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Conflicting synonymies and secondary homonyms in some Indo-Malayan genera of
Gagrellinae (Opiliones: Eupnoi: Sclerosomatidae)

Sinonimi contrastanti ed omonimi secondari in alcuni generi indo-malesi di
Gagrellinae (Opiliones: Eupnoi: Sclerosomatidae)

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Abstract

Conflicting synonymies involving the genera *Gagrella* Stoliczka, 1869, and *Zaleptus* Thorell, 1876 are discussed. The synonymies of *Ceratobunus* Thorell, 1889 and *Hypsibunus* Thorell, 1891 with *Zaleptus* proposed earlier, but later disclaimed, are also not accepted here (in spite of appearing in a large internet checklist). If accepted, they would furthermore generate the need for several replacement names. The situation of both versions of *Gagrella* (sensu Stoliczka and sensu Roewer) versus *Hexomma* Thorell, 1876 seems to be pacified of late, although the acute need for future revisions leading to many new combinations was already predicted. On the other hand, the already well-established synonymy of *Crassicippus* Roewer, 1910 and the confirmed one of *Strandia* Roewer, 1910 with *Gagrella* generated four hitherto undetected secondary homonymies. Four new replacement names are proposed here for those. Accordingly, herein a checklist of the species of the genera *Ceratobunus* Thorell, 1889 (13 species), *Hexomma* Thorell, 1876 (nine species) and *Hypsibunus* Thorell, 1891 (11 species) is given to counteract their appearance combined within *Gagrella* on internet lists. Thus the need to new combinations not based on revisionary work is kept to a minimum and a clean list is made possible. The Latinization of the specific epithet of *Hexomma feae* is discussed.

Keywords: Indo-Malaya, India, Indonesia, Malaysia, Myanmar, harvestmen.

Riassunto

Sono discussi i sinonimi contrastanti nei generi *Gagrella* Stoliczka, 1869 e *Zaleptus* Thorell, 1876. I sinonimi di *Ceratobunus* Thorell, 1889 e *Hypsibunus* Thorell, 1891 con *Zaleptus* proposti in precedenza, ma successivamente smentiti, non sono altresì accettati qui (nonostante siano apparsi in un vasto elenco in internet). Se accettati, genererebbero inoltre la necessità di vari nomi di sostituzione. La situazione di entrambe le versioni di *Gagrella* (sensu Stoliczka e sensu Roewer) rispetto a *Hexomma* Thorell, 1876 sembra essere ultimamente placata, anche se la critica esigenza di future revisioni che porteranno a molte nuove combinazioni era già prevista. D'altra parte, la sinonimia già consolidata di *Crassicippus* Roewer 1910 e la nuova di *Strandia* Roewer 1910 con *Gagrella* generavano quattro omonimi secondari finora non rilevati. Quattro nuovi nomi di sostituzione sono qui proposti per questi. Di conseguenza, accluso al presente documento viene fornito un elenco delle specie del genere *Ceratobunus* Thorell, 1889 (13 specie), *Hexomma* Thorell, 1876 (nove specie), *Hypsibunus* Thorell, 1891 (11 specie) per contrastare il loro aspetto combinato a *Gagrella* su liste in internet. Così la necessità di nuove combinazioni non basate su lavori di revisione viene mantenuta al minimo e una lista pulita è resa possibile. La latinizzazione dell'epiteto specifico di *Hexomma feae* viene discusso.

Parole chiave: indo-malese, India, Indonesia, Malesia, Birmania, opilionidi.

Introduction

In the hope of establishing a stable checklist of all taxa in Opiliones for my forthcoming catalog of world harvestmen, some nomenclatural problems in Gagrellinae are treated here. The Gagrellinae is the single most diverse family-group in Opiliones and its taxonomy is in an extremely poor state. External appearance is deceptive and remarkably uniform among not especially closely related species.

The monophyly of the Gagrellinae has traditionally been taken for granted, although some works indicate that there is no clear-cut distinction from Leiobuninae or Sclerosomatinae (Martens 1973; Giribet *et al.* 2010; Hedin *et al.* 2012). The subfamily was initially (Thorell 1889) inserted in the family Phalangiidae. Šilhavý (1961) removed Gagrellinae from the Phalangiidae and united them with Leiobuninae, Leptobuninae and Neopilioninae, forming the family Leiobunidae. However, he overlooked the precedence of the family-group name Gagrellinae over Leiobuninae. Martens (1973: 211) when studying Nepalese species, described two new genera in Sclerosomatidae (as a family) stating that there was a seamless transition among Asian Gagrellinae, Leiobunidae and Sclerosomatidae. Starega (1976: 43) corrected the priority mistake of Šilhavý, recognizing a family Gagrellidae composed of Gagrellinae, Leiobuninae and Leptobuninae, while the Neopilioninae were considered as strange Phalangiidae and the Sclerosomatidae were kept separated. Martens

(1986: 304) considered an expanded Sclerosomatidae, including Gagrellinae, Gyantinae, Leiobuninae and Sclerosomatinae, while Crawford (1992: 4) formalized this change, proposing the spelling Gyinae to replace Gyantinae.

There are two available and one unavailable family group names under the synonymy of Gagrellinae. Some of them were in the past treated as tribes: Zaleptini Banks, 1930, Marthaneae Giltay, 1931 (this is unavailable because described after 1930 without a description, only a list of genera, ICZN Code Art. 13.1.1.) and Argyrasterinae Nakatsudi, 1942. Zaleptini and Argyrasterinae may be used in the future for eventual subdivisions of this large taxon.

The Gagrellinae were victims of one of the worst taxonomic treatments in Opiliones, perpetrated by Roewer (as explained by Crawford 1992: 20). The taxonomy of Gagrellinae will surely need decades to be cautiously revised. Herein only the immediate nomenclatural aspects are treated including the establishment (or lack thereof) of combinations and search for secondary homonymies.

Literature citations of taxa are not exhaustive, but rather only those relevant to the purposes of this work. Complete citations for everything will be featured in the above mentioned Catalog of Opiliones of the World. The International Code of Zoological Nomenclature (International Commission on Zoological Nomenclature 1999) is herein referred to as simply ICZN Code.

Historical background and discussion on *Gagrella*

1) The Moravian zoologist Ferdinand Stoliczka (in Czech written Stolička) (1869: 212) created the new genus *Gagrella* Stoliczka, 1869 to include two new Indian species, *Gagrella atrata* Stoliczka, 1869 and *Gagrella signata* Stoliczka, 1869. He did not choose a type species among those two.

2) Thorell (1889: 623) created the new genus *Arthrocentrus* Thorell, 1889 to include the single Burmese species *Arthrocentrus atratus* Thorell, 1889. Thorell (1889: 659) also created the new genus *Melanopa* Thorell, 1889 to include two new Burmese species, designating *Melanopa plebeja* Thorell, 1889 as type.

3) With (1903: 483) synonymized *Melanopa* with *Gagrella*.

4) Roewer (1910a: 20) revalidated *Melanopa* from the synonymy of *Gagrella*, which was followed by all subsequent authors (e. g., Starega 1978: 208; Suzuki 1982: 220).

5) Roewer (1910a: 45) designated the ineligible species *Gagrella feae* Thorell, 1889 as type of *Gagrella* and furthermore he removed both of the originally included species of *Gagrella* to other genera (*Crassicippus* and *Melanopa*). Later, Roewer (1923; 1954) tried to justify this action in a confused way, which is explained in detail in Crawford (1992). As Crawford (1992) aptly put it: Roewer recognized “a generic taxon, using an available name, but deliberately dissociated from every tie to the correct usage of that name.” He also

synonymized *Arthrocentrus* with *Gagrella* [sensu Roewer, non Stoliczka].

6) Roewer (1910a: 100) created the new genus *Crassicippus* Roewer, 1910 for five species from Burma, Indonesia and Malaysia and designated *Gagrella semigranosa* Simon, 1901 as type.

7) Roewer (1910a: 105) created the new genus *Maindronia* Roewer, 1910 for seven species of India and Sri Lanka.

8) Roewer (1910b: 177) noticed that *Maindronia* was preoccupied by the name *Maindronia* Bouvier, 1897 (*Zygentoma*) and proposed the replacement name *Strandia* Roewer, 1910, when his professional relationship with Embrik Strand had not yet gone sour.

9) Strand (1928a: 57) synonymized *Crassicippus* with *Gagrella*.

10) Banks (1930: 58) noticed that Roewer was in error by designating type species for genera without choosing originally included species, and recognized that Roewer's use of *Gagrella* was wrong. He resurrected the unused name *Hexomma* Thorell, 1876 and made it the senior synonym of *Gagrella* Roewer non Stoliczka. He also validly established *Gagrella signata* Stoliczka, 1869 as type of *Gagrella* Stoliczka, 1869.

11) Starega (1989: 7) put forward as an informal suggestion the synonymy of *Crassicippus* with *Strandia*.

12) Crawford (1992: 20, 28) followed the synonymies of Strand, Banks and Starega, and elegantly proposed a solution to the nightmare created by Roewer with *Gagrella*, by simply considering *Gagrella* Roewer, 1910 a junior homonym of *Gagrella* Stoliczka, 1869 and suggesting that *Gagrella* Roewer, 1910 is a junior synonym of *Hexomma* Thorell, 1876. He accordingly considered *Crassicippus* and *Strandia* junior synonyms of *Gagrella* Stoliczka, 1869.

Should Starega's/Crawford's arrangement be followed, it would entail the following protocol:

1. All species of *Gagrella* sensu Roewer and every other post-Roewer author (Martens, Suzuki), should be included in *Hexomma*, except in point 2.
2. All species of *Gagrella* sensu Strand (1928a, b) and Banks (1930), stay in *Gagrella*.
3. All species of *Arthrocentrus* should be included in *Hexomma*.
4. All species of *Crassicippus*, *Maindronia* and *Strandia* should be included in *Gagrella*.
5. Species of *Melanopa* should stay in *Melanopa*.

However, Crawford refrained from enforcing all those combinations, claiming that it would cause great disturbance in the taxonomy and with little gain, because no one knows the real taxonomic location of all those alleged *Gagrella*.

13) Herein, I follow Crawford's construction and keep only the minimum core of *Hexomma* species, which have already been combined with this genus, while all other *Gagrella* stay untouched. I also formalize below the synonymy of *Strandia* with *Gagrella* as suggested by Starega. It is to be kept in mind, though, that upon revision, many species currently

assigned to *Gagrella* should be eventually in a future arrangement transferred to *Hexomma* or even to other genera.

Historical background and discussion on *Zaleptus*

1) The Danish arachnologist Carl Johannes With (1905: 3) synonymized the genera *Ceratobunus* Thorell 1889 and *Hypsibunus* Thorell, 1891 with *Zaleptus* Thorell, 1876. However, these synonymies were ignored by all subsequent authors (e. g., Roewer 1910: 16; Giltay 1931: 23; Suzuki 1966: 116).

2) Roewer (1955: 144) synonymized *Kempina* Roewer, 1911 with *Hypsibunus*, explicitly combining its two species under that name.

3) Crawford (1992) followed Roewer in considering *Ceratobunus* and *Hypsibunus* to be valid genera, distinct from *Zaleptus*.

4) In a checklist of world Opiliones, Hallan (2005) included *Ceratobunus*, *Hypsibunus* and *Kempina* under the synonymy of *Zaleptus*, implicitly creating several new combinations, which, however, were never published. Several internet websites copied the information in Hallan, newly combining some species under *Zaleptus*. Some of these combinations would have created secondary homonymies and would have required replacement names.

5) I am not in position to judge the generic ascription of each gagrelline species, therefore I will herein stick to the most widespread in the literature and the most recent usage for *Zaleptus*, not proposing any new combinations and disclaiming the synonymies of With, *pro* Roewer, Giltay, Suzuki and Crawford, and *contra* Hallan.

Taxonomic summary

Suborder Eupnoi Hansen & Sørensen, 1904

Sclerosomatidae Simon, 1879

Gagrellinae Thorell, 1889

Ceratobunus Thorell, 1889

Ceratobunus Thorell 1889: 615; Roewer 1911: 176 (diagn.); Crawford 1992: 15 [junior subjective synonym of *Zaleptus* Thorell, 1876 by With (1905); synonymy ignored by Roewer (1910; 1911) and by all subsequent authors; type species: *Ceratobunus annulatus* Thorell, 1889, by original designation].

Etymology. From Greek κέρασ, gen., pl. κέρατα (horns) + βουνός (hill, mound). Gender masculine.

Included species:

1. *Ceratobunus annulatus* Thorell, 1889 – Myanmar (Burma).
2. *Ceratobunus bimaculatus* Thorell, 1889 – Myanmar (Burma).
3. *Ceratobunus cupreus* Roewer, 1912 [senior secondary homonym of *Kempina cuprea* Roewer 1912 if both species were in *Zaleptus*] – India.
4. *Ceratobunus gravelyi* Roewer, 1912 [senior secondary homonym of *Zaleptus gravelyi* Roewer, 1955, only if both species were in *Zaleptus*] – Myanmar (Burma).
5. *Ceratobunus heinrichi* Roewer, 1955 [junior secondary homonym of *Zaleptus heinrichi* Roewer, 1955, only if both species were in *Zaleptus*] – Myanmar (Burma).
6. *Ceratobunus lugubris* Thorell, 1889 – Malaysia.
7. *Ceratobunus mertensi* Roewer, 1955 – Myanmar (Burma).
8. *Ceratobunus popalus* Roewer, 1955 – Myanmar (Burma).
9. *Ceratobunus quadricornis* Thorell, 1891 – Indonesia.
10. *Ceratobunus richteri* Roewer, 1955 – India.
11. *Ceratobunus t-luteum* Roewer, 1912 – Myanmar (Burma).
12. *Ceratobunus vigilans* (With, 1903) – India.
13. *Ceratobunus zilchi* Roewer, 1955 – Myanmar (Burma).

***Gagrella* Stoliczka, 1869**

Gagrella Stoliczka 1869: 212; With 1905: 4 (key to species of Borneo); Crawford 1992: 20 [type species: *Gagrella signata* Stoliczka, 1869 by subsequent designation: Banks (1930: 58)].

Crassicippus Roewer 1910: 100 (diagn., key); Roewer 1955a: 85 (key to species); Crawford 1992: 16 [junior subjective synonym of *Gagrella* Stoliczka, 1869 by Strand (1928a: 57) and Banks (1930: 58), synonymy ignored by Roewer afterwards, but confirmed by Crawford (1992); type species: *Gagrella semigranosa* Simon, 1901, by original designation].

Maindronia Roewer 1910a: 105 (key) [junior homonym of *Maindronia* Bouvier, 1897 (*Zygentoma*: Maindroniidae), first noted by Roewer 1910b; type species: *Gagrella maindroni* Simon, 1897, by original designation].

Strandia Roewer 1910b: 177; Roewer 1911: 167 [available replacement name for *Maindronia* Roewer 1910; junior subjective synonym of *Crassicippus* Roewer 1910 as informally suggested by Starega (1989: 7)]. **New synonymy.**

Etymology. *Gagrella*: Derivation unknown, but it could be from Hindi *gagra* (long skirt or festive attire), because both species originally included (from India) were vibrantly colored in black, brown, gray and yellow + Latin diminutive suffix *-ella*. Gender feminine.

Remarks. *Gagrella* is an immensely diverse genus with almost 200 valid species. Many of

the species currently in *Gagrella* would have to be formally assigned to *Hexomma*. However, as explained above, all these combinations will have to wait for revisions. Yet, by here accepting the synonymy of *Crassicippus* Roewer 1910 (fide Strand, Banks and Crawford) and formalizing that of *Strandia* Roewer 1910 (fide Starega) with *Gagrella* Stoliczka, 1869, some secondary homonymies will have to be dealt with. Accordingly, 4 new replacement names are proposed below:

***Gagrella albimontis* nomen novum**

Strandia leucobunus Roewer 1954b: 276 [junior secondary homonym of *Gagrella leucobunus* Roewer, 1912, ICZN Art. 57.3, first noted here].

Type data. ♂ holotype (SMF RII 3205), Burma (Myanmar), “Shan States”, without further locality data.

Etymology. The new replacement name is the Latin rendering of the Greek original.

***Gagrella bamar* nomen novum**

Crassicippus speciosus Roewer 1912: 46 [junior secondary homonym of *Gagrella speciosa* Roewer, 1911, ICZN Art. 57.3, first noted here].

Type data. ♀ holotype (SMF RI 134), from Burma (Myanmar), Dawna Hills.

Etymology. The new replacement name derives from an alternative name of Burma: Bamar.

***Gagrella kandyana* nomen novum**

Strandia biseriata Roewer 1912: 38 [junior secondary homonym of *Gagrella biseriata* Simon, 1901, ICZN Art. 57.3, first noted here].

Type data. ♂ holotype (SMF RI 135), from Sri Lanka, Kandy.

Etymology. The new replacement name is derived from the locality name Kandy.

***Gagrella sensei* nomen novum**

Gagrella similis Suzuki 1977: 58 [junior secondary homonym of *Strandia similis* Roewer 1911, ICZN Art. 57.3, first noted here].

Type data. ♂ holotype, 3 ♀ paratypes (FMNH), Philippines, Mindanao, Davao, East slope of Mount McKinley 3000 ft dense forest, near stream; 1 ♂, 1 ♀ paratypes (FMNH), East slope of Mount McKinley 3300 ft.

Etymology. The new replacement name is derived from Japanese *sensei* (= teacher, instructor, professor) as a tribute to the distinguished Japanese arachnologist Prof. Seisho Suzuki.

Hexomma Thorell, 1876

Hexomma Thorell 1876b: 114; Banks 1930: 78 (key); Crawford 1992: 23 [junior subjective synonym of *Gagrella* Stoliczka, 1869: by Thorell (1894: 17); synonymy disclaimed by Strand (1928a: 57; 1928b: 43) and Banks (1930: 58); synonymy reaffirmed by Roewer (1954a: 214); synonymy disclaimed by Crawford (1992: 23); type species: *Phalangium vulcanicum* Doleschall, 1859, by monotypy].

Arthrocentrus Thorell 1889 623; Crawford 1992: 12 [junior subjective synonym of *Gagrella* Stoliczka, 1869: by Roewer (1910a: 45 footnote, 56), previously suggested by With (1905: 4); synonymy disclaimed by Crawford (1992: 12); junior subjective synonym of *Hexomma* Thorell, 1876: implied by Roewer (1910a: 56, 73) who treated the two type species as congeneric; type species: *Arthrocentrus atratus* Thorell, 1889; junior secondary homonym of *Gagrella atrata* Stoliczka, 1869 first recognized by Roewer (1910a: 56) and replaced by *Gagrella arthrocentra* Roewer, 1910].

Gagrella Roewer 1910a: 44 (diagn., key); Roewer 1911d: 591 (diagn.); Roewer 1923: 952 [junior homonym of *Gagrella* Stoliczka, 1869; junior subjective synonym of *Hexomma* Thorell, 1876: by Strand (1928a: 57, 1928b: 43–44) and Banks (1930: 58). Also junior subjective synonym of *Arthrocentrus* Thorell, 1889, in reverse application of synonymy by Roewer (1910a: 44, 56); type species: *Gagrella feae* Thorell, 1889 by designation of Roewer (1910a)].

Etymology. From Greek ἕξ (six) + ὄμμα (eye). Gender neuter. Some of the names are here inflected to match the neuter grammatical gender. None of those names is a new combination, although some of them have been combined with *Hexomma* only by implication, meaning their combined names were not spelled out.

Included species:

1. *Hexomma arthrocentrum* (Roewer, 1910) – Myanmar (Burma).
2. *Hexomma feae* (Thorell, 1889) – Myanmar (Burma), with three subspecies.
3. *Hexomma insculptum* (Pocock, 1897) – Malaysia.
4. *Hexomma mjobergi* Banks, 1930 – Malaysia.
5. *Hexomma pretiosum* Banks, 1930 – Malaysia.
6. *Hexomma sarawakense* (With, 1905) – Malaysia.
7. *Hexomma scrobiculatum* (Thorell, 1891) – Malaysia.
8. *Hexomma thorelli* Banks, 1930 – Malaysia.
9. *Hexomma vulcanicum* (Doleschall, 1859) – Indonesia.

Remarks on *Gagrella feae*. As this name appears widely spelled as *feai* on the internet, an explanation is in order here: the specific epithet is a genitive in honor of the Italian Leonardo Fea, who lived a long time in Burma and collected a great amount of specimens. Fea is a feminine name, in spite of Leonardo Fea being a man, so Thorell appropriately chose the first declension ending for the genitive as -ae. This is a delicate point among

taxonomists, because some loosely based on ICZN Code Art. 31.1.2, blindly defend that a man's name, regardless being a feminine name, should end in -i, no matter what. Nevertheless, Brandon-Jones *et al.* (2007) and Dubois (2007) explained that the gender of names is independent from gender of people, and their point of view is wholeheartedly followed here. There are other two ways of defending the spelling *feae* against *feai*: **a)** Thorell's name can be considered to be Latinized, as per ICZN Code Art. 31.1.1.: a noun in the genitive case formed from a modern personal name that has been latinized is to be formed in accordance with the rules of Latin grammar; or as a last resource **b)** per ICZN Code Art. 32.5.1 incorrect Latinization is not to be considered an inadvertent error, so it does not fall in the category of "spellings that must be corrected" for the good or the bad.

***Hypsibunus* Thorell, 1891**

Hypsibunus Thorell 1891: 679; Roewer 1911b: 177 (diagn.); Giltay 1931: 23; Roewer 1955b: 144; Crawford 1992: 25 [junior subjective synonym of *Zaleptus* Thorell, 1876 by With (1905); synonymy ignored by Roewer (1911b) and all subsequent authors; type species: *Hypsibunus diadematus* Thorell, 1891, by original designation].

Kempina Roewer 1911: 177 [senior homonym of *Kempina* Manning, 1978 (Malacostraca); junior subjective synonym of *Zaleptus* Thorell, 1876 by With (1905); synonymy ignored by Roewer (1910a) and subsequent authors; junior subjective synonym of *Hypsibunus* Thorell, 1891 by Roewer (1955b: 144); type species: *Kempina bicornigera* Roewer 1911, by monotypy].

Etymology. From Greek ὕψι (on high, aloft) + βουβός (hill, mound). Gender masculine.

Included species:

1. *Hypsibunus auronitens* Roewer, 1955 – India.
2. *Hypsibunus aurotransversalis* Roewer, 1955 – Myanmar (Burma).
3. *Hypsibunus bicorniger* (Roewer, 1911) [originally *Kempina bicornigera*] – India.
4. *Hypsibunus coronatus* Roewer, 1955 – India.
5. *Hypsibunus cupreus* (Roewer, 1912) [originally *Kempina cuprea*; this would have been a junior secondary homonym of *Ceratobunus cupreus* Roewer, 1912, should both species be in *Zaleptus*, as per With and Hallan] – Myanmar (Burma).
6. *Hypsibunus diadematus* Thorell, 1891 – Indonesia.
7. *Hypsibunus fuscus* (With, 1903) [originally *Zaleptus fuscus*] – India.
8. *Hypsibunus gibber* Suzuki, 1966 – Nepal.
9. *Hypsibunus scaber* Roewer, 1910 [would have been a senior secondary homonym of *Zaleptus scaber* Roewer, 1935] – Vietnam.
10. *Hypsibunus sumatranus* Roewer, 1955 – Indonesia.
11. *Hypsibunus yodai* Suzuki, 1966 – Nepal.

Conclusions

- 1) The synonymies of *Ceratobunus* Thorell, 1889, *Hypsibunus* Thorell, 1891 (proposed by With 1905) and *Kempina* Roewer, 1911 (carried from the synonym of *Hypsibunus* proposed by Roewer 1955) with *Zaleptus* Thorell, 1876 were disclaimed in the literature by several authors and should not be considered mainstream.
- 2) The approval of all these synonymies in Hallan's online checklist would entail a great number of unwarranted new combinations and would produce several secondary homonimies.
- 3) Therefore, *Ceratobunus* and *Hypsibunus* are treated as distinct genera and a checklist of the species of each is given.
- 4) The synonymy of *Kempina* with *Hypsibunus* is accepted here, implicating in the dissociation of *Kempina*'s two species from *Zaleptus*.
- 5) The synonymies of *Crassicippus* Roewer 1910 and *Strandia* Roewer 1910 with *Gagrella* Stoliczka, 1869 are accepted here, which causes four secondary homonymies, for which new replacement names are given.
- 6) The distinction of *Hexomma* Thorell, 1876 (including *Gagrella* Roewer, 1910) from *Gagrella* Stoliczka, 1869 is adopted here. In addition, the cautious approach by Crawford (1992) is followed that one should not indiscriminately combine dozens of *Gagrella* species under *Hexomma* before a future review.

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