

New Synonymies and Combinations in New World Fulgoroidea (Achilidae, Delphacidae, Flatidae, Fulgoridae: Homoptera)

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ABSTRACT One genus of Achilidae, *Juniperia*, a preoccupied name, is renamed *Juniperthia*. A Bahaman delphacid, *Stobaera bahamensis* Metcalf is synonymized with *Stobaera concinna* (Stål). The flatid *Ormenis septentrionalis* (Spinola), originally described from the United States, is reported to be a foreign species. All reports of *septentrionalis* from the United States should be referred to *Anormenis chloris* (Melichar). In Fulgoridae, three genera (*Abrahameria*, *Pedlidnopepla*, and *Tomintus*) are synonymized and one (*Ulubra*) resurrected. Eight species are synonymized and one resurrected. Sixteen new combinations are reported.

DURING THE preparation of a checklist of Fulgoroidea found in the United States and a revision of the Neotropical Fulgoridae, it became evident that several nomenclatorial changes in the families Achilidae, Flatidae, and Fulgoridae were necessary. The types were studied in or loaned by the museums cited in the acknowledgment and a voucher set of specimens compared with the type was carried between museums for comparison. The type repositories are listed by the following abbreviations: AMNH (American Museum of Natural History), BMNH (British Museum [Natural History]), FSAG (Faculté de Sciences Agronomique de Gembloux [bought Lallemand's collection]), MNHU (Museum für Naturkunde an der Humboldt Universität, Berlin), MRSN (Museo Regionale di Scienze Naturali, Turin), NR (Naturhistoriska Riksmuseet, Stockholm), NM (Naturhistorisches Museum, Vienna), SMT (Staatliches Museum für Tierkunde, Dresden), UCV (Universidad Central de Venezuela, Maracay), UZM (Universitetets Zoologisk Museum, Copenhagen), and ZS (Zoologische Staatssammlung, Munich). As is usual in Auchenorrhynchous Homoptera papers, the papers listed in Metcalf's *Bibliography and Catalogue of the Homoptera* (1942, 1947, 1957) are not repeated here.

Achilidae

Juniperthia, **New name** for *Juniperia* O'Brien, 1971, *nec Juniperia* Linnæus, 1758 (Homoptera).

Delphacidae

Stobaera concinna (Stål).

Stobaera bahamensis Metcalf (1954: 6). **New synonymy** [J. P. Kramer, personal communication]. Kramer overlooked *S. bahamensis* in his

revision of the genus but has since concluded that it is identical with *S. concinna*.

Flatidae

Ormenis septentrionalis (Spinola). **New combination**. Distribution unknown.

Anormenis septentrionalis (Spinola) (1839: 436), *nec auct.* (Fig. 1-3)

Cotype specimens of *septentrionalis* in Turin, two labeled from Pennsylvania and two from California, are not a species known from any other specimens in the United States. Nor have I seen similar specimens from the New World. James P. Kramer of the U.S. National Museum (Washington, D.C.) found no matching specimens in that collection, nor did John T. Medler, who is working on Flatidae at the Bernice P. Bishop Museum (Honolulu, Hawaii) recognize the species. Until other specimens are found the distribution cannot be determined. Furthermore, these specimens do not have the characters of the genus *Anormenis*, as the illustration shows, so I am placing the species back in *Ormenis*.

Everyone seems to have ignored Spinola's statement "Extremite des ailes superieures, liseres de rouge" (extremity of the forewings bordered with red). The pattern is very clear on all four of Spinola's specimens. I have seen preserved specimens that have lost red coloration, but have never seen any dried specimens develop it if it were not present in life. In the United States, the only flatid with red color is *Ormenaria rufifascia* Walker, and it is morphologically very different. While there is always the possibility that *septentrionalis* may be a United States species that has never been seen again, it seems more probable that Spinola's specimens are mislabeled. Only 36 of the 853 United States species of Fulgoroidea are found in both California and the eastern United States (east of

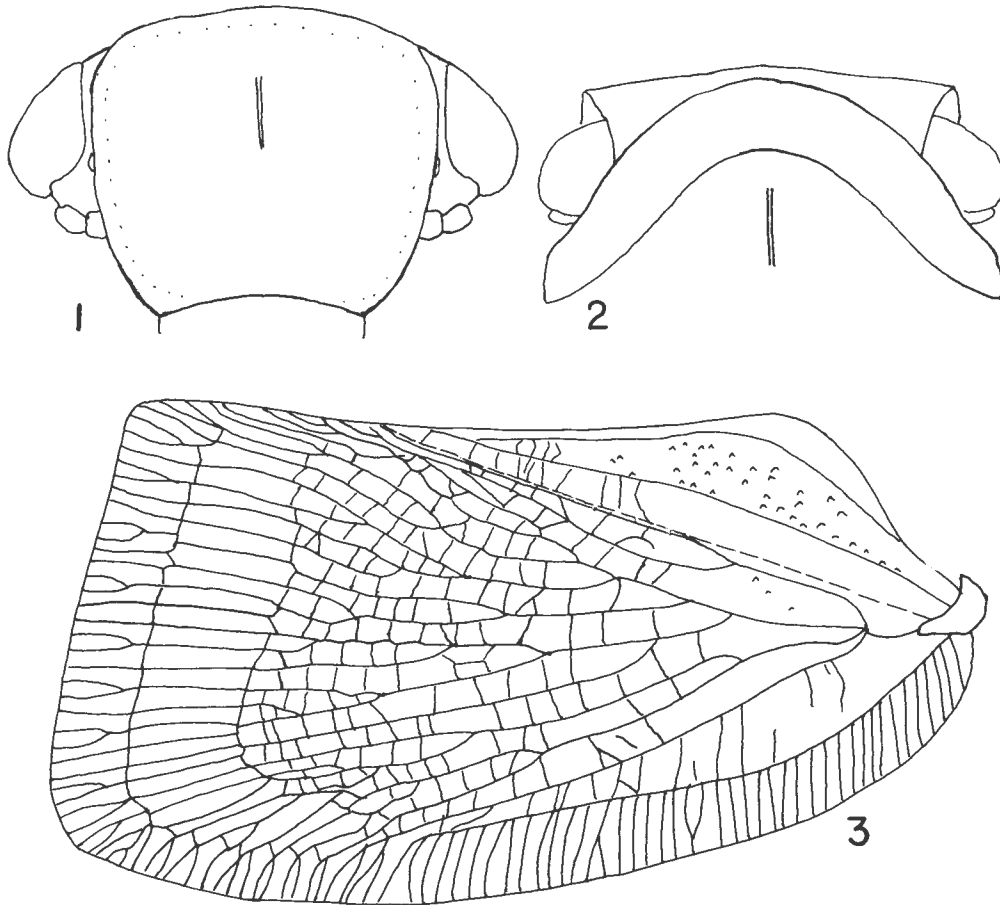
1-3. *O. septentrionalis*

Fig. 1-3. *Ormenis septentrionalis* (Spinola). (1 and 2) Male: (1) frons; (2) vertex, pronotum and carina of mesonotum; (3) female: forewing.

the 100th meridian), so this is an uncommon distribution pattern. Furthermore, the size and color pattern of *P. septentrionalis* indicate a tropical rather than northern affinity.

Types. Spinola says "Amerique septentrionale. Collection de M. Serville." I have searched for Serville's collection to designate a lectotype. Horn and Kahle (1935) say Serville's collection was deposited in the Naturhistorisches Museum (Vienna) through Signoret. Melichar (1902) said "Nordamerika (Type in der Signoret'schen Sammlung in Wien, Museen in Genf, Kopenhagen und Stockholm)." Alfred Kaltenbach of the Naturhistorisches Museum (Vienna) graciously checked the nine specimens in their collection that came from Signoret's collection. None has a band of red around the tip of the forewings. None has identification labels by Spinola or any indication of coming from Serville's

collection. I saw this collection before I saw Spinola's and had macroscopically accepted the specimens as *septentrionalis* of authors, whereas Spinola's specimens are obviously different to the naked eye. Kaltenbach suggested that part of Serville's collection is in Paris. I do have notes that the red boxes in the Paris collection are from the Amyot and Serville collection, but at that time I did not examine it for types. Spinola's collection in Turin contains four specimens I have seen that match his description. Casale (1981) attributed the California specimens to the donor or collection Dupont, but the source of the two "Pensylvanie" specimens is not given.

I am not designating a lectotype at this time while awaiting a response from the Paris Museum and mindful of Medler's recommendation. He examined the specimens in Turin carefully at my

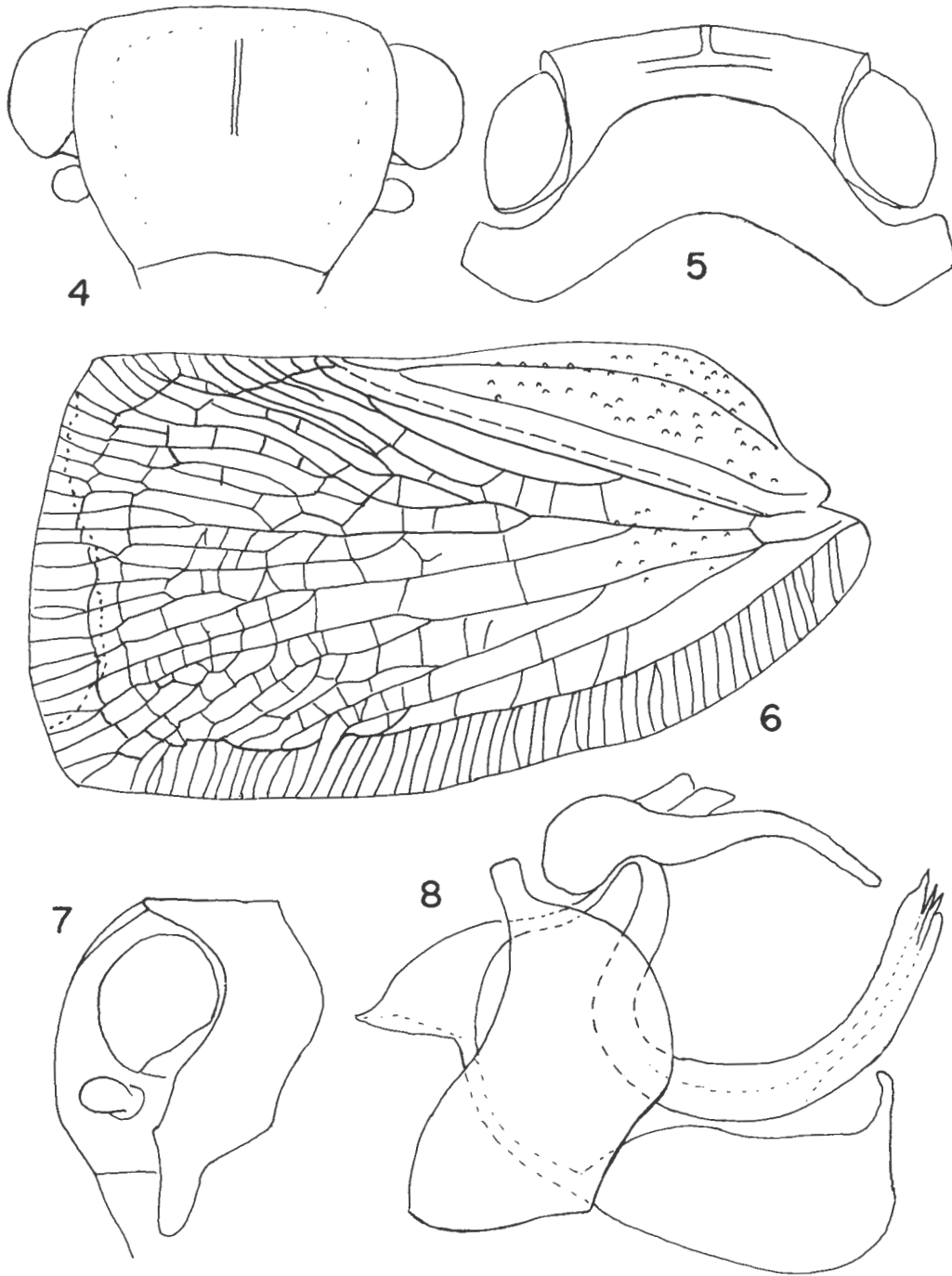
4-8. *A. chloris*

Fig. 4-8. *Anormenis chloris* (Melichar). (4-7) Holotype: (4) frons, (5) vertex and pronotum, (6) forewing, (7) lateral view of head. (8) Plesio-type: lateral view of genitalia.

request and believes one specimen may represent a second species, which cannot be determined until genitalia are examined. He believes it would be better to allow a future reviser flexibility in lectotype designation when the species can be placed in the proper fauna.

Anormenis chloris (Melichar) (1902: 89, pl. IV, fig. 18). Eastern United States.

Anormenis septentrionalis auct. [nec Spinola]. **New synonymy** (Fig. 4-8)

All the United States specimens of *Anormenis* that I have dissected have the same genitalia. Characters used by Metcalf (1923) and others, such as the median carina on the frons and the yellow coloration of the thorax, vary from present to absent. The length of the apical and subapical cells vary, in some cases some subapical cells being longer than the apical ones, at other times not. The subapical cells vary in number from 16-21. The number of veins branching near the margin also varies, but the genitalia remain constant. Apparently Glover (1877, 1878) and Uhler (1884) accepted Spinola's localities and ignored his description of the red coloration (everyone knows color may be variable) and using specimens they collected reported on what they called *septentrionalis* and this was followed by other authors in the United States. Subsequently, Melichar described as *chloris* the species on which Glover and Uhler reported. Probably all references except bibliographies or checklists citing Spinola's original description of *septentrionalis* give information on the United States species and should be referred to *A. chloris* Melichar.

I have figured the head, thorax, and wing of the holotype (Fig. 4-7), and the male genitalia of a plesiotype from Indian Camp, St. Tamany Parish, La. (author's collection). The abdomen of the holotype is missing, so genitalia cannot be examined. The head and thorax have been separated and one wing, split, remains. The holotype is in the Museum Geneve in Switzerland. The three handwritten labels are: 600 Tennessee [first line]; 81 [line continuous from above] Etats-Unis [second line]; a green label folded: Tennessee; and a white label folded: Ormenis chloris.

Fulgoridae

A great deal of confusion in generic placement in the Neotropical Fulgoridae exists because of the large number of genera, 64, versus 20 for Africa and 28 for Asia and Australia (Lallemand 1959, 1963). The new synonymies made here are based on examination of types unless some other statement is made. They are based on external characters which serve to distinguish the species in Fulgoridae more easily than do the male genitalia which are membranous and inflate partially but not reproducibly on treatment with potassium hy-

droside, and thus are somewhat difficult to compare.

The complete synonymy of each species is not given. The former generic placement from Metcalf (1947) or Nast (1951) is used for easy reference to the past literature.

Aburia satellitia (Walker). **New combination.**

Poiocera satellitia Walker (1851: 296). [type repository: BMNH]

Acmonia nigriceps Lallemand. **New status.**

A. dichroa subspec. *nigriceps* Lallemand (1960: 2)

Acmonia sanguinolenta (Blanchard and Brulle). **New combination.**

Poiocera sanguinolenta Blanchard and Brulle (1845: 221). [type repository: Paris. Although I could not find the type, the illustration is of a distinctive species, specimens of which have been seen and examined.]

Acraephia stoica (Gerstaecker). **New combination.**

Zeunasa stoica (Gerstaecker) (1860: 216). [type repository: MNHU]

Alaruasa anceps (Stål). **New combination.**

Acmonia anceps Stål (1869: 238) [type repository: NR]

Alaruasa lepida (Spinola) (1839: 281) Brazil. [type repository: MRSN]

Poblicia atomaria (Walker) (1858: 49) Mexico. **New synonymy.** [type repository: BMNH]

Poblicia tricolor (Gerstaecker) (1860: 238) Mexico. **New synonymy.** [type repository: MNHU]

The most distinctive character of the species, a k-shaped pale transverse band on each forewing, does not appear in each original description, but each type has it.

Aliphera discrepans Walker (1858: 53). **Resurrected name.** [type repository: BMNH]

nec *Aliphera luctuosa* (Spinola) (1839: 272). Synonymy in error in Metcalf (1947: 52). [type repository: MRSN]

Aracynthus Stål (1866: 136).

Abrahameria Distant (1920: 126). **New synonymy.**

Aracynthus sanguineus (Olivier) (1791: 573) Surinam. [type repository: probably lost. Illustration by Stoll 1781 can be only one species; Olivier referred to Stoll's illustration when giving species a Latin binomial.]

Abrahameria typica Distant (1920: 126) British Guiana. **New synonymy.** [type repository: BMNH]

Olivier's type is probably lost; at least it is not in the museum in Paris. Stoll's illustration, to which Olivier referred, is fairly accurate in color, but not

in the shape of the body nor especially the head. I have seen no other species with which it might be confused.

Artacie haemoptera (Perty) (1833: 176) Brazil. [type repository: ZS, not found]

Enchophora dufourii Signoret (1858: 497) Cayenne. **New synonymy.** [type repository: Signoret doesn't say. Horn and Kahle (1935) say his collection of Hemiptera, Cocc., and 1890 Rhynchota to the Natural History Museum (Vienna). A Collection of exotic Hemiptera to Natural History Museum, Florence.]

Neither of Perty's types could be found in Munich in 1975, nor have I been able to locate either Signoret's type or the illustration accompanying his original description as listed by Metcalf. Nevertheless, the descriptions of the two species include the flat triangular plate on each side of the head at the level of the eye, and I have seen only one species in the New World with this character.

Auchalea annulata (Lallemand). **New combination.**

Amantia annulata Lallemand (1956: 1). [type repository: FSAG]

Cyrpoptus Stål (1862: 304).

Pelidnopepla Stål (1869: 88). **New synonymy.** Available as subgenus.

Tomintus Stål (1864: 49). **New synonymy.** Available as subgenus.

Cyrpoptus obscurus (F.). **New combination.**

Pelidnopepla obscurus (Fabricius) (1803: 59) Brazil. [type repository: UZM]

Crypoptus obscurus Metcalf (1938: 352) Panama. **New synonymy.** [type repository: AMNH]

Cyrpoptus pudicus (Stål). **New combination.**

Tomintus pudicus (Stål) (1861: 149) Brazil. [type repository: NR]

Cyrpoptus nubeculosus Stål (1869: 240) U.S., Mexico. **New synonymy.** [type repository: NR]

Upon studying Kramer's (1978) paper on *Cyrpoptus*, I realized the species *obscurus* Metcalf from Panama was what I had identified by comparison with the type in Copenhagen as *Pelidnopepla obscura* (Fabricius) (described from Brazil). *C. nubeculosus* Stål from the U.S. and Mexico similarly was what I had identified as *Tomintus pudicus* Stål from Brazil. These are more drab than most of the Fulgoridae, and examination of the genitalia of the types would be of value to confirm these synonymies. However, I am certain enough of them to call attention to them here. Both *obscurus* and *nubeculosus* deviate slightly from the rest of *Cyrpoptus* and the two genera synonymized here may be used as subgenera someday. The slight differences between *Cyrpoptus* and *Pelidnopepla* are described thus by Kramer: "The complete longitudinal carina behind each eye on the pronotum and the undulated brown stripe on

each forewing provide the distinctive features of *obscurus*. In addition, this species differs from all other *Cyrpoptus* by the lack of differentiation between the basal and distal portions of the forewings and the lack of pigmentation at the bases of the hind wings." Stål (1870) used the pronotal carina ("plica") as a second character to separate *Cyrpoptus* and *Pelidnopepla* and used as his first key character the slight difference in the lateral portion of the head behind the eye, which is less produced in *Pelidnopepla*. I have no males from Panama to compare with males from Brazil.

Stål separated *Tomintus* from *Cyrpoptus* by the suture between the frons and clypeus being obtusely angulate [bisinuate in my interpretation] in *Tomintus* and straight or curved in *Cyrpoptus*. The lateral portion of the head behind the eye is tumescent in *Tomintus*. While Stål's descriptions are valid, I agree with Kramer that these differences are not of generic value.

Enhydria longicornuta Lallemand. **New status.**

E. brachialis f. *longicornuta* Lallemand (1960: 6). [type repository: NR]

Flatolystra verrucosa (Stål). **New combination.**

Dilobura verrucosa Stål (1859: 314). [type repository: MNHU]

Florichisme venosa (Germar) (1830: 54) Brazil. [type repository: Lvov; probably lost]

Florichisme divisa (Walker) (1851: 297) locality unknown. **New synonymy.** [type repository: BMNH]

In Metcalf's catalogue, this synonymy was first reported by Gerstaecker in 1860 and again by Costa Lima in 1935. Apparently Metcalf did not consider the species the same, but I know of only one species with the distinctive black veins on the tegmen that both authors describe. Germar's types have not been located. Hearsay said that they were in an academic collection in Lembourg (Lvov) and were eventually destroyed by repeated handling by students.

Hydriena ferruginea (Walker) [Dictyophariidae]. **New combination.**

Enhydria ferruginea (Walker) (1851: 305) [Fulgoridae]. [type repository: BMNH]

Hypaepa rosales (Lallemand). **New combination.**

Scaralis rosales Lallemand (1963: 3). [type repository: Lallemand says Rosales' collection. I saw paratypes in the collection of the Universidad Central de Venezuela, Maracay.]

Poiocera rugulosa Walker (1858: 54) Brazil. [type repository: BMNH]

Poiocera meleagris Gerstaecker (1860: 222) Brazil. **New synonymy.** [type repository: MNHU]

Scaralis corallina (Gerstaecker). **New combination.**

Poiocera corallina Gerstaecker (1860: 239). [type repository: MNHU]

Scaralis semiclara (Stål). **New combination.**

Poiocera semiclara Stål (1862: 2). [type repository: NM]

Scaralis spectabilis (Walker). **New combination.**

Poblicia spectabilis (Walker) (1958: 55). [type repository: BMNH]

Ulubra Stål (1866: 133). **Resurrected name.**

nec Enhydria Walker (1858: 44). Synonym in error in Melichar (1912: 6)

Ulubra brachialis (Stål). **New combination.**

Enhydria brachialis (Stål) (1862: 1). [type repository: NR]

Ulubra rufula (Lallemand). **New combination.**

Enhydria rufula Lallemand (1966: 54). [type repository: FSAG]

The two genera *Ulubra* and *Enhydria* may be separated as follows:

Tegmina transparent, brown, small bristles on veins; prothorax with nodules; lateral carinae of head projection reaching vertex . . . *Enhydria*
Tegmina opaque at base, reddish, no bristles on veins; prothorax without nodules; lateral carinae of head projection fading before reaching vertex *Ulubra*

Enhydria Walker contains *cicadina* Gerstaecker, *longicornuta* Lallemand (1960: 6), and *tesselata* (Walker).

Zeunasa gerstaeckerii (Jacobi). **New combination.**

Acmonia gerstaeckerii Jacobi (1904: 160). [type repository: SMT]

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