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Taxonomic notes and type designations of gall inducing cynipid wasps described by G. Mayr (Insecta: Hymenoptera: Cynipidae)

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Abstract

Lectotypes for twelve of Mayr's cynipid gall wasp species (Hymenoptera: Cynipidae: Cynipinae) are designated. From twenty cynipid gall wasp species, described by Mayr, seven have already been synonymized, and thirteen species are still valid. *Andricus insana* (WESTWOOD, 1837) syn.n. is a new synonym of *Andricus quercustozae* (BOSC, 1792).

Key words: Cynipidae, gall wasps, Hymenoptera, lectotype designation, Gustav Mayr, new synonymy, taxonomy.

Zusammenfassung

Lectotypen für zwölf der von Mayr beschriebenen Gallwespenarten (Hymenoptera: Cynipidae: Cynipinae) werden designiert. Mayr hat zwanzig Gallwespenarten beschrieben, davon sind sieben bereits synonymisiert worden, dreizehn Arten sind noch gültig. *Andricus insana* (WESTWOOD, 1837) syn.n. ist ein neues Synonym von *Andricus quercustozae* (BOSC, 1792).

Introduction

Gustav Mayr, a famous Austrian entomologist, described eleven genera of gall inducing Cynipidae and twenty species from twelve genera (Hymenoptera: Cynipoidea). Seven of them have already been synonymized, while thirteen species are still valid. However, he never designated types for his newly described species. All the specimens are syn- or cotypes and usually these specimens were marked with "Type" or even not so. Later, types for only seven of Mayr's species were designated. Designation of the type material is very important for taxonomic studies and, thus, lectotypes for another twelve of Mayr's cynipid species are herein designated.

Mayr was the first who gave the description of adult wasps for two cynipid species, *Andricus galeatus* (GIRAUD, 1859) and *Andricus insana* (WESTWOOD, 1837), which had been known and described only from their galls before. *Andricus insana* (WESTWOOD, 1837) **syn.n.** is a new synonym of *Andricus quercustozae* (BOSC, 1792).

Materials and Methods

Mayr's cynipid collection deposited at the Natural History Museum in Vienna (NHMW), Austria, and his cynipid material at the National Museum of Natural History, Smithsonian Institution (USNM), Washington DC, USA, were studied in 1995-1996 and 1998.

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The USNM specimens were obtained by L. Weld who maintained an intensive exchange of material and research efforts on cynipid gall wasps with Mayr.

The most preserved and typical specimens from the original series were designated as lectotypes with adding red type labels onto corresponding pins. Paralectotypes have been labelled as such, too. In the case when more than one specimen was mounted onto one pin, the specimen designated as the lectotype was remounted and moved onto a separate pin.

Results

Below we list cynipid gall wasp genera and species described by Mayr, with types designation and taxonomic comments where it is necessary. Genera and species are listed in alphabetical order.

Cynipid gall wasp genera described by G. Mayr

G. Mayr described eleven gall inducing cynipid genera listed below:

Acraspis Mayr, 1881: 2, 29. Type-species: *Cynips pezomachoides* Osten Sacken, 1862. Designated by Rohwer & Fagan (1917: 359).

Aphelonyx Mayr, 1881: 5, 29. Type-species: *Cynips cerricola* Giraud, 1859. Original designation. Monotypic.

Belonocnema Mayr, 1881: 4, 16, 38. Type-species: *Belonocnema treatae* Mayr, 1881. Original designation. Monotypic.

Chilaspis Mayr, 1881: 6, 32. Type-species: *Andricus nitidus* Giraud, 1859. Original designation. Monotypic.

Eschatocerus Mayr, 1881: 3, 13. Type-species: *Eschatocerus acaciae* Mayr, 1881. Original designation. Monotypic.

Holcaspis Mayr, 1881: 35. Type-species: *Callispidia quercus-globulus* Fitch, 1859. Designated by Ashmead (1903: 153). The name is preoccupied by *Holcaspis* Chaudoir, 1868 (Coleoptera) and, thus, a nomen novum was proposed: *Disholcaspis* Dalla Torre & Kieffer, 1910: 371.

Loxaulus Mayr, 1881: 12, 33. Type-species: *Cynips quercus-mammula* Bassett, 1881. Original designation. Monotypic.

Plagiotrochus Mayr, 1881: 12, 32. Type-species: *Cynips quercusilicis* Fabricius, 1798. Designated by Ashmead (1903: 151).

Rhoophilus Mayr, 1881: 6, 11, 22. Type-species: *Rhoophilus loewi* Mayr, 1881. Original designation. Monotypic.

Timaspis Mayr, 1881: 7, 12, 18. Type-species: *Diastrophus lampsanae* Karsh, 1878. Monotypic. Ashmead (1903: 214) incorrectly designated *Timaspis phoenixopodos* Mayr, 1882 as the type-species of the genus.)

Trichagalma Mayr, 1907: 3. Type-species: *Trichagalma drouardi* Mayr, 1907. Original designation. Monotypic.

Species of cynipid gall wasps described by G. Mayr

Andricus HARTIG, 1840

adleri MAYR, 1880

Andricus Adleri MAYR, 1880: 1. Female, male, gall.
Andricus crispator TSCHEK, 1871 (MELIKA, CSÓKA & PUJADE-VILLAR 2000).
Andricus buyssoni KIEFFER, 1902: 3. Female, male, gall. (MELIKA, CSÓKA & PUJADE-VILLAR 2000).

Type material examined: There are 20 ♀♀ and 16 ♂♂ of *A. adleri* mounted on 18 pins, all labelled as "Collect. G. Mayr","A. Adleri G. Mayr, Type". **Lectotype** ♀ (**here designated**) labelled as "Collect. G. Mayr","A. Adleri G. Mayr, Type", red "LECTOTYPE. Andricus adleri Mayr, desig. G. Melika 1998" **Paralectotypes** 19 ♀♀, 16 ♂♂, all labelled the same as lectotype, with additional red label "PARALECTOTYPE. Andricus adleri Mayr, desig. G. Melika 1998". Type locality unknown.

Other material examined: Large series of adults and galls are also deposited in Mayr's collection, all are labelled as "Collect. G. Mayr","A. Adleri G. Mayr", however, without the word "Type". All specimens are in a good condition.

Taxonomic notes: After examination of types and a large series of *A. adleri* and *A. crispator*, we found no appreciate diagnostic characters either in galls' structure or in the morphology of females and males on the basis of which the two species can be distinguished. Diagnostic characters given by MAYR (1880) for separation of these two species are highly variable and are of no diagnostic value (MELIKA, CSÓKA & PUJADE-VILLAR 2000).

On the basis of galls' and adults' descriptions, *Andricus zappellai* KIEFFER, 1901 might be a closely related species or also a synonym of *A. crispator*. However, we have had no opportunity to examine this species and, thus its status remains uncertain.

circulans MAYR, 1870

Andricus circulans MAYR, 1870: 30. Gall. – *Andricus circulans* is the sexual generation of
Andricus kollari (HARTIG, 1843).
Andricus circulans MAYR 1882: 17, 27. Female, male.
Cynips Kollarii HARTIG, 1843: 403. Female, gall. Asexual generation.

Type material examined: There are 28 pins with *A. circulans* labelled as "Collect. G. Mayr","A. circulans G. Mayr, Type". Specimens on 3 pins are damaged, with only the thorax left. **Lectotype** ♀ (**here designated)** labelled as "Collect. G. Mayr","A. circulans G. Mayr, Type", red "LECTOTYPE. Andricus circulans Mayr, desig. G. Melika 1998". **Paralectotypes** 6 ♀♀, 38 ♂♂, all labelled the same as lectotype, with additional red label "PARALECTOTYPE. Andricus circulans Mayr, desig. G. Melika 1998". Type locality unknown.

Other material examined: Large series of adults and galls are also deposited in Mayr's collection, all labelled as "Collect. G. Mayr","A. circulans G. Mayr", however, without the word "Type".

***mitratus* (MAYR, 1870)**

Cynips glutinosa var. *mitrata* MAYR, 1870: 19. Gall.
Cynips mitrata: KIEFFER 1897-1901: 538. Female, gall.
Andricus mitratus: BENSON 1953: 220.

Type material examined: There are 25 galls mounted on 10 pins, all labelled as "Collect. G. Mayr","Galle von Cynips glutinosa var. mitrata, det. G. Mayr. Type". **Lectotype** gall (**here designated**) with the men-

tioned labels and additional red label "LECTOTYPE. Andricus mitratus Mayr, desig. G. Melika 1998". **Paralectotypes** 24 galls with the mentioned labels. Type locality unknown.

Other material examined: There are also 17 ♀♀ in the collection labelled as "Collect. G. Mayr","C. glutinosa v. mitrata. G. Mayr. Type". However, MAYR (1870) described this species (species variety according to him) on the basis of galls only and, thus, we designate a gall as lectotype.

Taxonomic notes: According to the International Code of Zoological Nomenclature (Art. 1.3 and Art. 72.5) species described on the basis of galls before 1931 are valid names.

singularis MAYR, 1871

Andricus singularis MAYR, 1871: 68. Female, male, gall.
Andricus singulus: MAYR 1881: 28. New name. MAYR 1882: 16, 27. Female, male.

Type material examined: There are 28 pins with adults and galls in the collection, however, only 17 ♀♀ and 11 ♂♂ on 22 pins are in good condition, the rest of adults is severely damaged. **Lectotype** ♀ (**here designated**) labelled as "Collect. G. Mayr","A. singulus G. Mayr. Type", red "LECTOTYPE. Andricus singulus Mayr, desig. G. Melika 1998". **Paralectotypes** 16 ♀♀, 11 ♂♂, all labelled the same as lectotype, with additional red label "PARALECTOTYPE. Andricus singulus Mayr, desig. G. Melika 1998".

Taxonomic notes: Originally MAYR (1870) described this species as *Andricus singularis*. Later, MAYR (1881) gave another name for this species, *Andricus singulus*, because to his opinion, the name "*singularis*" was preoccupied by BASSETT (1863) for *Cynips quercus singularis* described from North America. Soon, OSTEN SACKEN (1865) renamed this species into *Cynips singularis* (BASSETT), but this is an unjustified amendment. The International Code of Zoological Nomenclature does not allow a change made by MAYR (1881) and, thus, the name *Andricus singularis* MAYR, 1870 is reestablished and *Andricus singulus* MAYR, 1881 is a synonym of *A. singularis* (MELIKA, CSÓKA & PUJADE-VILLAR 2000). Besides, the correct name of the American species described by BASSETT is *Andricus quercussingularis* (BASSETT, 1863).

sufflator MAYR, 1882

Andricus sufflator MAYR, 1882: 22. Female, male, gall.
Diplolepis gallae urnaeformis BOYER DE FONSCOLOMBE, 1832: 194. Female, gall.
Cynips urnaeformis: GIRAUD 1859: 373. Gall.
Andricus urnaeformis: MAYR 1871: 39. Female, gall.
Andricus gallae-urnaeformis: DALLA TORRE & KIEFFER 1910: 507.

Type material examined: 3 ♀♀ from Mayr's original series were found in the collection, no ♂♂. All are labelled as "Leop. Bg. Coll. G. Mayr","Andr. sufflator det. G. Mayr", one pin with additional handwriting label "Leopolbg 22.5.72". There is no "Type" on all labels. **Lectotype** ♀ (**here designated**) with labels "Leop. Bg. Coll. G. Mayr","Andr. sufflator det. G. Mayr", red "LECTOTYPE. Andricus sufflator Mayr, desig. G. Melika 1998". **Paralectotypes** 2 ♀♀ with same labels as lectotype and with additional red label "PARALECTOTYPE. Andricus sufflator Mayr, desig. G. Melika 1998". 1 ♀ paralectotype lacks the head. Type locality: Leopoldsberg, nr. Vienna.

Taxonomic notes: MAYR assumed that *A. sufflator* might be the sexual generation of *Andricus gallaeurnaeformis* (BOYER DE FONSCOLOMBE, 1832), later FOLLIOT (1964) experimentally proved it and, thus, it is a synonym of *A. gallaeurnaeformis*.

Atrusca KINSEY, 1930

dugesi (MAYR, 1886)

Dryophanta Dugesi MAYR, 1886: 370. Female, gall.
Diplolepis dugesi: DALLA TORRE & KIEFFER 1910: 355.
Cynips (*Atrusca*) (*dugesi*) *dugesi* (MAYR): KINSEY 1936: 109.

The species was described from Mexico. However, we could not find specimens of this species in the collection of the NHMW.

Belonocnema MAYR, 1881

treatae MAYR, 1881

Belenocnema [sic!] *Treatae* MAYR, 1881: 17. Female. Sexual generation.
Dryorhizoxenus floridanus ASHMEAD, 1881: 25. Female, male, gall.
Belonocnema kinseyi WELD, 1921: 241. Female, gall. Asexual generation of *B. treatae* (LUND, OTT & LYON 1998).

Type material examined: *Belonocnema treatae* was described on the basis of 2 ♀♀ and galls collected by Mrs. Mary Treat in Green Cove Spring in Florida, USA from whom Mayr got the specimens. There are 2 ♀♀ from the original series mounted on one pin in Mayr's collection. We remounted 1 ♀ onto a separate pin for type designation. **Lectotype** ♀ (**here designated)** with one handwriting label, the first word of which hardly readable, and then "mai 78 N. Amer.","Bel. Treatae det. G. Mayr","Collect. G. Mayr", with additional red label "LECTOTYPE. Belonocnema Treatae Mayr, desig. G. Melika 1998". **Paralectotype** 1 ♀, with same labels as lectotype, with additional red label "PARALECTOTYPE. Belonocnema Treatae Mayr, desig. G. Melika 1998". Type locality: Green Cove Spring, Florida, USA.

Other material examined: A further 8 ♀♀ and 5 ♂♂ mounted on 7 pins are present in the G. Mayr collection. These are specimens from W. Ashmead and are labelled as "Dryophanta floridanus. det. Ashmead".

Taxonomic notes: MAYR (1881) designated *B. treatae* as the type species of a newly described genus *Belenocnema* [sic]. Later, MAYR (1902) mentioned that there was a printing error in the original description of the genus: instead of *Belonocnema*, *Belenocnema* was printed. In the same year, ASHMEAD (1881) described a new genus *Dryorhizoxenus* with original designation of *D. floridanus* ASHMEAD as type species of the genus. ASHMEAD (1885) synonymized *Belonocnema* with his *Dryorhizoxenus* but later (ASHMEAD 1886) he recognized that Mayr's *Belonocnema* name had priority. Recently it has been shown experimentally that *B. kinseyi* is the asexual generation of *B. treatae* (LUND, OTT & LYON 1998).

Belonocnema species are distributed in North America only.

Callirhytis FOERSTER, 1869

rufescens (MAYR, 1882)

Andricus (*Callirhytis*) *rufescens* MAYR, 1882: 13. Female, male.
Callirhytis rufescens: DALLA TORRE & KIEFFER, 1910: 562.
Callirhytis villarubiae TAVARES, 1930. (PUJADE-VILLAR, 1991: 459). Synonym of *C. rufescens* (NIEVES ALDREY 1992).
Callirhytis glandulosa WELD, 1939: 52. Synonym of *C. rufescens* (NIEVES ALDREY 1992).

Type material examined: There are 3 ♀♀ and 2 ♂♂ on three pins in Mayr's collection. The 1st pin with 1 ♀, probably not from the original Mayr's series, labelled as "Collect. G. Mayr", handwriting label "captus in ilice", and "Callirhytis rufescens (Mayr) Nieves Aldrey 1992"; 2nd pin with 2 ♂♂, in a good condition, labelled as "Collect. G. Mayr","Call. rufescens det. G. Mayr", without word "Type"; 3rd pin with 2 specimens, the right one is a ♀ without wings, otherwise in good condition, left hand specimen lacking the gaster; labelled as "Collect. G. Mayr","Call. rufescens G. Mayr", with additional red framed label "Left hand specimen on card is TYPE R. D. Eady 1960" and a handwriting label "Von Luch Bruel. 12.1.80". The ♀ was designated as lectotype (EADY & QUINLAN 1960).

Taxonomic notes: *Callirhytis rufescens* is a valid species now, and its asexual generation is *Callirhytis glandulosa,* and thus, a junior synonym (NIEVES ALDREY 1992).

Cynips LINNAEUS, 1758

pubescentis (MAYR, 1881)

Dryophanta pubescentis MAYR, 1881: 36 (footnote).
Dryophanta pubescentis: MAYR 1882: 36. Female, gall. – It is the asexual generation of ***C. quercusfolii*** LINNAEUS, 1758

Type material examined: 6 ♀♀ and 4 galls labelled as "Collect. G. Mayr, pubescentis G. Mayr. Type". **Lectotype** ♀ (**here designated**) with labels above, and additional red label "LECTOTYPE. Dryophanta pubescentis Mayr, desig. G. Melika 1998". **Paralectotypes** 5 ♀♀, with same labels as lectotype and with additional red label "PARALECTOTYPE. Dryophanta pubescentis Mayr, desig. G. Melika 1998". Type locality unknown.

Taxonomic notes: MAYR (1882) assumed that *D. pubescentis* was a synonym of *Dryophanta* (= *Spathegaster*) *flosculi* (GIRAUD, 1868). Earlier, *D. pubescentis* was treated as the sexual generation of *Cynips quercus* (FOURCROY, 1785). However, the analysis of the type material on *Spathegaster flosculi*, GIRAUD, 1868 deposited at the MNHP (Paris, France) showed that it is a synonym of *Spathegaster taschenbergi* SCHLECHTENDAL, 1870 (MELIKA, CSÓKA & PUJADE-VILLAR 2000). Thus, *Dryophanta pubescentis*, *D. folii*, *Spathegaster flosculi*, *S. taschenbergi*, *Spathegaster giraudi* TSCHEK, 1869 and also *Dryophanta ilicis* KIEFFER, 1896, are synonyms of *Cynips quercusfolii* (MELIKA, CSÓKA & PUJADE-VILLAR 2000).

Eschatocerus MAYR, 1881

acaciae MAYR, 1881

Eschatocerus Acaciae MAYR, 1881: 14. Female, male and gall.

Type material examined: There are 11 ♀♀ and 3 ♂♂ on 11 pins; all labelled as "Collect. G. Mayr","Esch. acaciae G. Mayr. Type"; 8 pins with additional red label "TYPUS", which, however, do not originate from Mayr. There are around 40 galls also. All specimens are damaged in some way, lack some parts of the body. **Lectotype** ♀ (**here designated**) labelled as "Collect. G. Mayr","Esch. acaciae G. Mayr. Type", without red "TYPUS", in good condition, lacking one antenna, with additional red label "LECTOTYPE. Eschatocerus acaciae Mayr, desig. G. Melika 1998". **Paralectotypes** 10 ♀♀, 3 ♂♂, with same labels as lectotype, 1 ♀, 1 ♂ severely damaged. Type locality unknown.

Taxonomic notes: *Eschatocerus acaciae* was designated as the type species of the newly established genus *Eschatocerus* MAYR, 1881. The type material originated from Uruguay where Prof. Berg collected stem swelling-like bud galls on *Acacia farnesiana*, from which the adults emerged (MAYR 1881). Later, two other species in this genus were

described: *E. myriadeus* KIEFFER & JOERGENSEN, 1910 and *E. niger* KIEFFER & JOERGENSEN, 1910. The species are also known to induce galls on *Prosopis* (Fabaceae) and are known from South America only (RONQUIST 1994, WELD 1952). The genus belongs to the Eschatocerini tribe (ASHMEAD 1903, KINSEY 1920, DIAZ 1980, RONQUIST 1994) which is closely related to the Pediaspini tribus of Cynipidae.

Isocolus FOERSTER, 1869

lichtensteini (MAYR, 1882)

Aulax lichtensteini MAYR, 1882: 6. Female.
Isocolus lichtensteini: NIEVES ALDREY 1994:194.

Types have already been designated in a revision work by NIEVES ALDREY (1994).

serratulae (MAYR, 1882)

Aulax serratulae MAYR, 1882: 9. Female, male.
Isocolus serratulae: NIEVES ALDREY 1994:194.

Types have already been designated in a revision work by NIEVES ALDREY (1994).

Neuroterus HARTIG, 1840

schlechtendali MAYR, 1871

Neuroterus schlechtendali MAYR, 1871: 62. Female, gall. Asexual generation.
Neuroterus politus HARTIG, 1840: 193. Female.
Spathegaster petioliventris HARTIG, 1840: 194. Female, male.
Neuroterus bipunctatus HARTIG, 1841: 339. Female.
Neuroterus rubeculus HARTIG, 1841: 339. Female.
Neuroterus nitens HARTIG, 1841: 339. Female.
Spathegaster aprilinus GIRAUD, 1859: 363. Female, male, gall.
Cynips (*S.*) *aprilinus*: KALTENBACH 1867: 69. Gall.
Neuroterus aprilinus: MAYR 1882: 37, 41. Female, male.

Type material examined: There are 16 ♀♀ of *N. schlechtendali,* all labelled as "Collect. G. Mayr","Neurot. Schlechtendali det. G. Mayr", without the word "Type" and 11 pins with catkin galls labelled "Collect. G. Mayr","Neurot. Schlechtendali det. G. Mayr. Type". **Lectotype** ♀ (**here designated**) labelled as "Collect. G. Mayr","Neurot. Schlechtendali det. G. Mayr", with additional red label "LECTOTYPE. Neuroterus Schlechtendali, desig. G. Melika 1998". **Paralectotypes** 14 ♀♀ with same labels as lectotype. Type locality: Brühl, near Vienna.

Taxonomic notes: *Neuroterus schlechtendali* is the asexual generation of *N. aprilinus* (GIRAUD, 1859) and, thus, its junior synonym. AMBRUS (1974), IONESCU (1973) and others incorrectly gave *N. petioliventris* (HARTIG, 1840) as valid name for this species and according to them, *N. aprilinus* was regarded as its synonym. DALLA TORRE & KIEFFER (1910) treated *N. aprilinus* and *N. petioliventris* as two separate species. KINSEY (1923) in his revision of the *Neuroterus* genus designated *N. petioliventris* as type species for his *Spathegaster* subgenus.

After examination of Hartig's *Neuroterus* types, it was found that *N. politus* has been described earlier than *N. petioliventris* and *N. aprilinus* and, thus *N. politus* must be the

valid name of this species (PUJADE-VILLAR & ROS-FARRÉ 2000). The same authors have synonymized the following Hartig's species with *N. politus*: *N. bipunctatus*, *N. rubeculus*, and *N. nitens*.

Plagiotrochus MAYR, 1881

australis (MAYR, 1882)

Dryocosmus australis MAYR, 1882: 34. Female, male, gall.
Dryocosmus cabrerae KIEFFER, 1897-1901: 610. Female.

Type material examined: There are 8 pins with insects in the collection, 7 pins labelled "Collect. G. Mayr","Dryoc. australis det. G. Mayr", 6 of them have also a red label "TYPE" which was put onto pins later. They are not Mayr's labels. **Lectotype** ♀ (**here designated**) labelled "Collect. G. Mayr","Dryoc. australis det. G. Mayr", red label "TYPE" with additional red label "LECTOTYPE. Dryocosmus australis Mayr. desig. G. Melika 1998". **Paralectotypes** 5 ♀♀, 3 ♂♂, with same labels as lectotype, and additional red label "PARALECTOTYPE. Dryocosmus australis Mayr. desig. G. Melika 1998". Lectotype in a good condition, except lacking of left antenna.

Taxonomic notes: The asexual generation of this species is *Dryocosmus cabrerae* KIEFFER, 1901 (BARBOTIN 1972, NIEVES ALDREY 1988). In the NHMW collection in Box 2(35) "Plagiotrochus" there is 1 ♀ deposited by J.L. Nieves Aldrey, and labelled as "Plagiotrochus cabrerae K. (= Dryocosmus c.) Forme agame de Pl. australis Mayr". One pin with 4 ♀♀, from the original Mayr's collection, originally labelled as "Collect. G. Mayr","Fior. marianii Kieff. det. G. Mayr" got from Nieves Aldrey additional labels: red "Paralectotipo" and a white "Cynipidae, Plagiotrochus australis Mayr, agamic generation. J. L. Nieves det. 96". In other words, Nieves Aldrey "synonymized" *Fioriella marianii* KIEFFER, 1902 with *Plagiotrochus australis* and, thus, the genus *Fioriella* KIEFFER, 1903 with the genus *Plagiotrochus*. However, he has not published these results yet.

coriaceus (MAYR, 1882)

Andricus coriaceus MAYR, 1882: 20. Female, gall.
Plagiotrochus coriaceus: NIEVES ALDREY 1987: 183.
Andricus pseudococcus KIEFFER, 1902: 554. Female, gall.

No type designation required. Sexual generation unknown.

quercusilicis (FABRICIUS, 1798)

Cynips quercus ilicis FABRICIUS, 1798: 213. Female, gall. Sexual generation.
Diplolepis quercus ilicis FONSCOLOMBE, 1832: 196.
Plagiotrochus ilicis: KIEFFER 1897-1901: 604. Female, male, gall.
Andricus cocciferae LICHTENSTEIN, 1877: 102. Female, gall. Sexual generation.
Plagiotrochus cocciferae MAYR, 1881: 32. Female, male.
Plagiotrochus fusifex MAYR, 1882: 33. Female, gall. Sexual generation. Synonym of *P. quercusilicis* (PUJADE-VILLAR & ROS-FARRÉ 1998).
Plagiotrochus fusifex var. *ilicinus* TAVARES: Kieffer 1902: 585. Female. Synonym of *P. quercusilicis* (PUJADE-VILLAR & ROS-FARRÉ 1998).
Plagiotrochus Emeryi MAYR, 1882: 33. Female, male, gall. Synonym of *P. quercusilicis* (PUJADE-VILLAR & ROS-FARRÉ 1998).

Plagiotrochus ilicis var. *Emeryi* MAYR: KIEFFER 1897-1901: 606. Female, male.
Plagiotrochus ilicis var. *abdominalis* KIEFFER, 1897-1901: 606. Female, male.
Plagiotrochus ilicis var. *nigra* KIEFFER, 1897-1901: 606. Female, male. Synonym of *P. quercusilicis* (PUJADE-VILLAR & ROS-FARRÉ 1998).
Plagiotrochus ilicis var. *Lichtensteini* KIEFFER, 1897-1901: 607. Female, male. Synonym of *P. quercusilicis* (PUJADE-VILLAR & ROS-FARRÉ 1998).
Plagiotrochus ilicis var. *Kiefferi* KIEFFER, 1897-1901: 607. Female, male.
Plagiotrochus Kiefferianus TAVARES, 1901: 48. Female, gall. Asexual generation.

Taxonomic notes: Galls of *P. fusifex* were collected from *Q. coccifera* in south France, adults emerged in mid-June of the same year. Adults were sent to Mayr by Lichtenstein from Montpellier. Types were designated earlier.

Mr. Frauenfeld collected the galls of *P. emeryi* in Italy and sent them to Mayr who reared adults. Forty twigs with galls and adults on 43 pins, all det. by Mayr, are deposited in the NHMW. No type designation required.

Rhoophilus MAYR, 1881

loewi MAYR, 1881

Rhoophilus loewi MAYR, 1881: 23. Female, male, gall.

Type material examined: There are 4 ♀♀, 4 ♂♂ and 4 galls in the collection. Two pins with adults are labelled as "Collect. G. Mayr","Rh. loewi det. G. Mayr". One pin has a handwriting label "Blattgall v. Rhus lucidum L. Cap g. Hoff. Novara Exp. F. Löw". Material originated from the Novara expedition to the Cape of Good Hope (South Africa) given to Mayr by Mr. Jelinek. All labels without the word "Type". **Lectotype** ♀ (**here designated**) labelled as "Collect. G. Mayr","Rh. loewi det. G. Mayr", with additional red label "LECTOTYPE. Rhoophilus loewi Mayr, desig. G. Melika 1998". **Paralectotypes** 2 ♀♀, 3 ♂♂, and 4 galls with same labels as lectotype.

Other material examined:. One pin with galls has additional handwritten label "von Rhus lucidum L., Exped. Novara, Cap bonae spei...". There is also one pin with leaves of *Rhus lucidum* L. from which the galls were collected. 4 adults are deposited in the USNM, Smithsonian Institution, Washington, DC, USA which were sent to W. Ashmead by Mayr and were also examined by us.

Taxonomic notes: MAYR (1881) designated *R. loewi* as the type species of his newly established genus *Rhoophilus* which is represented by the single Mayr's species. Originally it was described as a gall inducer. However, on the basis of the morphological characters of adults, there can be no doubt that this genus belongs to the cynipid inquilines (WELD 1952, RONQUIST 1994). However, it is quite possible that *Rhoophilus loewi*, in spite of its taxonomic identity with cynipid inquilines, is able to induce galls; but even if it will turn out that this species belongs to the true gall inducers instead of inquilines, one will have to conclude that they are secondary gall inducers.

Timaspis MAYR, 1881

phoenixopodos MAYR, 1882

Timaspis phoenixopodos MAYR, 1882: 5. Female, gall.

Types have already been designated in the revision work of NIEVES ALDREY (1994).

Trichagalma MAYR, 1907

drouardi MAYR, 1907

Trichagalma Drouardi MAYR, 1907: 5. Female, gall.

Type material examined: There are 4 ♀♀ and 1 gall, all labelled as "Japan, Coll. G. Mayr","Trich. Drouardi det. G. Mayr" without the word "Type". **Lectotype** ♀ (**here designated**) in good condition, labelled as "Japan, Coll. G. Mayr","Trich. Drouardi det. G. Mayr", with additional red label "LECTOTYPE. Trichagalma drouardi Mayr, desig. G. Melika 1998". **Paralectotypes** 3 ♀♀, and 1 gall with same labels as lectotype. Two specimens are severely damaged, both lack the gaster, wings, and antennae. One specimen lacks gaster and one antenna. The material was collected by Mr. Drouard in Japan, near Kofu, and was sent to G. Mayr by Dr. Du Buysson from Paris.

Other material: According to WELD (1952) 12 specimens of this species are deposited in the MNHP, Paris, France, and are labelled as "Koufou". This material was not analyzed by the authors.

Notes on *Andricus galeatus* and *Andricus insana*

Two species of cynipid oak gall wasps, *Andricus galeatus* (GIRAUD, 1859) and *A. insana* (WESTWOOD, 1837) were originally described on the basis of galls only. Mayr was the first to describe the adult wasps for these two species (MAYR 1870, 1901).

Concerning *Andricus insana*, some taxonomic notes are required. MAYR (1901) transferred *Cynips insana* to the genus *Andricus* and gave the first description of the female. In Mayr's collection in the NHMW there are only one ♀ and 12 galls. Dr. G.N. Stone (Edinburgh University, Edinburgh, Scotland) sincerely sent us three specimens of *A. insana*, dissected from galls collected in Turkey in 1997. After examination of adults and galls of *A. insana* and *A. quercustozae* (BOSC, 1792) we found no appreciate diagnostic characters either in galls' structure or in the morphology of females on the basis of which the two species can be distinguished. Diagnostic characters given by MAYR (1901) for separation of these two species are highly variable and are of no diagnostic value. Thus, *A. insana* **syn.n.** is a new synonym of *A. quercustozae.*

Discussion

Gustav Mayr's input into cynipid wasps research is essential and his works on cynipids strongly influenced studies on this wasp group. As we mentioned above, he described 20 new cynipid gall wasp species, mainly from Europe. However, he never designated types for his newly described species. Taxonomic necessities forced us to do type designations of Mayr's species and studies on his species. All 11 genera of Cynipidae established by Mayr are still valid and of 20 species he described, only 7 have so far been synonymized.

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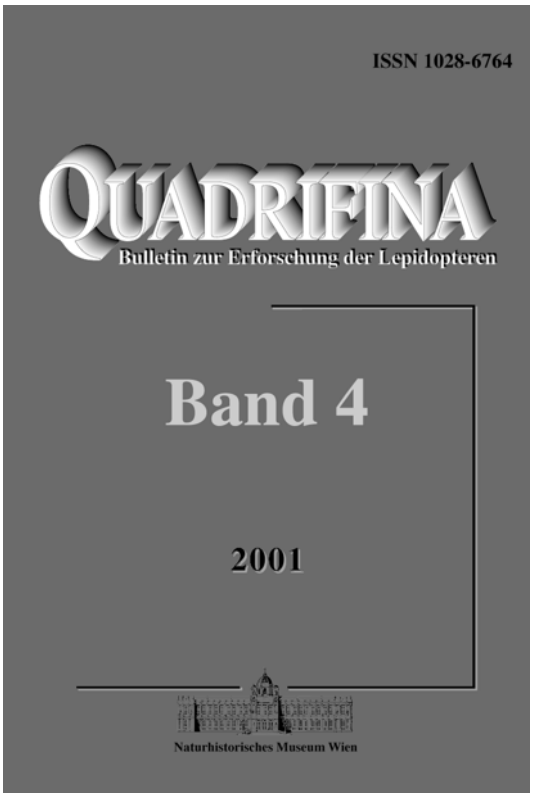

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