generally darker than thorax, yellowish brown to brown. Male genitalia (Figs. 1-4): Tergite 9 short, much broader than long, with shallow median emargination posteriorly. Basistyle short, less than half the length of ventral dististyle. The latter relatively long, oval, about twice as long as broad, with curved slender rostrum of medium length. Generally, the dististyle resembles in outline that of *D. mitis* (Meigen, 1830). Setae on body of dististyle short and sparse. Rostral spines very short, much as in *D. chorea*, straight, situated side by side at about mid-length of rostrum. They are very dark, even black, and conspicuous against the generally yellow hypopygium. Dorsal dististyle pale, slender, strongly and evenly



Figs. 1-6. *Dicranomyia* (s. str.) *radegasti* sp. n. (paratype, 26.vi.1985) : 1: Male genitalia, general view, dorsal; 2: Rostrum of ventral dististyle, laterodorsal/anterior; 3: Aedeagal complex, dorsal; 4: Aedeagal complex, lateral; 5: Male hind tarsal claw. *Dicranomyia* (s. str.) *chorea* (Czechoslovakia): 6: Male hind tarsal claw.

curved, slightly upturned at tip. Penis and parameres as in Figs. 3-4.

Female: In general appearance resembling the male. Cerci comparatively short and only gently upturned, much as in *D. chorea*.

#### Remarks

In body colouration, *D. radegasti* sp. n. much resembles pale specimens of *D. chorea* ("*D. lutea*") and pale and small specimens of what is now recognized as *D. mitis*; however, the structure of the male genitalia is very distinctive, combining basic characters of both *D. chorea* and *D. mitis*. While the ventral distis-

tyle of *D. radegasti* sp. n. is rather long, about twice as long as broad, much as in *D. mitis*, the rostral spines are short, agreeing in length with those of *D. chorea*. What is considered an important trait is the fact that the rostral spines are conspicuously dark pigmented, even black. This condition is, in a certain degree, paralleled only by the recently described *D. mattheyi* Geiger, 1985, an otherwise very different species.

The new species has been collected regularly, in the course of several years, along a mountainous brook in a mixed spruce and beech forest on a steep slope. A single specimen was captured at another, nearby locality.

### Derivation of name

After Radegast, the Slav heathen god whose name is associated with the Moravskoslezské Beskydy Mts.

*Dicranomyia* (s. str.) *kamakensis* sp. n.  
(Figs. 7-11)

### Type material

Holotype ♂: Bulgaria, Ostr Kamak nr. Kharmanli, 6.v.1980 (W. Krzeminski leg.); deposited in coll. Slezské muzeum, Opava.

Paratypes (43 ♂♂, 49 ♀♀): same locality as holotype, 4.v.1978, 4 ♂♂, 5 ♀♀, 5.v.1978, 4 ♂♂, 8 ♀♀, 6.v.1978, 9 ♂♂, 12 ♀♀ (all J. Bajger leg.), 3.v.1980, 7 ♂♂, 5 œœ, 5.v.1980, 8 ♂♂, 5 ♀♀, 6.v.1980, 11 ♂♂, 14 ♀♀ (all W. Krzeminski leg.); deposited in coll. W. Krzeminski, Kraków, J. Stary, Olomouc, Slezské muzeum, Opava, and Instituut voor Taxonomische Zoölogie, Amsterdam.

### Diagnosis

A comparatively large species within the group. Body dark, heavily ashy-grey pruinose. Prescutum with more or less distinct polished black median stripe and shorter and less pronounced lateral stripes. Wings with darkened stigma and further darkenings at Sc<sub>2</sub>, tip of Sc<sub>1</sub>, base of Rs and fork R<sub>2+3+4</sub>-R<sub>5</sub>. Abdomen dark greyish brown, posterior margins of tergites paler. Body length 6.5-9 mm, wing length 8-10 mm.

### DESCRIPTION

Male: Head with dense ashy-grey pruinosity on frons and vertex, sometimes suffused with bluish. Rostrum dark brown. Antennae short, dark brown, of much the same structure as in other species of the group. Flagellar segments with verticils mostly shorter than, or at most, equal in length to the respective segments.

Thorax: Prescutum with dense ashy-grey pruinosity on sides.

Pruinosity looser and more brownish towards the middle allowing penetration of a more or less distinct, broad, polished black median stripe. Lateral stripes are also apparent but shorter and less pronounced. Scutum with ashy-grey pruinosity medially, less so on sides where lateral stripes are continued. Scutellum yellowed posteriorly. Postscutellum and pleurae with

dense ashy-grey pruinosity. Wings tinged with greyish, strongly iridescent. Stigma darkened, especially along the vestigial R<sub>2+3</sub> (cross-vein r in descriptive literature), oblong. Further more or less distinct darkenings are observable at Sc<sub>2</sub>, tip of Sc<sub>1</sub>, base of Rs and fork R<sub>2+3+4</sub>-R<sub>5</sub> (usually referred to as the fork of R<sub>2+3</sub> and R<sub>4+5</sub>). Slight seams on so-called outer cord (r-m, base of discal cell and m-cu). Veins brown. Sc<sub>1</sub> without macrotrichia. Venation as usual for the group. Coxae yellow to yellowish brown. Trochanters and femora yellow, the latter somewhat darkened distally, yellowish brown. Tibiae yellowish brown throughout. Tarsal segments still darker, distal ones dark brown. Tarsal claws stout and short (in relation to the length of the last tarsal segment), evenly curved, with four teeth diminishing gradually towards the base (Figs. 11). (The male hind tarsal claw of the species commonly identified as *D. mitis* is illustrated here for comparison, Fig. 12.) Halteres pale yellow on stem, knob infuscated.

Abdomen generally dark greyish brown, posterior margins of tergites paler. Sternites sometimes paler, yellow to yellowish brown, framed with brown. Male genitalia (Figs. 7-11): Tergite 9 relatively large, bilobed posteriorly, with deep and narrow V-shaped median emargination. Lobes mostly rounded, as illustrated (Fig. 7), sometimes obliquely truncate. Basistyle stout and rather long, about two thirds the length of ventral dististyle. Tergite 9 largely and basistyle throughout (except for ventromesal lobe) conspicuously darkened (dark polished brown in dried specimens), contrasting with yellow ventral dististyle. The latter generally *mitis*-like in outline, long-oval, about twice as long as broad but yet smaller and shorter than in *D. mitis*. Setae on body of dististyle rather long and dense. Rostral prolongation stouter and shorter than in *D. mitis*, twisted more dorsally. Rostral spines of medium length, i.e. shorter than in *D. mitis*, gently curved. Viewed laterodorsally, they are situated, in *D. kamakensis* sp. n., one behind the other beyond mid-length of rostrum. Dorsal dististyle comparatively long and stout, somewhat darkened, rather abruptly bent at about a right angle beyond mid-length. Penis and parameres as in Figs. 9-10.

Female: In general appearance resembling the male. Cerci long, still longer than in *D. mitis*.



Figs. 7-12. *Dicranomyia* (s. str.) *kamakensis* sp. n. (paratype, 3.v.1980): 7: Male genitalia, general view, dorsal; 8: Rostrum of ventral dististyle, laterodorsal/anterior; 9: Aedeagal complex, dorsal; 10: Aedeagal complex, lateral; 11: Male hind tarsal claw. *Dicranomyia* (s. str.) *mitis* (Czechoslovakia): 12: Male hind tarsal claw.

### Remarks

Generally, the new species may at first sight be considered a dark form of what is now recognized as *D. mitis*. It differs, however, from the latter in many genitalic details described above, most obviously in a deeply emarginate tergite 9. Occurrence of a species that can be recognized as *D. mitis* at the same locality and time may serve as a sufficiently significant fact.

Similarly, and with similar distinctions, *D. kamakensis* sp. n. resembles, in general appearance, some

other dark species of the group, such as *D. signata* Lackschewitz in Lackschewitz and Pagast, 1941 and *D. mattheyi* Geiger, 1985. In the overall structure of the male genitalia, it evokes *D. strobli* Pagast in Lackschewitz and Pagast, 1941, especially due to the deeply emarginate tergite 9. Direct comparison reveals, however, numerous distinctions, e.g. in the shape of the tergite 9 (median emargination wider in *D. strobli*), the rostrum (longer and more slender, not distinctly twisted dorsally), in the position of the rostral spines (situated side by side), the shape of the

dorsal dististyle (evenly curved), etc. Moreover, the tarsal claws are of *D. chorea* type in *D. strobli* (cf. Figs. 5-6). None of the other species characterized by a deeply emarginate tergite 9 (*D. incisurata* Lackschewitz, 1928, *D. lorettae* Geiger, 1985 and, if pertinent to the group, *D. micronychia* Lackschewitz in Lackschewitz and Pagast, 1941) can be confused with *D. kamakensis* sp. n.

#### Derivation of name

After the type locality (Ostr Kamak).

#### ACKNOWLEDGEMENTS

The entire type material of *D. kamakensis* sp. n. is from the collection of Dr. W. Krzeminski (Kraków) who was kind enough to allow me to describe the

species. Dr. J.K. Gelhaus (Philadelphia) kindly improved the English of this paper.

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Received: December 1992  
Distributed: 16 April 1993.