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**REDESCRIPTION OF *MICROPSECTRA POLITA*  
(DIPTERA: CHIRONOMIDAE) WITH THE  
FEMALE AND IMMATURE STAGES**

Donald W. Webb<sup>1</sup>

Malloch (1915) described *Micropsectra polita* (as *Tanytarsus politus*) from males collected along the banks of Central Dredge Ditch at Easton, Mason County, Illinois. Females of this species were not collected at that time. On 12 February 1974, males, females, and larvae were collected from a small spring-fed seep (Fig. 1) running into Muncie Pond, in Vermilion County, Illinois. Males were easily collected as they swarmed over vegetation along the edge of the seep. Females were collected by sweeping nearby vegetation. Larvae were collected from fine sand covered by 5–10 cm of water; several specimens were reared through to the adult stage.



Fig. 1. Spring-fed seep running into Muncie Pond, 0.5 miles SSE of Muncie, Vermilion County, Illinois.

The terminology in this paper follows Saether (1980).

**Male.** Length 3.51–4.01,  $3.74 \pm 0.09$  mm ( $N = 5$ ). Head pale brown, pedicel, flagellomeres, clypeus, maxillary palps dark brown. Eyes black, dichoptic, facets of equal size, glabrous. Coronal triangle broad, 1.0–1.1 times longer than wide; coronal setae absent. Scape flattened, ring-shaped, 1.6 times longer than wide; pedicel globose, as long as wide, macrosetae absent; flagellomere lengths 0.054–0.072, 0.064; 0.030–0.042, 0.032; 0.030; 0.030–0.036, 0.034; 0.030–0.036, 0.035; 0.036–0.042, 0.038; 0.036–0.048, 0.041; 0.042–0.048, 0.044; 0.042–0.048, 0.044; 0.042–0.048, 0.046; 0.045–0.054, 0.048; 0.048–0.054, 0.050; 0.414–0.588, 0.528 mm. Clypeus broad, 1.4–2.2, 1.7 times wider than long; clypeal setae 16–23, 19.

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Maxillary palps membranous, cylindrical; length of palpomeres 0.064–0.092, 0.075; 0.058–0.069, 0.064; 0.156–0.212, 0.193; 0.129–0.161, 0.142; 0.202–0.267, 0.224 mm; setae fuscus, elongate, scattered. Inner vertical setae 3–9, 6; outer vertical setae 1–3, 2; frontal and postorbital setae absent. Cibarial pump triangular, 3.93–4.80, 4.21 mm long, 4.2 times longer than wide. Tentorium 4.41–5.27, 5.03 mm long.

Thorax pale yellowish brown, vittae dark brown, subshiny; pleura stramineous to dark brown ventrally. Anteprenotum reduced, subrectangular in lateral view, in dorsal view median fissure contiguous posteriorly; anteprenotal setae absent. Acrostichial setae 13–22, 16; dorsocentrals 9–13, 11; prealar setae 3–4, 3. Haltere stalk dark brown, capitulum clavate, stramineous with 6–8 fine setae on anterior surface. Scutellum dark brown, subshiny, broadly rounded posteriorly; scutellar setae 6–8, 7 in single transverse row. Postnotum dark brown. Preepisternal setae absent.

Wing length 2.14–2.72,  $2.58 \pm 0.11$  mm, 4.16 times longer than wide. Membrane hyaline to pale yellow; microtrichia absent; macrosetae elongate, covering entire wing; veins pale brown. Costa ending anterior to apex of wing, not extending beyond apex of  $R_{4+5}$ . Sc ending slightly beyond middle of wing, not reaching costa. R-m basal to middle of wing.  $R_{2+3}$ , indistinct, lying along  $R_{4+5}$ .  $R_5$  ending at costa anterior to apex of wing.  $M_{1+2}$  ending slightly posterior to apex of wing. Fork of Cu originates distal to r-m, VR 0.96–1.08, 1.02. Anal vein extends to fork of Cu. Alula reduced, indistinct. Squama small, without marginal fringe of setae.

Legs pale brown, concolor. Fore femur clavate, apex 3.2 times width at base, remaining segments linear. Spur on fore tibia 0.030 mm. Combs on middle and hind tibiae contiguous, spurs absent. Apical claws on tarsomere 5 simple, paired, dark brown. Pulvilli reduced, 0.5 times length of apical claws.

Lengths (in mm) and proportions of legs:

	fe	ti	ta <sub>1</sub>	ta <sub>2</sub>
P <sub>1</sub>	0.979–1.239, 1.141	0.719–0.887, 0.832	1.025–1.239, 1.178	0.536–0.658, 0.631
P <sub>2</sub>	0.918–1.209, 1.120	0.826–1.040, 0.982	0.444–0.536, 0.521	0.275–0.352, 0.324
P <sub>3</sub>	1.148–1.392, 1.312	1.056–1.346, 1.243	0.689–0.872, 0.780	0.413–0.536, 0.385
	ta <sub>3</sub>	ta <sub>4</sub>	ta <sub>5</sub>	LR
P <sub>1</sub>	0.428–0.505, 0.484	0.291–0.337, 0.328	0.153–0.184, 0.175	1.426–1.397, 1.416
P <sub>2</sub>	0.230–0.291, 0.269	0.153–0.199, 0.181	0.077–0.122, 0.107	0.538–0.515, 0.531
P <sub>3</sub>	0.337–0.413, 0.390	0.214–0.260, 0.245	0.122–0.138, 0.130	0.652–0.648, 0.628
	BV	SV		
P <sub>1</sub>	1.934–1.998	1.657–1.716		
P <sub>2</sub>	2.977–2.889	3.928–4.196		
P <sub>3</sub>	2.664–2.680	3.199–3.140		

Abdomen and terminalia (Fig. 2) pale brown; setae dark brown, scattered. Anal point short, acute. Superior volsella bulbous, rounded apically with ventral projection narrow, extending slightly beyond apex of bulbous portion. Inferior volsella capitate, apex truncate. Medium volsella narrow, elongate, extending beyond apex of inferior volsella; setae on basal half elongate, linear, setae on apical half sigmoidal.

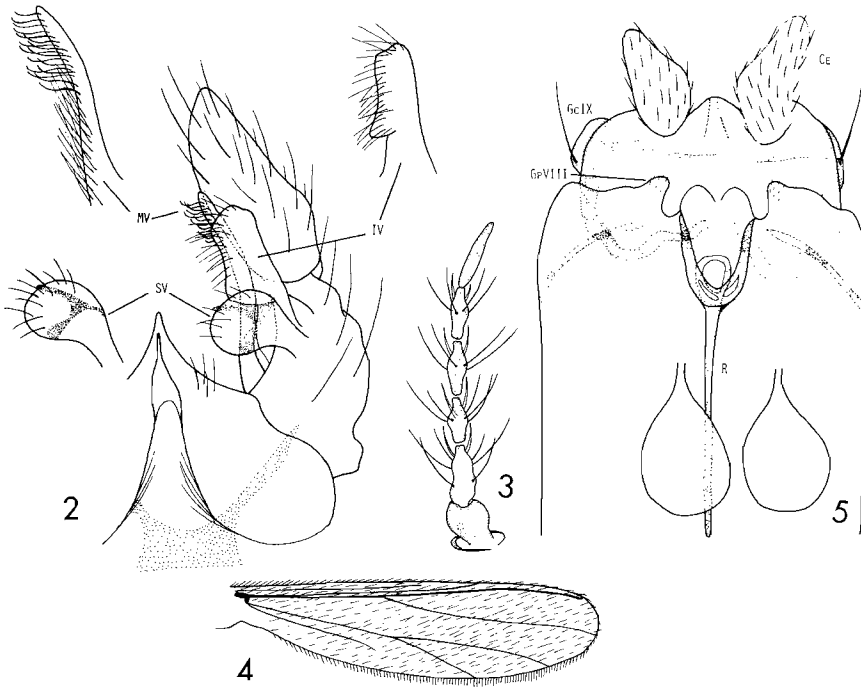
The males of *Micropsectra polita* are very similar to *M. dives* in the leg ratio of the foreleg, but the short, bulbous shape of the superior volsella and the extension of the median volsella distal to the apex of the inferior volsella readily separate this species from *M. dives*.

**Female.** Characters similar to male except for following variation. Length 1.99–3.15,  $2.49 \pm 0.19$  mm (N = 5). Head pale yellowish brown; vertex, pedicel, and dorsal half of labrum dark brown; flagellomeres pale brown. Coronal triangle broad, 1.2 times longer than wide. Pedicel globose (Fig. 3); flagellomere lengths 0.096–0.120, 0.109; 0.084–0.090, 0.085; 0.078–

0.090, 0.085; 0.084–0.090, 0.085; 0.114–0.144, 0.127 mm, flagellomeres 1–4 with subapical pair of hyaline, sclerotized blades, each 0.056 mm in length, apical flagellomere without macrosetae. Clypeus broad, 1.4 times wider than long, clypeal setae 20–24. Maxillary palps pale yellowish brown; length of palpomeres 0.024–0.042, 0.032; 0.036–0.054, 0.043; 0.120–0.144, 0.134; 0.108–0.144, 0.122; 0.150–0.174, 0.162 mm; setae fuscus, elongate, scattered. Inner vertical setae 6–7; outer vertical setae 2–3. Cibarial pump 0.138 mm long, 0.078 mm wide, 1.7 times longer than wide.

Acrostichial setae 12–15; dorsocentrals 14; prealers 3. Scutellar setae 10–12.

Wing (Fig. 4) length 2.34–2.71,  $2.50 \pm 0.06$  mm (N = 5), 3.2 times longer than wide. VR 1.16.



Figs. 2–5. *Micropsectra polita*, Male: (2) genitalia, (SV) superior volsella, (IV) inferior volsella, (MV) median volsella; Female: (3) antenna, (4) wing, (5) genitalia, (GcIX) gonocoxite IX, (Ce) cercus, (GpVIII) gonapophysis VIII, (R) rami of gonapophysis IX.

Spur on fore tibia 0.012 mm long. Lengths (in mm) and proportions of legs:

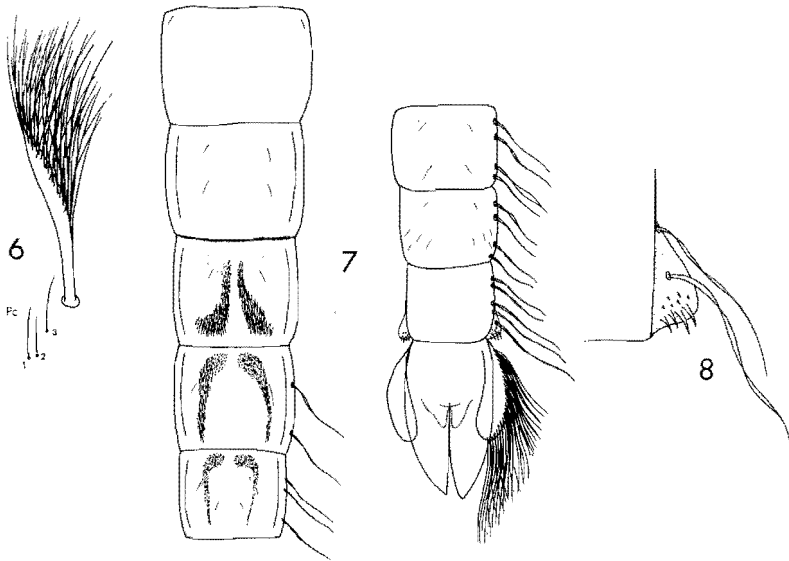
	fe	ti	ta <sub>1</sub>	ta <sub>2</sub>
P <sub>1</sub>	0.949-0.995, 0.972	0.719-0.765, 0.742	1.010-1.025, 1.017	0.551-0.551, 0.551
P <sub>2</sub>	0.918-1.040, 0.991	0.857-0.918, 0.887	0.428-0.490, 0.455	0.275-0.306, 0.291
P <sub>3</sub>	1.071-1.239, 1.152	1.086-1.224, 1.163	0.643-0.750, 0.694	0.413-0.459, 0.428
	ta <sub>3</sub>	ta <sub>4</sub>	ta <sub>5</sub>	LR
P <sub>1</sub>	0.398-0.413, 0.405	0.291-0.306, 0.298	0.153-0.153, 0.153	1.404-1.340, 1.371
P <sub>2</sub>	0.214-0.245, 0.233	0.138-0.168, 0.153	0.107-0.108, 0.107	0.499-0.534, 0.513
P <sub>3</sub>	0.321-0.367, 0.347	0.184-0.214, 0.194	0.122-0.122, 0.122	0.592-0.613, 0.597
	BV	SV		
P <sub>1</sub>	1.922-1.957	1.651-1.717		
P <sub>2</sub>	2.960-3.001	3.996-4.147		
P <sub>3</sub>	2.692-2.765	3.284-3.355		

Abdomen pale yellowish brown. Genitalia (Fig. 5). Gonocoxite IX with 1 seta. Spermatheca oval to spherical, length 0.072-0.096, 0.078 mm, width 0.048-0.066, 0.056 mm, 1.39 times longer than wide. Cercus length 0.060-0.114, 0.092 mm. Ventrolateral lobe of gonapophysis VIII broad, setae fine, short. Rami of gonapophysis IX elongate, length 0.198-0.210, 0.204 mm, posterior fourth clavate.

**Pupa.** Length 4.73-4.90, 4.81 mm (N = 3). Exuvium pale yellow. Thoracic horn (Fig. 6) plumose, with filaments arising dorsally from broad basal shaft, length over 25 times width at base. Precorneal setae 1-2 (Fig. 6) paired, Pc<sub>3</sub> positioned laterally, near base of thoracic horn. Cephalic tubercles short, rounded, with single apical macroseta over 7 times length of cephalic tubercle. Frontal warts absent. Dorsocentral setae 1-2 paired, close together. Dorsocentral setae 3-4, metanotals, prealars, supraalars, postorbitals and vertical setae on ocular field absent. Nose of wing sheath short, rounded, pearl row absent. Tergite II (Fig. 7) with posterior row of hooks continuous; fine shagreen covering entire tergite. Tergites III-VI with pattern of medial spines or spinules (Fig. 7). Segment IV with two filamentous L-setae, segment V with three filamentous L-setae, segments VI-VII with four filamentous L-setae, segment VIII with five filamentous L-setae. Segments III-IV with one pair of dorsal setae, segments II, V-VI with two pairs of dorsal setae, segment VII with five pairs of dorsal setae, dorsal setae absent on segment VIII. Fringe of anal lobe with 35-40, 37 setae. Anal macrosetae absent. Posterolateral tubercle on tergite VIII, short, rounded (Fig. 8).

The pupa of *Micropsectra polita* is distinctive in having a paired medial patch of fine spinules on abdominal tergite VI, and is readily separated from *M. dives* in having the paired medial patch of spines or spinules on abdominal tergites IV-VI with a narrow posteriolateral extension.

**Larva.** Head capsule length 0.383-0.413, 0.407 mm (N = 5), width 0.306-0.337, 0.321 mm, 1.27 times longer than wide; postoccipital margin invaginated ventrally, V-shaped, extending anteriorly 0.41 of way from posterior margin of head. Antenna (Fig. 9), length of segments in mm: 0.200-0.242, 0.226; 0.062-0.076, 0.069; 0.009; 0.009; 0.007; AR = 2.41. Width of basal antennal segment 0.021-0.041, 0.029 mm, 7.8 times longer than wide, 3.3 times length of second segment; distance from base to annular organ 0.154-0.173, 0.162 mm, blade at apex 0.012-0.018, 0.015 mm. Lauterborne organs small, on elongate petiole 0.61 times length of basal antennal segment, 2.0 times length of second antennal segment. Basal tubercle of antenna broad, subrectangular, 1.2 times longer than wide, with short mediolateral spur, 0.014 mm. Mentum (Fig. 10), length 0.051-0.060, 0.057, width 0.094-0.115, 0.102, 1.8 times wider than long, convex anteriorly; median tooth trilobed, five pairs of lateral teeth descending in height from median tooth. Ventromental plate narrow (Fig. 10), elongate,

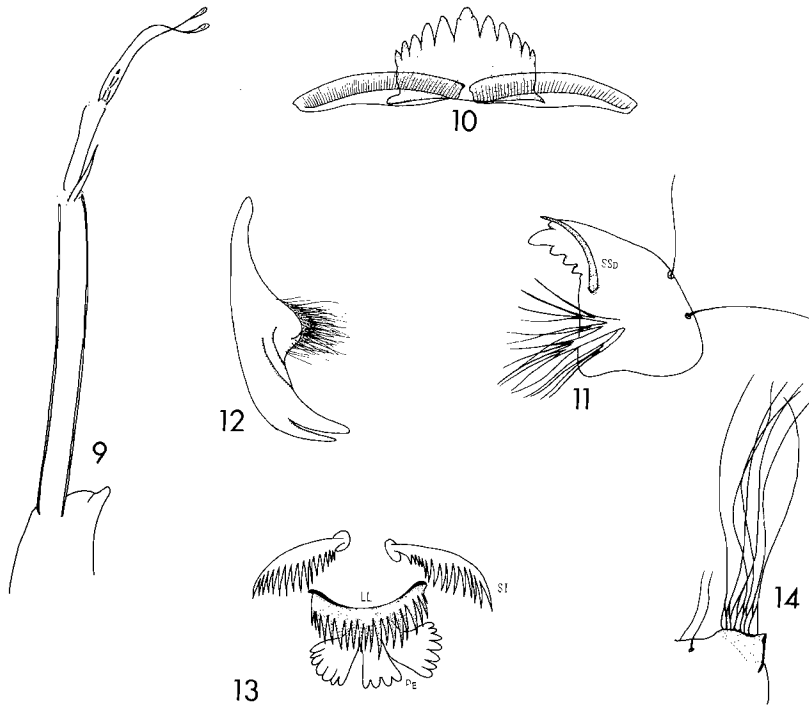


Figs. 6-8. *Micropsectra polita*, pupa: (6) thoracic horn, ( $Pc_{1-3}$ ) precorneal setae, (7) abdominal tergites, (8) posterolateral tubercle, tergite VIII.

separated medially by distance less than width of median tooth; length 0.023-0.025, 0.025 mm, width 0.117-0.131, 0.125 mm, 5.0 times wider than long; anterior margin smooth, striations fine. Mandible (Fig. 11), length 0.115-0.147, 0.134 mm; lateral margin broadly rounded, not crenulate; mediolateral margin straight, not serrated; apical tooth short, blunt, 0.6 times width of three lateral teeth; seta subdentalis (SSd) narrow, elongate, extending to apex of apical tooth; setae interna plumose, with three basal branches; two lateral setae elongate. Premandible (Fig. 12) elongate; length 0.074-0.087, 0.081 mm; inner blade broad, rounded apically; lateral blade narrow, acute, ending before apex of inner blade; pre-mandibular brush broad, with numerous fine setae. Setulae I large (Fig. 13), pectinate, with 15-19 teeth. Labral lammella broad (Fig. 13), with 20-22 acute teeth. Pecten epipharyngis (Fig. 13) separated into three distinct plates, lateral plates with 6-7 rounded, apical teeth; median plate with 4 rounded apical teeth.

Procercus reduced (Fig. 14), broad, 1.3 times wider than long, slightly raised above dorsum of abdomen, lightly sclerotized, with seven apical setae, apical claws on posterior prolegs simple, falcate.

The larva of *M. polita* is similar to *M. dives* in having the basal segment of the antenna 3.3 times longer than the second antennal segment, but differs from *M. dives* in lacking a dorsal tubercle on abdominal segment VIII, and in having the mentum with a trilobed median tooth.



Figs. 9–14. *Micropsectra polita*, larva: (9) antenna, (10) mentum and ventromental plates, (11) mandible (SSd) seta subdentalis, (12) premandible, (13) pecten epipharyngis (Pe), labral lamella (LL), and setulae I (SI), (14) procercus.

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