FORTY-TWO HITHERTO UNRECOGNIZED GENERA AND SUBGENERA OF ZYGOPTERA.

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During the past five years the writer has been engaged in a revision of the genera of the Zygoptera. The following new genera and subgenera have been in manuscript form for from two to five years. In nearly every case the characters of the penis have been the primary indicators that a new generic term might be advisable. In nearly every case other characters, usually venational, were found to parallel the penis characters.

The writer has attempted to give the genus a value which as nearly as possible represents the same amount of differences in whatever part of the Zygopterous series it might fall. This ideal was not altogether attainable, because genera have been split so very fine in the Agrioninæ and some of the other very modern groups. Even in these groups, however, the genera are not as close as in some sections of the Libellulidæ, where connecting links have not yet dropped out.

No apologies are offered for the series of monotypic genera. These in nearly all cases are annectant forms, the last fragments of faunas preceding the present.

Full descriptions of these new genera and subgenera with an extended discussion of their relationships as shown by the genitalia will eventually appear, the author hopes, as a bulletin of the U. S. National Museum.

Vestinus genus nov.

Type—*Vestalis* (*Calopteryx*) *gracilis* Ramb.

This new genus includes *Vestalis amoena* Selys. It differs from *Vestalis* (type *luctuosa*) in that the lobes of the penis are approximated and parallel, M_3 and M_4 arise at the same point on the arculus; there are never two complete rows of cells between Cu_1 and Cu_2 and the wings are hyaline.

Anaciagrion genus nov.

Type—*Agrion* (*Calopteryx*) *cornelia* Selys.

This new genus includes the single beautiful species *cornelia*. It differs from *Agrion* in that Cu_{2a} is 5–6 cells long, as against a length of 2–4 cells in *Agrion* and is directed entad and caudad towards the anal field of the wing.

Euchlorolestes genus nov.

Type—*Chlorolestes fasciata* Selys.

This genus includes also *Chlorolestes tessellata* Burm. and *Chlorolestes longicanda* Burm. Apical soft fold of penis erect and hoodlike; Ac lies slightly distad of the level of the first antenodal.

Episynlestes genus nov.

Type—*Synlestes albicanda* Tilly.

Quadrilateral broad, its inner end one-third of the hind side, first segment of Cu_2 present. Penis with a long attenuate tip.

Ceylonolestes genus nov.

Type—*Austrolestes analis* Ramb.

Includes also *aridus*, *colensonis*, *cyaneus*, *divisus*, *gracilis*, *leda* and *tenuissimus*. Naiad with lateral lobe as in the naiad of *Lestes*, at least so in *analis*. Penis with a spiral strap on the terminal lobe.

Chalcolestes genus nov.

Type—*Lestes viridus* Lind.

Differs from *Lestes* in that the upper segment of the arculus equals the lower and that the penis lacks the internal fold.

Africalestes genus nov.

Type—*Lestes virgatus* Burm.

Venation as in *Chalcolestes*, except that vein M_{1a} is nearly straight throughout its length. Penis with a strap-like inner fold as in *Ceylonolestes*.

Platystigma genus nov.

Type—*Mecistogaster jocaste* Hagen.

Penis with a broad, toothed terminal segment. Dense black part of stigma reduced to one cell in hind wing.

Xanthostigma genus nov.

Type—*Mecistogaster ornatus* Ramb.

Includes *ornatus* and its varieties. Penis with a broad linear terminal segment without lateral teeth. Black part of stigma lacking in both wings.

Haplostigma genus nov.

Type—*Mecistogaster modestus* Selys.

Penis with terminal fold united to the apical segment. Dense part of stigma more than three cells long. Hind wing of male without costal dilation before apex.

Goniostigma genus nov.

Type—*Mecistogaster amalia* Burm.

Costal dilation of male hind wing angulate. Penis with a large internal hood.

Proplatycnemis genus nov.

Type—*Platycnemis* hova Selys.

Includes also *agrioides* Ris. Differs from *Platycnemis* in that M_2 arises at postnodal 6–7 in front wing and at 4 in hind wing and that the stigma is longer than the cell below it.

Leptargia subgenus nov.

Type—*Argia mollis* Hagen.

Includes *fosteri, croceipennis, subapicalis, reclusa, tinctipennis, chapadæ, sociale, smithiana, botacudo, tamoyo, tupi, hasmani, sordida, thespis, tinctipennis.*

Internal soft fold of penis lacking, terminal segment flagellate. South American.

Micrargia subgenus nov.

Type—*Argia thisma* Calvert.

Includes also *lilacina.* Terminal segment of penis saggitate.

Heliargia subgenus nov.

Type—*Argia vivida* Hagen.

Includes also *plana, funebris, immunda, deami,* probably also *talamanca, underwoodi* and *terira.*

Internal fold of penis small or wanting, terminal segment irregularly triangular or even with a short attenuate tip. External fold present.

Cyanargia subgenus nov.

Type—*Argia lacrymans* Hagen.

Includes also *tonto.* Penis with a flagellum attached to inner surface of terminal segment.

Chalcargia subgenus nov.

Type—*Argia oenea* Hagen.

Includes also *orichalcea, harknessi, barreti, calida, percellulata, insipida, ulmeca, adamsi, pipila, oculata, difficilis, rogersi, jocosa, tezpi, translata, sedula, gerhardi, frequentula, cuprea, pulla, nigrior, indicatrix, gaumeri, popoluca, cupraurea, johanella.*

Penis with apex bifid.

Argyrocnemis genus nov.

Type—*Agriocnemis argentea* Tillyard.

Penis with edges of terminal segment serrate, male superior appendages with hollow tips.

Neoerythromma genus nov.

Type—*Enallagma cultellatum* Selys.

Penis characters as in *Erythromma*, but male appendages resembling those in *Enallagma signatum*.

Psenderythromma genus nov.

Type—*Erythromma viridulum* Charp.

Like *Erythromma* except male appendages *Psendagrion*-like and wing with only 10–11 postnodals and 3 antenodal ultra-quadrilateral cells.

Austrocoenagrion genus nov.

Type—*Coenagrion lyelli* Tilly.

Like *Coenagrion* except penis with shaft spines and the internal soft fold hood-like. Venation not studied.

Hawaiiagrion genus nov.

Type—*Megalagrion* (*Coenagrion*) *xanthomelas* Selys.

Characters as in *Coenagrion*, but colors are reds and yellows, and the male appendages are *Psendagrion*-like. Includes *deceptor*, *calliphya*, *nigrohamatum*, *vagabundum*, *molokaiense*, *microdemas* and others.

Kilauagrion genus nov.

Type—*Megalagrion* (*Coenagrion*) *nesiotes* Perkins.

Generic characters as in *Hawaiiagrion*, except that the male superiors are long and forcipate.

Oahuagrion genus nov.

Type—*Megalagrion* (*Coenagrion*) *oahuense* Blackburn.

Generic characters as in *Hawaiiagrion*, except that the stigma in hind wing of male is placed one and a half times as far from the wing apex as is the stigma of the front wing, slightly less so in the female.

Apanisagrion genus nov.

Type—*Anisagrion lais* Selys.

Characters as in *Anisagrion*, except that the wing is not petioled to Ac by a distance equal to the length of Ac and the apex of segment 10 in the male is not forked.

Protallagma genus nov.

Type—*Amphiagrion titcacæ* Calvert.

Characters as in *Enallagma*, except that the colors are largely red and the apex of segment 10 in the male is merely notched; i. e., without the two tubercles.

Oxyallagma genus nov.

Type—*Oxyagrion dissidens* Selys.

Characters as in *Enallagma*, except red a dominant color, no postocular spots and penis without lateral basal lobes.

Africallagma genus nov.

Type—*Enallagma glaucum* Burm.

Generic characters as in *Enallagma*, except apex of segment 10 in male is elevated into an apical keel, notched at apex. Includes *nigridorsum*, *obliteratum* and *schultzei* as described by Ris, "Od. Sudafrika."

Cyanallagma genus nov.

Type—*Acanthagrion interruptum* Selys.

Characters as in *Acanthagrion*, except the male superior appendages not decurved from the base and are usually forked. Includes *laterale*, *acutum* and perhaps *cheliferum*.

Archaeallagma genus nov.

Type—*Enallagma ovigerum* Calvert.

Characters as in *Enallagma*, except that the hind edge of the prothorax with a rectangular lobe.

Mesamphiagrion genus nov.

Type—*Enallagma occultum* Ris.

Characters as in *Enallagma*, but body colors red, apex of segment 10 elevated and notched, body long haired and stigma one-half cell long. Differs from *Amphiagrion* in male appendages being *Enallagma*-like, in postocular spots, in lacking the metasternal tubercles.

Teleallagma genus nov.

Type—*Telagrion daecki* Calvert.

Characters as in *Enallagma*, but the pair of subdorsal apical points of segment 10 are widened laterally into minute lobes, abdomen very slender. Wings petioled to Ac.

Ischnallagma genus nov.

Type—*Ischnura elongata* Martin.

Venation and stigmas as in *Ischnura*, apex of ten forked, male appendages and penis as in *Enallagma*.

Proischnura genus nov.

Type—*Enallagma subfurcatum* Selys.

Characters as in *Enallagma*, except stigmas of hind wings smaller than those of front wings. Apex of segment 10 in male

forked. Penis intermediate between that of *Ischnura* and that of *Enallagma*.

Homeoura genus nov.

Type—*Ischnura neops* Selys.

Characters as in *Ischnura*, but more Enallagmine. Proximal and distal sides of stigmas rounded, costa slightly indent d at stigma. Penis with large lateral paches of spines on the second segment.

Anomalura genus nov.

Type—*Ischnura prognatha* Hagen.

Characters as in *Ischnura*, except the apical fork of segment 10 in the male is elongated into a spine, the paired spines of the penis are external as in *Anomalagrion*.

Nanosura genus nov.

Type—*Ischnura aurora* Braner.

Characters as in *Ischnura*, except male with a pair of mesothoracic hook-like horns.

Amphiallagma genus nov.

Type—*Enallagma parvum*.

Characters as in *Amphiagrion*, except post ocular spots present, colors blue and black; body not heavily haired.

Seychellibasis genus nov.

Type—*Telebasis allaudi* Martin.

Characters as in *Teinobasis*, except anal plate in male not elongate. Apical lobe of penis linear.

Palaeobasis genus nov.

Type—*Pyrrhosoma tenellum* Vill.

Characters as in *Ceriagrion*, except that wings are not petioled to Ac.

Diceratobasis genus nov.

Type—*Agrion macrogaster* Selys.

Characters as in *Metaleptobasis*, but male without thoracic horns, while a large pair of horns occur on the seminal vesicle.

Aceratobasis genus nov.

Type—*Metaleptobasis cornicauda* Calvert.

Characters as in *Metaleptobasis*, but male without thoracic horns and his superiors longer than the inferiors.