

**THE MAXIMUM NUMBER OF ANTENNAL SEGMENTS IN THE ORDER DIPTERA, WITH THE DESCRIPTION OF A NEW GENUS OF CECIDOMYIIDAE**

BY CHARLES P. ALEXANDER, Amherst, Mass.

For many years the maximum number of antennal segments in any known species of Dipterous insect was 39, reported many years ago by Osten Sacken in the Tipulid *Gynoplistia* (*Cerozodia*) *plumosa* (Osten Sacken) of New Zealand. In recent years, this figure was found to be equalled and exceeded by two species of Cecidomyiidae, *Lasioptera howardi* Felt, with 39, and *Ficiomyia perarticulata* Felt, with 41. During the past Spring, my good friend, Dr. Fred W. Edwards, in a letter written concerning his recent trip to Ruwenzori and other high mountains in Central Africa, mentioned among other notable discoveries that a Bruchomyiine Psychodid had been found that, with a hand-lens, appeared to have at least 60 antennal segments. I have now to report the discovery of a Cecidomyiid from Panama that has no fewer than 65 such segments, and which would seem to represent the maximum number as yet discovered within the limits of the order.

The various groups that have multi-articulate antennae are listed herewith, together with the maximum figure reported to this date.

Psychodidae .....	30	Thaumaleidae .....	12
(60, Edwards, ante)		Chironomidae .....	15
Tanyderidae .....	25	Culicidae .....	15
Ptychopteridae .....	20	Cecidomyiidae .....	65
Tipulidae .....	39	Mycetophilidae .....	17
Anisopodidae .....	16	Bibionidae .....	17
Blepharoceridae .....	15	Scatopsidae .....	12
Simuliidae .....	10	Rachiceridae .....	38

**Feltomyia, gen. n.**

Palpi reduced, apparently 2-segmented. Antennae 65-segmented; scape relatively large, pedicel more reduced; flagellum consisting of 63 approximately similar segments, of which the terminal one is about equal in length to the combined penultimate and ante-penultimate segments and is apparently the result of the fusion of two elements; all flagellar segments of approximately the same shape, being globular with stout, glabrous, apical pedicels; the outer segments become more depressed to appear more or less disk-like, this flattening being



accompanied by a narrowing and shortening of the pedicel. Flagellar segments with a subbasal ring of from 10 to 12 long powerful verticils that considerably exceed the segments in length; remainder of surface of body of segment covered with small simple setae; a low, generalized type of circumfilum at apex of body of each segment, just where it breaks into the pedicel, such circumfila most clearly apparent on the basal and intermediate segments.

Legs long and slender; tarsi 5-segmented, the basitarsus very short. Wings with the surface covered with abundant scattered macrotrichia. Venation: *Sc* present, the distal end becoming obsolete beyond the origin of *Rs*; *Rs* short; *M* and *r-m* forming a composite, gently arcuated vein between arculus and end of *Rs*, about as in the genus *Johnsonomyia*; vein *R*<sub>1+2</sub> (1st longitudinal) reaching *C* at near two-fifths the length of wing; vein *R*<sub>5</sub> (3rd longitudinal) powerful, reaching the margin caudad of wing-apex; vein *Cu* (5th longitudinal) simple but with vague indications of an anterior branch or fold. Ovipositor moderately long and slender, the involved segments cylindrical, their combined length subequal to one-third or one-fourth the remainder of abdomen.

*Genotype*.—***Feltomyia polymera***, sp. n. (Neotropical Region: Panamá).

I take unusual pleasure in naming this new generic group in honor of our distinguished specialist on the Cecidomyiidae of the World, Dr. Ephraim P. Felt. I am referring the group to the tribe Porricondylaria in the typical subfamily, based upon the combination of presence of circumfila on the flagellar segments; five tarsal segments, with the basitarsus short; and with *Rs* (the so-called crossvein) present. However, the general appearance of the wing of this fly is much as in *Johnsonomyia* Felt, which Felt has transferred to the Heteropezinae. Except for the presence of reduced circumfila, the present fly would appear to fall more truly in the Heteropezinae. It appears to the present writer that the limits of the various subfamilies and tribes within the Cecidomyiidae are far too plastic and that many of the generic groups may well be found to belong elsewhere. An inordinate value has been placed on the number of segments of the maxillary palpus. In the not distantly related family Tipulidae, Edwards and I have shown that the number of such segments is not even of subgeneric value in certain genera (as *Limonia*, *Hexatoma* and others) where, in closely allied species, the number of palpal segments may be one, two, three or



four. From all known genera in the family, the new genus is most readily separated by the number of antennal segments.

It may further be noted that the so-called "crossvein" found in the more generalized subfamilies and tribes of the Cecidomyiidae (Lestremiinae, Heteropezinae, Porricondylaria) is not a crossvein at all but is the Radial Sector,  $R_s$  (as is well shown in Felt, N. Y. St. Mus. Bull. 257, pl. 1, figs. 1-9; 1925). In accordance with the interpretation of the radial field as given in recent papers by the present writer, the remainder of the so-called "third vein" is vein  $R_5$  alone, since all evidence shows that the elements of the radial field lying between  $R_{1+2}$  (1st vein) and  $R_5$  (3rd vein) have been lost by atrophy of veins rather than by fusion. The longitudinal element connecting  $R_s$  with the wing-base is in reality a composite vein, including the basal section of vein  $M$  and the longitudinal or oblique  $r-m$  crossvein. In certain primitive types, as *Catocha*,  $r-m$  is short, transverse in position, and joins  $M$  at a strong angle, but in the more specialized genera, it is directed basad and assumes an oblique or longitudinal position. Exactly homologous conditions are to be found in the closely allied families Sciaridae and Mycetophilidae. The distal section of vein  $M$  is preserved in certain Lestremiinae and Campylomyzaria.

***Feltomyia polymera*, sp. n.**

*Female*.—Length, about 6 mm.; wing, 4.5 mm.

Palpi pale. Antennae with scape black; pedicel brown; flagellum white throughout. Head brownish black.

Thorax uniformly brownish black. Halteres dark throughout. Legs with the fore coxae and trochanters black; fore femora black; tibiae darkened subbasally and subapically, the intermediate portion, involving about one-half the segment, dirty white; extreme tip of fore tibia and all of basitarsus snowy white; remainder of fore tarsi snowy white, excepting the darkened base of segment two; middle femora chiefly snowy-white, the dorsal surface on distal two-thirds more darkened; mid-tibia about as on the fore legs but the whitish intermediate portion a little clearer; mid-tarsi as on fore legs; posterior femora snowy-white; posterior tibia with extreme base and tip snowy white, the broad intermediate portion brownish black; all of posterior tarsi snowy white. Wings uniformly grayish, the veins darker,  $R_5$  being especially strong and conspicuous.

Abdomen dark brown, the pleural region even darker.

*Habitat*.—Panamá (Chiriquí).

Holotype, ♀, Potrerillos, altitude about 3,000 feet, May 6, 1935 (J. W. MacSwain). Type preserved in author's collection.





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