Reinstatement of the genus *Tinearia* SCHELLENSBERG (Diptera, Psychodidae)

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Taxonomy, faunistics, world species

Latreille (1802) established as type-species of the genus *Psychoda Latreille, 1796* the species *Tipula phalaeonoides* LINNÉ, 1758 by subsequent monotypy. The genera *Philosepdon* and *Thricias* were erected for species from this genus by Eaton (1904), and the genera *Feuerbornia* and *Copropsychoda* by VAILLANT (1971) without establishing type-species. The genera *Philosepdon* Eaton, 1904, *Thricias* Eaton, 1904 and *Feuerbornia* VAILLANT, 1971 were placed in the Telmatoscopini by the latter author. The present paper now removes and redescribes from synonymy under *Psychoda Latreille, 1796* the genus *Tinearia Schellenberg, 1803* with type-species *Psychoda alternata* Say, 1824 established by COQUILLET (1910) by subsequent designation, who placed it as a synonym of *Psychoda Latreille, 1796*. There remains the second synonym of *Psychoda Latreille, 1796*, viz. *Trichoptera Meigen, 1803* with *Tipula phalaeonoides* LINNÉ, 1758 as type-species (QUATE, 1965), established by COQUILLET (1910). The name *Tinearia Schellenberg, 1803* was wrongly listed by both ENDERLEIN (1936) and RAPP (1945a) as valid with *Trichoptera fuliginosa* MEIGEN, 1804 as type-species, and *Ulmomyia Haliday in Curtis, 1838* (not WALKER, 1856) was listed as a synonym of that by ENDERLEIN (1936). This problem was discussed by FAIRCCHILD (1951). COQUILLET's paper was omitted by SARA (1952), who described a new species from Italy as *Tinearia mirabilis* on the interpretation of the genus by ENDERLEIN (1936) and RAPP (1945a). This paper is concerned with a group of species which were referred to the "alternata complex" by QUATE (1953), and aims to prove on the basis of morphological study both of males and females, in contrast to VAILLANT (1971), that this complex does not lie in the range of species of *Psychoda phalaeonoides* (LINNÉ, 1758). All material was collected 1971–1974 mostly by the author and preserved in alcohol or on slides.

Genus *Tinearia* SCHELLENSBERG, 1803

Type-species: *Psychoda alternata* Say, 1824

Differential diagnosis: 13th–15th segments of the apex of flagellum are not separated, reduced upwardly in comparison with foregoing one (Fig. 4). Sensory filaments small, with three branches. Brown spots at the tips of the veins. Male with three conspicuous phallosomes of equal size, the two upper ones jointed apically (Fig. 11). Subgenital plate of female without a sensory stake (Fig. 15), genital chamber with three pairs of winged processes of the typical shape (Fig. 16).

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Psychoda Latreille, 1796 s. str., with type-species Psychoda phalaenoides (Linne, 1758), may be diagnosed and distinguished as follows: apical two antennal segments of the same size, separated, distinctly reduced in comparison with foregoing one. 13th and 14th segments with very short neck and distinct subapical spine, 15th segment without such neck and spine. Sensory filaments big, with three branches. Without brown spots at tips of the veins. Genital lobes of male not as above, lower phallomera rudimentary. Sub-
genital plate of female with a sensory stake, genital chamber with different combination of characters.

*Tinearia alternata* (SAY). **comb. rev.**

*Psychoda alternata* SAY, 1824 : 358.
*Psychoda tripunctata* MACQUART, 1833 : 81.
Diagnosis. Yellowish species, the length of the wings 2—3 mm, striking dark brown tufts of hairs at the tips of veins of wings, harpagnes with blade shape laterally (Fig. 12), subgenital plate (Fig. 15) and genital chamber (Figs. 16—18) of female of characteristic form.

Male. Eye bridge (Fig. 1) with a little more than two rows of facets (Fig. 2) on its widest part. Frons with long yellowish hairs. Antennae with 15 segments, clad with unicolorous yellowish hairs. Scapus (Fig. 3) shortly cylindrical, pedicelus nearly ball-shaped, segments of flagellum flask-shaped, three apical segments fused, reduced upwardly in comparison with foregoing one (Fig. 4). Sensory filaments rather small, with three branches. Mouth parts yellow haired, terminal lobes of labium, maxilla and maxillary palp as figured (Figs. 5, 6). Labrum pointed, with short fine hairs, epipharynx forked with long hairs, elypeus not very large. Maximal length of cibarium to length of epipharynx 3 : 4. Thorax yellowish haired; spacing thoracic bristles and shape of postnotum as figured (Fig. 7). Pleural suture without a curve at the lower end. Wings (Fig. 8) milky clouded, yellowish haired, largely lanceet-shaped, with striking dark brown tufts of hairs at the tips of veins, basal costal nodus distinct as well as distal one. Subcosta rather long, interrupted. R₁ moderately S-shaped, the start of R₂ to closely before basal field, R₂ to as well as R₂ to R₃ S-shaped. R₄ arched to the radial fork, R₅ almost straight, with the mouth in the apex of the wing. M₁ to M₂ straight, M₁ arched to the radial fork, M₂ S-shaped, M₃ straight, M₄ and Cu connected on M₄. The angle of veins r-r and r-m straight, m-m developed. Medial angle of the wing 106°. Index of the wing AB : AC : AD = 5.2 : 9.4 : 7.6 and BC : CD : BD = 2.5 : 3.7 : 5.1. Length of the halteres to their largest breadth 2.4 : 1. Hairing of the legs completely yellowish, ratios of the length of coxa, tibia and first tarsal segment P₁ = 13 : 14 : 5, P₂ = 14 : 18 : 6, P₃ = 16 : 20 : 7. Paired tarsal claws (Fig. 9) curved. Abdomen yellowish haired. Laterosternites nearly elliptical, strongly sclerotized and elongated. Anterior and posterior tergites of abdominal segments divided medially, sclerotization of posterior tergites only slightly distinct. Sternites of abdominal segments analogue divided, with indistinct sclerotization. Basal apodeme (Fig. 10) of genitalia slightly curved, divided at apex. Phallobasis irregularly shaped, gonoporous with three phallomeres around. Dorsal phallomeres jointed apically, ventral phallomera of somewhat different shape with straight point (Fig. 11). Coxopodits (Fig. 12) with conspicuous protuberances externally, harpagnes a little longer than coxopodits, distinctly extended laterally. Epandrium (Fig. 13) of characteristic shape. Aperture almost semicircular, the sclerotised remainer of 10th tergite and sternite inside of epandrium indistinct. Hypandrium rather narrow. Epiproct very
short. Hypoproct triangular, rounded, its length a little less than its breadth at the apex only.

Female. Subgenital plate (Fig. 15) characteristically U-shaped. Structures of genital chamber complicated, with a pair of posterior and a pair of dorsal projections, unpaired ventral part with characteristic structures inside (Fig. 16). Genital chamber figured anteriorly (Fig. 17) and cercus (Fig. 19).
Comments. The original description by Say (1824) is short and lacks figures; the holotype was deposited in Philadelphia, Pennsylvania but is probably destroyed, vide Quate (1955). Differential features of this species were figured by Tenzør (1929) and Jung (1956); the species was briefly redescribed by Quate & Quate (1967); the larva was described in detail by Satchel (1947). It is a cosmopolitan species cited from Czechoslovakia by Thalhammer (1889), Sáblík (1964, 1965), Vailant (1966), Rozkošný (1971), Ježek (1972) and Halács (1973). Adults were recorded in nature from April to September frequently, maximal occurrence being in the summer months, especially in sewage works on the beds of gravel over which a trickle of water is maintained by moving distributors, the walls of cesspools, on excrement, on litter of fresh potatoes, on hogs with alders, on the banks of streams with undergrowth of Alnus, Salix, Populus, Acer. Picea, Urtica and Geum, on the banks of ponds shaded by Alnus, Fraxinus, Robinia, Pinus, Corylus, Phragmites and Urtica, on the banks of rivers and inlets with Alnus, Salix, Urtica and Calamagrostis, on the banks of gulleys containing four organic matter with an undergrowth of Alnus, Salix, Populus, Fraxinus, Sambucus, Acer, Mentha and Urtica. Single specimens were casually collected on a train window.

Material examined: about 10 000 specimens (55, 59), deposited in the National Museum (Praga).

Bohemia: Bochyně (J.), Bělečická dist., Strakonice (J.), Blatná dist., Strakonice (J.), Bohutín dist., Plchům (J.), Bukovské dist., Sokolov (J.), Český Brot (J.), Čelákovice (J.), Chodová Planá (J.), Deštné dist., Rychnov n. K. (J.), Golšův Jeníkov (V.), Horní Cornáty (Kn.), Horní Lipná (J.), Hořice v Podkraini (J.), Karlovy Vary (J.), Kbelín-Vinoř (J.), Kolin (J.), Kynšperk n. O. (J.), Lázně Kynšperk (J.), Louny (J.), Mělník — district town (J.), Milevske (J.), Mimoň (J.), Nýřany (J.), Poličná (Kn.), Polička (J.), Prachatice (J.), Praha-Libča (J.), Protivín (J.), Roudná dist., Tábor (J.), Rožňava (J.), Rožňava p. T. (J.), Sedlec (J.), Soběslav (J.), Spindlerův Mlýn (J.), Tachov — district town (J.), Teplice dist., Karlovy Vary (J.), Velešín (J.), Vrbno dist., Strakonice (Bt.), Zeleneč (K.), Zelená Ruda (J.).

Moravia: Breclav u Prostějova (J.), Český Těšín (H.), Hulín dist., Kroměříž (J.), Kojetic dist., Přerov (J.), Komorní Lhota (H.), Nová Ves dist., Břeclav (J.), Otaslavice (J.), Spytich (J.), Svitavská dist., Znojmo (J.), Třinec (J.), Třebíč (J.), Třebíč (J.), Zvolen — district town (J.), Znojmo (J.).

Slovakia: Polšany (J.).

The name of the district town is only given where according to the alphabetic list of settlements of ČSSR one or more homonyms of the locality exist.


Tinearia lativentris (Berděn), comb. n.

Peyrola alternata: del Rosario (see Say, 1824). 1936: 93 (partim. ?).

Peyrola lativentris Berděn, 1952: 111.

Synonymy after Quate (1955).

Diagnosis. Small white-yellowish species, the length of the wings 1.5 to 2 mm, with imperceptible brown tufts of hairs at the tips of the veins, harpagoones (Fig. 32) from lateral view narrowed and pointed apically, subgenital plate (Fig. 34) and genital chamber (Figs. 35—37) of female of characteristic shape.

Male. Eye bridge (Fig. 20) nearly as three rows of facets (Fig. 21) on its widest part. Prona with long yellowish hairs. Antennae with 1S segments, clad with unicolorous yellowish hairs. Scapus (Fig. 22) cylindrical, pedicellus nearly ball-shaped, segments of flagellum flask-shaped, the three apical segments fused, reduced upwardly in comparison with foregoing one (Fig. 23).
Sensory filaments rather small, with three branches. The mouth parts yellow haired, terminal lobes of labium, maxilla and maxillary palpus as figured (Figs. 24, 25). Labrum pointed, with short fine hairs, epipharynx forked with long hairs, clypeus rather small. Maximal length of cibarium to length of epipharynx as 1:1. Thorax yellowish haired; spacing of thoracic bristles and shape of postnotum as figured (Fig. 26). Pleural suture with a curve at

Figs. 30—38. *T. lativentris* (Berd.), ♂ (figs 30—33), ♀ (figs 34—38); 30 — genitalia dorsally, 31 — phallobases and basal apodemes laterally, 32 — hypophygium laterally, 33 — cecum ventrally, 34 — subgenital plate, 35 — structures of genital chamber laterally, 36 — the same anteriorly, 37 — a part of genital chamber ventrally, 38 — cecum laterally. Scale 0.1 mm.
the lower end. Wings (Fig. 27) yellowish haired, largely lancet-shaped, with imperceptible brown tufts of hairs at the tips of veins. Basal costal node indistinct in comparison with distal one. Subcosta rather long, uninter-
rup ted. R₁ arched to the subcosta, the start of R₂-₃ wide of basal field, R₂-₃ and R₄ as well as R₄-₅ and R₅ hardly S-shaped. R₄ slightly arched to the radial fork, R₅ almost straight, with the mouth in the apex of the wing. M₁-₃ nearly straight, as well as M₁ and M₄, M₃ moderately arched to the medial fork, M₃ and Cu without connection on M₄. The angle of veins r-r and r-m not straight, m-m developed. Medial angle of the wing 94°. Index of the wing AB : AC : AD = 9.5 : 11.2 : 8.8 and BC : CD : BD = 2.9 : 4.5 : 5.7. Length of the halteres to their largest breadth 1.8 : 1. Hairing of the legs completely yellowish, ratio of the length of coxa, tibia and the first tarsal segment: P₁ = 9 : 10 : 4, P₂ = 11 : 14 : 5, P₃ = 14 : 17 : 5. Paired tarsal claws moderately curved only (Fig. 28). Abdomen yellowish haired. Laterosternites elongated, narrowed anteriorly, expanded posteriorly, sometimes of elliptical shape, distinctly sclerotized. Anterior and posterior tergites of abdominal segments divided medially, however, anterior tergites with narrower gap. Sclerotization of sternites only slightly distinct in comparison with tergites, analogue divided. Basal apode of (Fig. 30) of genitalia straight, divided on the apex. Phallobasis of irregular shape, gonoporus with three phallomeres around. Dorsal phallomeres jointed apically, the apex of ventral phallomera deviated from dorsal one (Fig. 31). Coxoapophyse with conspicuous protuberances externally, harpagnes (Fig. 32) from lateral view narrowed and pointed apically and of the same length as coxo-
apophyre. Epandrium of characteristic shape (Fig. 29), with V-cut anteriorly, sclerotised remainder of 10th tergite and sternite inside of epandrium indistinct. Hypandrium narrow. Epiproct very short, haired distinctly, hypoproct of triangular shape, rounded. The length of hypoproct a little shorter than its breadth at the base. Cerci (Fig. 33) S-shaped ventrally, with one retinaculum on the apex only.

Female. Subgenital plate (Fig. 34) of characteristic U-shape with broad base. Structures of genital chamber complicated (Figs. 35-37) with pair of posterior and pair of dorsal projections, unpaired ventral part with characteristic structures inside. Cercus as figured (Fig. 38).

Comments. Female was described and figured by Berdén (1953); holotype deposited in the Entomological Museum of the University in Lund, Sweden. Some details were figured by Salamana (1966). Unique male was described and figured from a specimen from Sweden by Quatte (1955). Larva was described and figured by Vailalt (1973). A conjecture about parthenogenes has not been proved experimentally so far. This species is known from Europe and Asia, Quatte (1955) mentions under the name Psychoda lativenris many males and females from Canada, U.S.A. and Mexico. Further material of males of Palaeartic T. lativenris is badly needed for the verifica-
tion of North American populations of Psychoda lativenris described recently by Vailalt (1973). New species for the fauna of Czechoslovakia. Adults were collected from July to September on swamps with Alnus, Phragmites and Carex, in inundated forests with undergrowth of Alnus, Salix, Scirpus and Lemna, on the banks of streams and gulleys with foul organic matter shaded by Alnus and Salix, on the banks of rivers with Alnus, Salix, Populus, Calamagrostis and Urtica around, and on the banks of ponds.
with Alnus, Corylus, Fraxinus, Robinia, Pinus, Salix, Phragmites and Urtica. Speradically frequent species; a solitary male was collected by the author on the bank of an inlet of the river Elbe near Kolín on 26. 8. 1971.

Material examined: 1♂ and about 250 ♀♀.


Using the alphabetical list of settlements of ČSSR, I have given the district when the locality is a homonym.

All material was collected by the author.

The three following species are transferred to the genus Tinearia Schellenberg, 1803 on the basis of literary descriptions: Tinearia alternata (Quate, 1855), comb. n. and T. limicola (Vailant, 1973), comb. n., both occurring in North America, and T. pseudalternata (Williams, 1946), comb. n., occurring in the Hawaiian Islands and Australia only.

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REFERENCES


and *Urtica.*

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**Anonymous, 1864:** Abridged text of the 'Czechoslovak socialist republic.' (Alphabetical list of villages and their parts in CSSR, with respective postal offices.) *Nakladatelství dopravy in spojů,* 118 pp., Prague (in Czech).

**Anonymous, 1964:** *Vlady obcí a jejich částí v Československé socialistické republice. jejich názvy znázor, byly změněny, nebo se staly místními částmi v době od 5. V. 1945-1. VII. 1964. (List of villages and their parts in CSSR, of which names were abolished, changed or established as local parts of villages from 5. 5. 1945 to 1. 7. 1964.)* *Nakladatelství dopravy in spojů,* 102 pp., Prague (in Czech).

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