Introduction

The name *Leptoteleia* was proposed by Kieffer (1908) as monotypic to contain the Nearctic *Baryconus oecanthi* Riley. Masner and Muesebeck (1968) selected the lectotype of Riley’s species and the present study represents the first redescription. The interpretation of *Leptoteleia*, however, was not quite clear at all times. Muesebeck and Walkley (1951) synonymized it with *Baryconus* Foerster because of supposed isogenotypy. Following the clarification of the confused designation of type-species of *Baryconus* (Muesebeck and Walkley 1956) the name *Leptoteleia* was resurrected (Muesebeck in Krombein et al. 1958). Szabo (1962) and Masner (1964) upheld the resurrection of *Leptoteleia*. In 1931 Nixon described *Thelepte* without comparing it with *Leptoteleia*. Masner (1976) synonymized *Thelepte* with *Leptoteleia* and redefined the latter genus.

Six species have been placed in *Leptoteleia* but only four are still in the genus (Masner 1976). Riley (in Ashmead 1893) described the Nearctic *L. oecanthi*. Dodd (1913, 1914) described two species from Australia, viz. *L. australica* and *L. aurea*, but later (Dodd 1916) transferred the former species to *Baryconus* (auct. nec Foerster). Galloway (1976) studied Dodd’s types and transferred his two species to *Duta* Nixon thus leaving no described species in Australia. Dozier (in Arndt and Dozier 1931) described the first Caribbean species, *L. arndti* from Haiti. Nixon (1931) described *Thelepte serapis* from South Africa and finally Risbec (1956) added *L. antsingyi* from Madagascar. Masner (1976) studied the types of all but Dodd’s species and transferred *Thelepte serapis* to *Leptoteleia*. Masner (1976) pointed out that *Leptoteleia* is represented in the Oriental region by several, and in South America, by numerous undescribed species.

Biology, Distribution, and Relationships

The biology is known only in two species, namely *L. oecanthi* and *L. arndti*. Both species are solitary endoparasites of cricket eggs, the former of *Oecanthus niveus* (DeG.) and *O. nigricornis quadrivittatus* Beut., the latter of *Chremon repentinus* Rehm. Since crickets occasionally are injurious to a variety of crops (e.g. *C. repentinus* on coffee trees) the egg parasites may play an important role in the biological control. Ayers (1884) published a detailed account on postembryonic development of an egg parasite of *O. niveus*; the parasite was referred to by Ayers as *Teleas* sp. reflecting the
state of scelionid taxonomy in the 1880's. Riley (in Ashmead 1893) and Kieffer (1926) believed that the wasp was probably *Leptoteleia oecanthi*. Since no voucher specimens from Ayers' observations were left (none found in MCZ, Cambridge) the question remains open. The identity of Ayers' wasps is further complicated by the fact that the eggs of the tree cricket (*O. niveus*) are frequently parasitized by another scelionid wasp, *Oethecoctonus oecanthi* (Ashmead). For the same reason a record of *Baryconus* sp. from eggs of *Oecanthus* sp. injurious to cocoa plants in Brazil (Silva 1945) may have referred either to *Leptoteleia* or *Oethecoctonus*.

All species of *Leptoteleia* seem to be rather rare in collections. This might be explained by the presumed habits of the adult wasps. I am inclined to believe that both sexes stay for most, if not all, their adult life in the bushes where cricket eggs are being laid in twigs. Since sweeping of bushes, particularly their upper parts, is not a general practice in collecting of microhymenoptera the relative scarcity of *Leptoteleia* is obvious. Malaise traps or pan traps do not give better results either. While running six yellow pan traps all year round in Trinidad, W.I., F.D. Bennett (Commonwealth Institute of Biological Control) collected a formidable number of scelionid wasps. However, not a single specimen of *Leptoteleia* was caught. Therefore, sweeping of bushes and rearing from host eggs seem to be the only methods of collecting sufficient material in this genus.

The relative scarcity of *Leptoteleia* in collections is the main reason to assume that the present known distribution of the genus is still incomplete. However, the available data indicate clearly that the genus prevails in the tropics of both New and Old Worlds, corresponding to the general picture in world distribution of crickets. The New World tropics distinctly dominate the world fauna of *Leptoteleia*, with 20 species, of which the Caribbean subregion appears particularly rich with nine species with seven of them in Hispaniola alone (cf. Table 1, p. 355). On the other hand, the temperate zones are distinctly depauperate; only five species are known from the Nearctic region, none from Chile, and the genus is notably absent in the whole Palearctic region. Two species were described from the Ethiopian region and Madagascar. Several undescribed species are known to occur in the Oriental region (Masner 1976). No species of *Leptoteleia* is now recognized in Australia (see above in Historical).

The genus *Leptoteleia* presents a fine example of ecological convergence. It may be assumed that the habitus of the scelionid wasps, solitary endoparasites of eggs, is generally predetermined by the shape and size of the host egg since the latter is virtually acting as a mould. The species of *Leptoteleia* compete with those of *Oethecoctonus* in the same niche, i.e. the slender eggs laid by crickets into plant tissues. As a result of this co-evolution the members of these genera superficially look very much alike. The true relationships, however, are rather different. *Leptoteleia* is a specialized derivative of *Opisthacantha* Ashmead (tribe Psilanteridini) while *Oethecoctonus* is close to *Probaryconus* Kieffer in the Calliscelionini (Masner 1976). The principal phyletic difference between these two groups is in the structure of T7 in females. In *Leptoteleia* T7 is always external, fully sclerotized, and not extruded with the ovipositor; moreover, the ovipositor and its sheaths are usually extruded and the tips of sheaths are heavily sclerotized in *Leptoteleia*. In *Oethecoctonus* the situation is reversed; T7 is internal, hyaline (not sclerotized), attached to the ovipositor and extruded only during oviposition; the sheaths are not extruded and not sclerotized in *Oethecoctonus* (Masner 1976). The two genera can be distinguished by additional characters as follows:

(A) Metanotum medially expanded into a lamina of various shape (Figs. 5, 6); dorsal propodeal carinae never produced into spines; marginal vein in fore wing distinctly longer than stigmal vein; frontal depression more or less developed with transverse sculpture (except in *L. serapis* and *L. marketae*); metasoma perfectly spindle-like, female T1 usually with hump (Figs. 3, 4) ......................................................... *Leptoteleia*
(B) Metanotum medially not modified; dorsal propodeal carinae always produced into two spines; marginal vein always shorter than stigma1 vein; frons without depression and never with transverse sculpture; metasoma distinctly pedunculate, widest in posterior two-thirds, female T1 rarely with hump ...................... Oethecoctonus

There appear to be three rather distinct species-groups in Leptoteleia all of them represented in the New World, viz. oecanthi, arndti, and americana. They differ both morphologically and geographically. The two extra-american species, *L. serapis* (S. Africa) and *L. antsingyi* (Madagascar) belong to the americana- and oecanthi-groups respectively. The undescribed Oriental species belong all to the oecanthi-group.

**The oecanthi-group** (Figs. 3, 4). This group is characterized by: complete occipital carina (Figs. 1, 2); more transverse head (not quite cubical); short dorsal part of prothorax; absence of epomia; A2 in female as long as or longer than A3, A4, or A5 and antennal clava not abruptly 5-segmented, usually sub-pentamerous, rarely 6-segmented. The oecanthi-group is predominantly Neotropical, with eight species in South America and only two species in the Nearctic region; none is known from the Caribbean and Central America. This group is considered the most plesiomorphous of the three groups, being closest to the ancestral Opisthacantha-complex in the Psilanteridini. Furthermore, the oecanthi-group is probably an ancestral group for its

| Table 1. Cumulative chart of New World species of Leptoteleia |
|-------------------------------------------------------------|
| **Species**                                                  | **Distribution**                                                   |
| *L. alexandrae* n. sp. ?                                     | Brazil (Rio Grande do Sul)                                        |
| *L. annarum* n. sp. ?                                        | Brazil (Amazonas)                                                 |
| *L. jarmilae* n. sp. ?                                       | Ecuador (Napo)                                                   |
| *L. majkae* n. sp. ?                                         | Panama                                                          |
| *L. marcelae* n. sp. ?                                       | Brazil (from Pernambuco to Santa Catarina), Paraguay             |
| *L. mariae* n. sp. ?                                         | Argentina (Tucuman)                                              |
| *L. martae* n. sp. ?                                         | USA (Arizona)                                                   |
| *L. miladae* n. sp. ?                                        | Brazil (Pernambuco)                                              |
| *L. oecanthi* (Riley) ?                                       | USA (Arizona, Nebraska, Virginia, Michigan, Pennsylvania)        |
| *L. verae* n. sp. ?                                          | Brazil (Guanabara)                                               |
| *L. zdenae* n. sp. ?                                         | Peru (Amazonas)                                                  |
|                                                            |                                                                |
| *L. arndti* Dozier ?                                         | Haiti                                                            |
| *L. marketae* n. sp. ?                                       | Brazil (Mato Grosso)                                             |
| *L. monicae* n. sp. ?                                        | Dominican Republic                                               |
|                                                            |                                                                |
| *L. americana* n. sp. ?                                      | USA (Florida, Georgia, Virginia, D.C., Maryland)                  |
| *L. andreai* n. sp. ?                                        | Cuba (Oriente)                                                   |
| *L. ferdinandi* n. sp. ?                                     | Dominican Republic                                               |
| *L. josephi* n. sp. ?                                        | Dominican Republic                                               |
| *L. kareli* n. sp. ?                                         | Jamaica                                                          |
| *L. lubomiri* n. sp. ?                                       | Dominican Republic                                               |
| *L. normani* n. sp. ?                                        | USA (Florida)                                                    |
| *L. petrum* n. sp. ?                                         | Bélize                                                           |
| *L. radeki* n. sp. ?                                         | Dominican Republic                                               |
| *L. stani* n. sp. ?                                          | USA (Virginia)                                                   |
| *L. vaclavi* n. sp. ?                                        |                                                                  |
specialized derivative, the arndti-group. There are two distinct chromatic subgroups, viz. the melanic oecanthi (s. str.) subgroup with six species (alexandrae, annarum, mariae, martae, oecanthi, and zdenae) and the xanthic marcelae-subgroup with five species (jarmilae, majkae, marcelae, miladae, and verae).

The arndti-group (Fig. 7). This highly apomorphous group is characterized as follows: prothorax dorsally strongly developed both in cervical and humeral regions, as long as scutellum; body extremely elongate, more or less flattened dorsally, and in lateral aspect almost in one level; epomia absent; occipital carina fine, complete, or nearly obsolete; head usually subglobose (i.e. not cubical); A2 in females distinctly shorter than A3, A4, or A5, and clava not abrupt, sub-tetramerous, distinctly more slender than in the other two groups. The arndti-group seems to be peculiar to the Neotropical region, with two species in the Caribbean and one in South America. Three species are in this group (arndti, marketae, and monicae).

The americana-group. All members of this group are distinct: occipital carina incomplete; pentamerous club in female antennae abrupt; head cubical; epomia of prothorax usually sharply angulate; A2 in females at least as long as A3, A4, or A5 or longer; prothorax dorsally short, if longer (e.g. in andreai, petrum, and vaclavi) then never as long as scutellum (different from arndti-group). The americana-group is not known in South America, but is dominant in the Caribbean subregion (7 spp.) to lesser extent in Central America and Nearctic region (4 spp.). This group is considered quite apomorphous as compared with oecanthi-group largely because of the obliterated
FIGS. 5–7 (5–6, SEM, gold-coated, 20 kv; 7, photograph). 5, L. martae: mid-section. 6, L. marcelae: mid-section. 7, L. arndti Dozier (holotype ?, USNM).
occipital carina and abrupt pentamerous antennal club in females. There are 11 species in this group (americana, andrei, ferdinandi, josephi, kareli, lubomiri, normani, petrum, radeki, stani, and vaclavi).

MORPHOLOGY AND MEASUREMENTS

Morphological terms used in this paper are identical with those used by Masner (1976). The only new term used is the parapsidal carinae, referring to a pair of longitudinal keels (carinae) situated outside of the notauli, i.e. where the true parapsidal furrows occur in some other groups of Hymenoptera.

Measurements given in “relative proportions” refer to maximal length divided by maximal width (antennal segments, metasomatic tergites, etc.). This, rather than indexes, gives the reader a chance to compare various parts of the body.

ABBREVIATIONS AND SYMBOLS IN THE TEXT

| Abbreviation | Description                               |
|--------------|-------------------------------------------|
| BMNH         | British Museum of Natural History, London |
| CNC          | Canadian National Collection of Insects, Arachnids, and Nematodes, Ottawa, Ont. |
| FSCA         | Florida State Collection of Arthropods, Gainesville, Fla. |
| MCZ          | Museum of Comparative Zoology, Cambridge, Mass. |
| USNM         | United States National Museum, Washington, D.C. |
| A1 . . . A12 | Antennal segments (scape A1)              |
| LOL          | Distance between lateral and anterior ocelli |
| OOL          | Distance between lateral ocellus and inner orbit |
| POL          | Distance between lateral (posterior) ocelli |
| T1 . . . T8  | Metasomatic tergites                     |

LEPTOTELEIA Kieffer

1893, Baryconus auct. nec Foerster, Ashmead, Bull. U.S. natn. Mus. 45: 215.
1908, Leptoteleia Kieffer, Ann. Soc. Sci. Bruxelles 32: 120, 163.
1931, Thelotepe Nixon, Eos 7: 379. Synonymized by Masner 1976: 42.

Type-species: Baryconus oecanthi Riley in Ashmead, 1893.

Very slender, elongate species with cylindrical body, in some species slightly depressed dorsoventrally. Head almost cubical or slightly transverse or sub-ellipsoidal. Frontal depression more or less developed; rarely closed by keels from all sides, usually only above, in some species upper keel only faintly indicated; depression with transverse sculpture (except in L. serapis and L. marketae). Eyes usually hairy, rarely glabrous or with short scattered hairs. Mandibles tridentate. Malar groove developed or absent. Clypeus small, not protruding. Radicle of antenna short, usually shorter than one-sixth of scape. A3−A5 in females usually elongate, clava 5-, rarely 4- or 6-segmented, abrupt or semiabrupt. Skaphion absent. Prepectus well developed. Notauli usually absent, rarely fine and then abbreviated. Mesoscutum usually with distinct parapsidal carinae indicated in posterior one-third by shining keels. Metanotum medially expanded into lamina of various shape, usually transverse, sinuate, bilobate, subtriangular or semicircular, rarely tridentate. Propodeum often partly overlapped medially by metanotal lamina, usually excavate medially in females to house hump of T1, its dorsal carinae not produced into spines. Submarginal vein not “broken” before joining marginalis; basalis and medialis absent; marginalis elonagate, distinctly longer than stigmatis, postmarginalis longer than marginalis. Metasoma spindle-like usually widest at anterior one-third or at the middle. T1 in female usually with a hump of various size fitting more or less into propodeal cavity; hump not developed in one species. T7 in females always external, well sclerotized, articulating with T6 and not
with ovipositor, not extruded with ovipositor. Ovipositor sheaths extruded and sclerotized in most species.

Key to Species-Groups and Species of the New World Leptoleia

(1) Cervical part of pronotum (from pro-mesonotal suture to foramen occipitalis) remarkably elongate, as long as or longer than scutellum; and female A2 distinctly shorter than A3, A4, or A5, antennal clava sub-tetramerous and slender; extremely elongate forms with body more or less flattened dorsally (lateral aspect) (arndti-group) ........................................ 2
- Cervical part of pronotum not particularly elongate, if slightly then shorter than scutellum; and female A2 as long as A3, A4, or A5 or longer, clava more than tetramerous, more or less abrupt; less elongate forms with body not particularly flattened dorsally ........................................ 4

(2) Wings in basal half heavily infuscate; eyes glabrous; occipital carina not well developed; male T8 triangular, longer than wide, pointed at apex; body black (female unknown) (Brazil) ........................................ L. marketae n. sp. 5
- Wings clear; eyes pubescent; occipital carina fine but complete; body lighter, mostly xanthic or brownish (females only) (Hispaniola) ........................................ L. monicae n. sp. 8

(3) Head black in contrast to xanthic (orange) mesosoma and most of metasoma; T1 anteriorly without hump, propodeum consequently not excavate medially, with dorsal carinae running parallel; mesosoma as high as wide, in lateral aspect slightly convex dorsally and not perfectly flattened; T4 transverse, slightly wider than long (Dominican Republic) ........................................ L. arndti Dozier 2
- Head brown, almost concolorous with light brownish mesosoma and metasoma; T1 anteriorly with distinct but flat hump fitting into deeply excavate propodeum, dorsal carinae of which run diagonally; mesosoma 1.7 times wider than high, in lateral aspect perfectly flattened dorsally; T4 almost twice as long as wide (Haiti) (Fig. 7) .............. L. mariae n. sp.

(4) Occipital carina complete, although fine in some species, forming continuous rim around occiput (viewed from behind) (Figs. 1, 2); female antennal clava not too abrupt, sub-pentamerous; epomia of prothorax not developed (oecanthi-group) ........................................ 5
- Occipital carina incomplete, obsolete medially, indicated only at sides; female antennal clava abruptly pentamerous; epomia of prothorax sharply angulate (dorsal aspect), rarely obsolete (americana-group) ........................................ 20

(5) Females (antennae clavate) ........................................ 6
- Males (antennae thread-like) ........................................ 16

(6) Melanic species, mesosoma black or dark brown, with no parts orange or yellow, metasoma dark or light brown ........................................ 7
- Xanthic species, mesosoma and metasoma mostly orange-yellow, at least ventrally, head sometimes black ........................................ 12

(7) T5 distinctly longer than its maximal width (30:26); hump on T1 in lateral aspect projecting above top of scutellum; propodeum deeply excavate to house hump; metanotal lamina deeply sinuate (Argentina) ........................................ L. martae n. sp.
- T5 distinctly transverse, wider than long or nearly so ........................................ 8

(8) Dorsal propodeal carinae running parallel in their upper part (just beyond metanotal lamina) (Fig. 5); propodeum medially less excavate due to rather weak hump on T1 (USA) ......................... L. martae n. sp.
- Dorsal propodeal carinae strongly convergent anteriorly, running diagonally from posterolateral corners of propodeum to just beyond metanotal lamina; propodeum medially deeply excavate to house hump on T1 ........................................ 9

(9) Notauli strongly abbreviate to mere rudiments right above scuto-scutellar suture; A2 slightly longer than A3 ........................................ 10
- Notauli absent; A2 equal to A3 ........................................ 11

(10) Top of hump on T1 with sharp median carina pointed anteriorly; dorsal carinae of propodeum closer together, leaving gap under metanotal lamina that is approximately one-third of its width (Brazil) ......................... L. annarum n. sp.
- Top of hump on T1 without median carina; dorsal carinae of propodeum wider apart, leaving a gap under metanotal lamina that is approximately one-half of its width (Brazil) ......................... L. alexandrae n. sp.
(11) A5 distinctly elongate, 2.3 times as long as wide; A4 at least as long as A2; antennae black; metanotol lamina only slightly notched to appear sub-bilobate (to be viewed from behind) (Peru) ........................................ L. zdenae n. sp.
   - A5 shorter, only 1.7 times as long as wide; A4 markedly shorter than A2; antennae brown; metanotol lamina notched medially, almost straight or slightly sinuate at meson (USA) ........................................ L. oecanthi (Riley)

(12) Hump of T1 protruding forward on mesosoma as far as above attachment of middle coxae (lateral view); top of hump higher than top of mesoscutum (lateral view); metanotol lamina narrow, deeply concave posteriorly, leaning on hump at angle of 60°; frontal depression closed, keeled from sides and also above ........................................ 13
   - Hump of T1 protruding forward on mesosoma as far as above attachment of hind coxae (lateral view); top of hump lower than top of mesoscutum (lateral view); metanotol lamina almost plate-like (Fig. 6), directed almost horizontally towards hump; frontal depression open, keeled from above but not from sides ........................................ 15

(13) Head black; eyes densely hairy; hump light brown, T2–T7 dark brown (Panama) ........................................ L. majkae n. sp.
   - Head yellow or orange-yellow; eyes glabrous or at most with a few minute hairs; metasoma mostly xanthic, sometimes with darker markings ........................................ 14

(14) Hump black, rest of T1 orange; T2–T5 orange, each with 1 large median dark spot; posterior margin of scutellum slightly convex; posterior margin of metanotol lamina with 1 tooth at meson (Ecuador) ........................................ L. jarmliae n. sp.
   - Hump yellow, concolorous with rest of T1, T2–T7 yellow, without dark median spots; posterior margin of scutellum slightly concave; posterior margin of metanotol lamina unarmed medially (Brazil) ........................................ L. miladae n. sp.

(15) Antennal clava 6-segmented (A7–A12 dark); metanotol lamina semi-oval, rounded posteriorly, with fine notch at meson; notauli fine but quite distinct, abbreviate anteriorly; mesoscutum distinctly flattened, mesosoma wider than high; head only slightly darker than mesosoma (Brazil) ........................................ L. verae n. sp.
   - Antennal clava 5-segmented (A8–A12 dark); metanotol lamina subtriangular, truncate at apex, without notch (Fig. 6); notauli absent; mesoscutum fairly convex, mesosoma higher than wide; head black in contrast to orange mesosoma (Brazil, Paraguay) (Fig. 4) ........................................ L. marcelae n. sp.

(16) Melanic species, with mesosoma black or dark brown, without orange or yellow ........................................ 17
   - Xanthic species, with mesosoma and metasoma mostly orange-yellow (at least ventrally), head sometimes black ........................................ 19

(17) Metanotol lamina deeply sinuate medially; ocellar space without distinct transverse sculpture (USA) ........................................ L. oecanthi (Riley)
   - Metanotol lamina entire; ocellar space with distinct transverse rugae (South America) ........................................ L. mariae n. sp.

(18) Space between anterior ocellus and upper margin of frontal depression without conspicuous transverse rugae; anterior ocellus closer to upper margin of frontal depression than to lateral ocelli; antennae light brown (Argentina) ........................................ L. mariae n. sp.
   - Space between anterior ocellus and upper margin of frontal depression with transverse rugae; anterior ocellus as far from upper margin of frontal depression as from lateral ocelli; antennae black (Peru) ........................................ L. zdenae n. sp.

(19) Metanotol lamina subtriangular, truncate apically (as in Fig. 6); head black; mesosoma dorsally brownish red (Brazil, Paraguay) ........................................ L. marcelae n. sp.
   - Metanotol lamina subrectangular, posterolateral corners acute; head orange except for dark speck between ocelli; mesosoma dorsally orange-yellow except for darker areas on mid-mesoscutum, on mid-scutellum, and on metanotol lamina (Brazil) ........................................ L. miladae n. sp.

(20) Females (antennae clavate) ........................................ 21
   - Males (antennae thread-like) ........................................ 30

(21) Frons between upper margin of depression and anterior ocellus not wrinkled, reticulate-pectinate or granulose, with no transverse elements in sculpture ........................................ 22
   - Frons between upper margin of depression and anterior ocellus distinctly wrinkled, with 3 or more transverse ridges or rugae between inner orbits ........................................ 25

(22) T1 including top of hump bright golden-yellow, with rest of metasoma contrastly darker (Dominican Republic) ........................................ L. radeki n. sp.
   - T1 entirely dark, concolorous with rest of metasoma ........................................ 23
Sculpture of vertex, frons (between depression and ocelli), and mesoscutum rather rough granular-punctate, distinctly mat, reminiscent of rough grey cast iron; T1 transverse (Dominican Republic) .................................................. L. josephi n. sp.

- Sculpture of vertex, frons (between depression and ocelli), and mesoscutum much finer, reticulate-punctate, and distinctly shining; T1 elongate .................................................. 24

Hind coxae light brown (lateral aspect), only slightly lighter than corresponding pleura; T6 wider than long; ocellar triangle lower, LOL < POL (U.S.A.) ........................................ L. americana n. sp.

- Hind coxae bright golden-yellow in contrast to dark pleura; T6 longer than wide; ocellar triangle higher, LOL = POL (Dominican Republic) .................................................. L. ferdinandi n. sp.

T4 elongate, slightly more than 1.2 times as long as wide .................................................. 26

- T4 at most as long as wide .................................................. 27

Metasoma black; T1 shorter, only slightly longer than wide (35:30); apex of stigmal vein simple; eyes in dorsal aspect twice as long as temples behind them (Bélize) ...................... L. petrum n. sp.

- Metasoma chestnut-brown to almost golden-brown along sutures and sides; T1 longer (38:28); apex of stigmal vein with recurrent hook; eyes in dorsal aspect 1.5 times as long as temples behind them (U.S.A.) ........................................ L. vaclavi n. sp.

T1 including top of hump bright golden-yellow with rest of metasoma at least partly darker .................................................. 28

- T1 dark brown to black, concolorous with rest of metasoma .................................................. 29

Mesosoma entirely black, concolorous with head; frons above depression with numerous strong transverse ridges; T3 and T4 dark brown with anterior and posterior margins yellow (U.S.A.) .................................................. L. normani n. sp.

- Mesosoma mostly orange-yellow (ventrally and on pleura) in contrast to black head; frons above depression almost smooth, with very fine reticulation and only 3 transverse ridges in front of anterior ocellus; T3 and T4 yellow, with 3 light brown patches each (medially and laterally) (Cuba) ........................................ L. andreai n. sp.

Vertex and occiput finely net-like reticulate-punctate; frons in front of anterior ocellus with a few transverse ridges; head as long as wide; eyes in dorsal aspect 1.3 times as long as temples behind them (Dominican Republic) ........................................ L. andrei n. sp.

- Vertex and occiput roughly punctate-rugose; frons in front of anterior ocellus with a few transverse rugae; head slightly transverse; eyes in dorsal aspect as long as temples behind them (Dominican Republic) ........................................ L. stani n. sp.

Frons between upper margin of depression and anterior ocellus finely granular-punctate, with no other sculpture; A6 almost twice as long as wide (Jamaica) ........................................ L. kareli n. sp.

- Frons between upper margin of depression and anterior ocellus with transverse ridges or rugae (rather fine in L. stani); A6 at most 1.5 times as long as wide ........................................ 31

T1 bright golden yellow, with rest of metasoma contrastingly darker (U.S.A.) ........................ L. normani n. sp.

- T1 darker, concolorous with rest of metasoma .................................................. 32

Head transverse (35:45); frons between upper margin of depression and anterior ocellus transversely reticulate-rugose; T3 transverse (28:33) (Dominican Republic) ........................................ L. stani n. sp.

- Head as long as wide; frons between upper margin of depression and anterior ocellus with transverse ridges; T3 as long as wide .................................................. 33

Dorsal carinae of propodeum angled, with anterior parts almost parallel; vertex and occiput as well as mesoscutum finely punctate (Dominican Republic) ........................................ L. lubomiri n. sp.

- Dorsal carinae of propodeum straight diagonal, strongly converging anteriorly; vertex and occiput, contrary to punctate mesoscutum, distinctly reticulate-rugose (U.S.A.) ........................................ L. americana n. sp.

The OECANTHI-GROUP

Leptoteleia oecanthi (Riley)

1893, Baryconus oecanthi Riley, in Ashmead, Bull. U.S. natn. Mus. 45: 215.

1908, Leptoteleia oecanthi: Kieffer, Ann. Soc. sci. Bruxelles 32: 163.

1926, Leptoteleia oecanthi: Kieffer, Das Tierreich 48: 478.
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1964, *Leptoteleia oecanthi*: Masner, Acta Soc. ent. Cechosl. 61: 139.

1968, *Leptoteleia oecanthi*: Masner & Muesebeck, Bull. U.S. natn. Mus. 270: 39.

1976, *Leptoteleia oecanthi*: Masner, Mem. ent. Soc. Can. 97: 43.

**Female** (Lectotype, USNM). Length 2.5 mm. Melanic species; colouring slightly lighter than in original description due to age of the specimen; head black, mesosoma dark brown, metasoma chestnut brown, antennae dark brown, legs light brown, with lighter apices; wings clear.

Head (slightly distorted as the lectotype is apparently teneral) almost quadrangular, slightly transverse (32:37); frontal depression shallow, unmarginated at sides but above, with transverse ridges in its upper part; frons in front of anterior ocellus slightly depressed, shining, with some rugulosility, with irregular transverse rugulosility in the occular area; vertex and occiput reticulate-rugulosility; cheeks finely fan-like striate obscuring the fine malar-groove; temples reticulate-punctate; eyes densely hairy, hairs long and very conspicuous; in lateral and dorsal aspects eyes almost as long as temples behind them; occipital carina complete; lateral ocelli close to inner orbits but not contiguous, POL slightly longer than LOL (7:5); antennal clava 5-segmented yet considerably less abrupt than in the *americana*-group, in that A7 is larger and the difference between it and A6 is appreciably smaller; antennal segments in relative proportions 18:5, 8:4, 8:2.5, 7:2.5, 5:3, 3:5:3.5, 3:5:4.5, 4:5:6, 5:6, 5:6, 5:6, 6:5.

Mesosoma slightly higher than wide; epomia of prothorax not angulate (dorsal aspect); mesoscutum slightly distorted due to presumed teneral condition of the lectotype, finely reticulate, with no apparent punctuation; scutellum with same sculpture as mesoscutum; metanotal lamina sinuate, excavate medially; dorsal propodeal carinæ running diagonally from posterolateral corners of propodeum up to underneath metanotal lamina, propodeal cavity hence large to accommodate the sizable hump of T1; sides of prothorax reticulate, metasphera reticulate in its lower part, smooth in its upper depressed part; metaepaphra almost entirely smooth; fore wings reaching to about middle of T5; marginal vein almost twice as long as stigmalis; postmarginalis almost twice as long as marginalis; hind basitarsus as long as T2-T5 combined.

Metasoma fully 4 times as long as wide; hump on T1 quite strong, smooth, posterior margin of T1 with a few longitudinal costae; T2-T4 with longitudinal rugules and reticulate sculpture in between; T5-T7 reticulate-punctate; tergites in relative proportions 29:29, 31:36, 30:38, 25:37, 23:33, 16:23, 6:6; ovipositor and tips of sheaths protruding, slightly longer than T7.

**Male** (Paratype, USNM). Length 2.25 mm. Like female from which it differs in secondary sexual characters and some minor details. A6–A11 almost square. Metanotal lamina notched medially, sub-bilobate. Dorsal propodeal carinæ sub-parallel in their upper half. Metasomatic tergites in relative proportions 20:27, 25:31, 25:34, 23:33, 21:29, 15:23, 2:12: 5:7.

**Material Examined.** Lectotype (selected by Masner and Muesebeck in 1964/cf. Masner and Muesebeck, 1968/) 1 ♀, Lincoln, Neb., August; bred from eggs of *Oecanthus* (Bruner’s handwriting?); 1 ♀, Arlington, labelled “Baryconus oecanthi Ashm.” (Ashmead’s handwriting) (USNM); red label “Type no. 2248 USNM”; Baryconus oecantho Riley ♀ Type (Riley’s handwriting). Allotype 1 ♂ with same data as the lectotype. Other material: Virginia: 1 ♀ Arlington, labelled “Baryconus oecanthi Ashm. ?” (Ashmead’s handwriting) (USNM); Pennsylvania: 1 ♀ Boiling Springs, Jan. 26, 1932, Cage No. 7719–44, reared from Oecanthus eggs (USNM); 1 ♀ Washington, Oct. 11, 1931, Cage No. 7691-1, reared from Oecanthus eggs (USNM); Michigan: 2 ♀ E.S. George Reserve Field, Livingston Co., Aug. 29 & Sept. 2, 1957, R. Wiegert & U.N. Lanham (USNM); Arizona: 2 ♀ ♀ Nr. Patagonia, Oct. 6, 1951, E.C. Zimmerman (BMNH); 2 more males without state and locality but doubtful record as “on eggs of Hemipteron, January 19, 1894” (USNM).

**Distribution.** Sporadically from Pennsylvania to Nebraska and Arizona; it is not recorded from Canada but expected in southwestern Ontario.

**Biology.** Reared from eggs of tree crickets, *Oecanthus niveus* (DeG.) and *O. nigricornis quadrupunctatus* Beut. (Muesebeck and Walkley 1951). Riley (in Ashmead 1893) and Kieffer (1926) cite Ayers’ (1884) paper dealing supposedly with
L. oecanthi. This record is quite problematic (see Introduction, p. 353). L. oecanthi may not be the rare species it appears to be from the available material. The adults stay most probably in bushes and trees where they get seldom swept by hymenopterists. It is possible that the wasp shares the entire distribution with its hosts, the Nearerct tree crickets.

**Variability.** The metanotal lamina seems to vary in females from only slightly emarginate to deeply sinuate. The hump on T1 in females may vary in size and sculpture; it is quite large in the lectotype and almost smooth, whereas in females from Michigan and Pennsylvania it is shorter and with very delicate reticulation at the top. Similarly, the wings may reach almost to the apex of T5 in some females.

**Remarks.** L. oecanthi belongs to the group of dark (mostly black) members of the oecanthi-group of Leptoteleia. Its relatives are L. mariae (Argentina), L. martae (Arizona), L. annarum (Brazil), L. alexandrae (Brazil), and L. zdenae (Peru).

**Leptoteleia zdenae n. sp.**

**Female.** Length 2.1 mm. Melanic species; black; antennal clava and legs dark brown, trochanters, upper apices of tibiae and tarsi yellowish brown; wings clear.

Very similar to L. oecanthi from which it differs in following few characters. Cheeks not striate, malar groove not developed; eyes in dorsal aspect 1.5 times as long as temples behind them; vertex reticulate-punctate; A3–A5 remarkably elongate, slender, A4 still at least as long as A2 (or inconspicuously longer), A5 2.3 times as long as wide, only slightly shorter than A2, A6 still slightly elongate; antennal segments in relative proportions 20:4, 8:3.5, 8:3, 8:3, 7:3, 4:3.5, 4:4, 4.5:5, 4.5:5, 4.5:5, 4.5:5, 4.5:5, 6:4.5; metanotal lamina wide, only slightly notched medially, thus slightly bilobate; hump on T1 low; longitudinal rugulosity on T1–T4 less pronounced, reticulation more conspicuous; fore wings extending to anterior part of T6.

**Male.** Very similar to that of L. oecanthi but differing from it by shape of metanotal lamina which is remarkably wider, entire, i.e. not excavate medially; similarly as in female the longitudinal rugulosity on T1–T4 is more obscured by reticulation.

**Type Material.** Holotype: 1 ♀ (CNC No. 15247), Peru, Amazonas, 6°53' S. & 77°40' W., 2000 m, Feb. 12 1973, J. Helava. Allotype: 1 ♂, and paratype: 1 ♀, same data as holotype (CNC).

**Distribution.** Peru.

**Biology.** Unknown. The high altitude of the type locality is quite remarkable as all other Leptoteleia species occur in much lower areas.

**Remarks.** A species close to L. oecanthi and other dark species of the latter group. Named in honour of my beloved aunt, Mrs. Zdena Preiss (née Suk) of Prague.

**Leptoteleia alexandrae n. sp.**

**Female.** Length 2.1 mm. Melanic species; black; apices of tibiae and tarsi brownish-yellow; wings clear.

Very similar to L. annae (Brazil) from which it differs in a few minor characters. Eyes in dorsal aspect almost 3 times as long as temples behind them, however, in lateral view eyes almost as long as the lower part of temples; POL slightly longer than LOL; notauli longer, as long as half of scutellum; metanotal lamina shorter than half of scutellum, moderately notched medially to become sub-bilobate; dorsal carinae of propodeum wider apart, not parallel, leaving a gap under metanotal lamina of approximately one-half of its length; hump of T1 without median carina and without point; T1–T3 with longitudinal rugulosity more pronounced.

**Male.** Unknown.

**Type Material.** Holotype: 1 ♀ (CNC No. 15249), Brazil, Rio Grande do Sul, S. Augusto, Dec. 1975, O. Roppa.

**Distribution.** Brazil.
Remarks. Whether alexandrae is an independent species or just a variety of annarum can not be determined at this moment. Some characters (notably the shape of propodeal carinae) as well as the huge distance between the two type localities are reasons why I prefer to consider these two as valid species. Dedicated to my charming sister-in-law, Mrs. Alexandra Masner (née Háč) of Dielsdorf-Zurich.

Leptoteleia annarum n. sp.

Female. Length 2.0 mm. Melanic species; black; legs dark brown, knees and tarsi lighter; wings clear.

Very similar to L. zdenae (Peru) and partly also to L. alexandrae (Brazil), but differs in several important characters. Vertex reticulate-rugulose; eyes large, in dorsal aspect more than twice as long as temples behind them; antennal segments in relative proportions 19:4, 8:3, 6:2, 6.5:2, 5.5:2, 4:3, 4:4, 4:5, 4:5, 4:5, 5:5; clava sub-pentamerous; mesoscutum and scutellum scaly reticulate; notauli well impressed although strongly abbreviate, not longer than half of scutellum; metanotal lamina very long, as long as half of scutellum, its posterior margin entire, not excavate; dorsal carinae of propodeum closer together almost sub-parallel in the upper part, leaving a gap under metanotal lamina that is approximately one-third of width of the lamina; hump on T1 low, longitudinally rugulose, with a median carina forming a point on its top; rugulosity on T2–T4 losing its longitudinal character, becoming more irregular.

Male. Unknown.

Type Material. Holotype: 1♀ (CNC No. 15248), Brazil, Amazonas, Manaus, June 1972, F.M. Oliveira; right pair of wings and left A3–A12 missing.

Distribution. Brazil.

Biology. Unknown.

Remarks. It belongs to the dark species of the oecanthi-group where it is close to L. alexandrae because of the abbreviated notauli and to L. zdenae because of the form of the antennae. Named in memory of my late grandmother, Mrs. Anna Suk (formerly of Prague), the late beloved nanny Mrs. Anna Just, as well as her daughter Ms. Anna Just Jr. of Prague.

Leptoteleia mariae n. sp.

Female. Length 2.8 mm. Melanic species; black; legs dark brown, upper part of tibiae and tarsi yellowish brown; wings clear.

Head sub-quadrangular, moderately transverse (29:35); frontal depression rather shallow, margined on upper arc but not at sides, with transverse sculpture; space between upper margin of depression and anterior ocellus shining medially, almost unsculptured, finely reticulate-coriaceous along inner orbits; ocellar space with fine transverse ridges; vertex finely reticulate-rugulose; temples reticulate, genae striate, malar groove strong; occipital carina unusually strong; eyes densely hairy; in dorsal aspect eyes 1.5 times as long as temples, which are distinctly bulging behind eyes (head here wider than across eyes), in lateral aspect eyes as long as temples; POL slightly longer than LOL; antennal club sub-pentamerous, antennal segments in relative proportions 20:4, 9:3, 9:2.5, 9:2.5, 7:2.5, 5:3, 4:3.5, 5:5, 5:5, 5:5:5, 5:5:5, 6:5.

Mesosoma as wide as high; epomia of prothorax not developed; mesoscutum and scutellum scaly-reticulate, notauli absent but almost inconspicuous depressions still exist in front of scuto-scutellar suture, parapsidal carinae well defined; metanotal lamina large, deeply sinuate to house top of hump; propodeum excavate (like a bowl), the dorsal carinae pushed to extreme sides; sides of prothorax scaly-reticulate; mesopleura partly, metapleura entirely smooth and shining; fore wing not surpassing middle of T5; hind basinars slightly longer than tarsomeres 2–5 combined.

Metasoma slender, almost 7 times as long as wide, with all tergites distinctly elongate, in relative proportions 35:24, 40:29, 37:31, 34:28, 30:26, 23:19, 7:6; hump of T1 in lateral aspect projecting above top of scutellum, smooth and shining at top, rest of T1 longitudinally rugulose;
T2–T5 reticulate rugulose, T2–T4 with some delicate longitudinal rugulosity, T6 and T7 finely reticulate; ovipositor and sheaths extruded, slightly longer than T7.

**Male.** Length 2.4 mm. Essentially like female but differing in following characters. Legs including coxae considerably lighter, light brown to yellowish brown, antennae light brown, radicle, scape and ventral part of flagellomeres even lighter. A4 and A5 2.5 times as long as wide, A7–A11 moderately elongate (6:4). Eyes in dorsal aspect almost as long as temples behind them. Metanotal lamina entire. Dorsal propodeal carinae subparallel in their upper part (beyond metanotal lamina). Metasomatic tergites 1–3 with longitudinal rugulosity more distinct than in female.

**TYPE MATERIAL.** Holotype: 1♂ (Instituto Miguel Lillo, Tucuman) Argentina, Tucuman, Burruyacú, April 16 – July 17 1972, P. Fidalgo. Allotype: 1♂ (MCZ), Argentina, Tucuman, 11 km W. Las Cejas, Sept. 24 – Oct. 17 1968, C.C. Porter.

**DISTRIBUTION.** Argentina.

**BIOLOGY.** Unknown.

**REMARKS.** The species belongs to the dark section of the oecanthi-group, where it is readily distinguished by its considerably elongate metasoma. Named in memory of my late grandmother Maria Masner (née Masek), formerly of Prague-Zbraslav.

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**Leptoteleia martae n. sp.**

Figs. 1, 3, 5

**Female.** Length 2.3 mm. Melanic species; black; antennae brown, clavae almost black, legs brown to light brown, metasoma dark chestnut brown, wings clear.

Head slightly transverse (28:33); frontal depression shallow, unmargined at sides but above, with transverse ridges; space between upper margin of depression and anterior ocellus finely reticulate-rugulose; ocellar space with fine transverse rugae; vertex and occiput finely reticulate-rugulose; temples reticulate, with slight longitudinal direction of sculpture; eyes with dense and long pilosity, eyes slightly less than 1.5 times as long as temples if viewed from above, as long as temples if viewed from sides; POL inconspicuously longer than LOL; occipital carina fine but complete; malar groove absent; antennal clava sub-pentamerous, antennal segments in relative proportions 20:4, 8:2, 8:2, 6:2.5, 3.5:3, 3:5:4, 4:5:5, 4:5:5, 4:5:5, 4:5:5, 5:5:5.

Mesosoma only slightly higher than wide; epomia of prothorax not developed; mesoscutum and scutellum reticulate; notauli absent; parapsidal carinae fairly long but not too prominent; metanotal lamina relatively short, entire, not excised or notched posteriorly; dorsal propodeal carinae parallel in their upper part, gap between them very narrow; fore wings reaching to upper margin of T6.

Metasoma over 4 times as long as wide with none of its tergites elongate, the relative proportions being 23:24, 26:30, 25:31, 24:31, 20:29, 15:20, 6:6; hump on T1 extremely low, hardly developed at all, in lateral aspect lying lower than metanotal lamina, finely reticulate at top, rest of T1 with longitudinal rugulosity; T2–T5 with irregular longitudinal rugulosity and reticulation, T6 and T7 reticulate; tips of ovipositor and sheaths shortly protruding.

**Male.** Unknown.

**TYPE MATERIAL.** Holotype: 1♀ (CNC No. 15250), USA, Arizona, Ramsey Canyon, 25 km S. Sierra Vista, Huachuca Mts., 1820 m, June 10, 1967, Malaise trap (R.F. Sternitzky). Paratypes: 6♀♂ (CNC & I. Galloway coll., Brisbane), same data as holotype but one caught on June 25.

**DISTRIBUTION.** Arizona.

**VARIABILITY.** No substantial variability encountered. However, the sheaths and the ovipositor may be extruded at various degrees.

**REMARKS.** The species is quite distinct on account of its low hump on T1 and the consequently narrow gap between dorsal propodeal carinae. Dedicated to my beloved mother, Mrs. Marta Masner (née Suk) of Prague whose interest as well as support in my entomological studies is greatly appreciated.
**Leptoteleia marcelae n. sp.**

Figs. 2, 4, 6

**Female.** Length 2.5 mm. Xanthic species; orange-yellow; head (except mandibles) black, T5 posteriorly, T6 and T7 dark brown, antennal club brown; wings clear.

Head sub-rectangular, transverse (33:45); frontal depression fairly deep, not distinctly margined at sides but above, with strong transverse ridges at bottom (upper half) and central keel running up from antennal insertion (lower half); rest of frons, vertex, occiput, and temples reticulate-rugulose; occipital carina complete and very distinct; malar groove fine but present; eyes extremely large, more than 3 times as long as narrow temples behind them (lateral and dorsal aspects), densely hairy, hairs considerably long; POL only inconspicuously longer than LOL; antennal clava pentamerous, not too abrupt, antennal segments in relative proportions 25:5, 10:3, 9:2.5, 8:2.5, 7:2.5, 4:4, 4:5, 5:6, 5:6.5, 5:6.5, 5:6.5, 5:6.5.

Mesosoma slightly higher than wide, fairly convex dorsally; cervical part of prothorax short, several times shorter than scutellum; epomia wanting; mesoscutum and scutellum reticulate-punctate; notauli absent, parapsidal carinae present; scutellum slightly longer than metanot lamina (15:12), rather convex, with distinct rim posteriorly; metanotal lamina horizontal, subtriangular with membranous apex truncate cut off, lamina bisected by median keel into two halves; margins of lamina semitransparent; propodeum considerably excavate posteriorly, dorsal carinae running diagonally, remarkably raised into semitransparent blades; sides of prothorax reticulate, lower half of mesopleura finely reticulate, upper half of mesopleura and entire metapleurum smooth; fore wings reaching almost to apex of T6.

Metasoma nearly 4 times as long as wide, with all tergites at least slightly transverse; tergites in relative proportions 25:30, 35:36, 28:37, 23:36, 23:32, 15:22, 5:6; hump on T1 very low, hardly elevated above level of T1, smooth and without sculpture, rest of T1 longitudinally costate; T2–T5 longitudinally costate-rugulate, T6 reticulate; T7 partly concealed under apex of T6; ovipositor and sheaths extruded.

**Male.** Remarkably darker than female; mesosoma brownish red dorsally, orange ventrally and at sides, metasoma dark brown; A6–A11 1.5 times as long as wide; dorsal carinae of propodeum less prominent; metasomatic tergites in relative proportions 21:20, 30:27, 25:28, 29:28, 18:25, 12:21, 21:4, 7:1.

**Type Material.** Holotype: 1 ♀ (CNC No. 15251), Brazil, Guanabara, Represa Rio Grande, Aug. 1972, F.H. Oliveira; Allotype: 1 ♂, same locality as holotype but caught in Malaise trap in August–September, M. Alvarenga (CNC). Paratypes: 7 ♀♀ and 2 ♂♂ same locality as holotype, caught from July to October (M. Alvarenga & F.H. Oliveira) (CNC, USNM, coll. Ian Galloway/Brisbane), 2 ♀♀ and 1 ♂ Brazil, Santa Catarina, Nova Teutonia, May 2 1938 & June 8 1938 (BMNH) and Oct.–Nov. 1972 (CNC), 1 ♀ Brazil, Rio de Janeiro, Nictheroy, Oct. 15 (? year), Cornell U. Expedition (Cornell U.), 1 ♀ Brazil, E. Santo, Linhares, Sept. 1972, M. Alvarenga (CNC), 1 ♀ Brazil, M. Gerais, Pedra Azul, Sept. 1972, Seabra & Oliveira (CNC), 1 ♀ Brazil, E. Santo, Castello, Oct. 1976, M. Alvarenga (CNC), 1 ♂ Brazil, Pernambuco, Caruaru, May 1972, M. Alvarenga (CNC), 1 ♀ Paraguay, Pirapo, Dec. 28 1971, L. Pena (CNC).

**Distribution.** Apparently widespread in eastern Brazil (from Pernambuco to Santa Catarina) and Paraguay.

**Biology.** Unknown.

**Variability.** Chromatically rather constant, however, the dark spot on apex of metasoma varies from T5 entirely dark brown to T5–T7 entirely xanthic, concolorous with rest of metasoma. Metanotal lamina may have the truncate apex slightly notched medially in some specimens; the female from Pedra Azul has lamina less triangular, rather transverse and the hump on T1 more developed than in most of the paratypes. Body length in females varies from 2.4 to 2.8 mm.

**Remarks.** This seems to be the most common and widespread species of *Leptoteleia* in South America. It is quite distinct chromatically in female sex on account of orange body contrasting to black head. The males are considerably darker with little of the bicolor effect of the females. Named after my beloved wife, Marcela, in recognition of her sincere admiration of my beautiful little wasps.
Leptoteleia jarmilae n. sp.

**Female.** Length 2.7 mm. Xanthic species; orange species with black markings on metasoma; black spots on hump, T2 and T3 anteromedially, T4 and T5 medially, T6 posterior three-quarters, T7 entirely black; darker area also in occellar space, antennal club (A8-A12) dark brown; wings clear.

Head subquadrangular, distinctly transverse (31:46); frontal depression deep, distinctly closed, margined by lateral and upper keels, with transverse ridges in upper half; rest of frons, vertex, occiput, and temples reticulate, postocellar space with a few faint oblique rugae; occipital carina strongly prominent, complete; malar groove present; eyes large, fully twice as long as temples behind them, with only sparse and extremely short hairs; ocelli in a low triangle, POL distinctly longer than LOL (8:5); antennal clava semiabrupt, pentameric; antennal segments in relative proportions 25:6, 10:4, 9:3, 8:3, 4:4, 3.5:5.5, 5:8, 5.5:8, 5.5:7.5, 7:7.

Mesosoma slightly wider than high, mesonotum rather flattened; epomia absent but frontolateral margins of prothorax sharp; mesoscutum and scutellum reticulate-punctate; notauli wanting; parapsidal carinae prominent; scutellum wide, fully 3 times wider than long; metanotal lamina at about 60° angle, semitransparent, subtridentate, almost touching top of hump on T1; propodeum deeply excavate to house large hump, dorsal carinae pushed to sides, crowned by semitransparent blades similar to that on metanotum; sides of prothorax reticulate, most of mesopleura and entire metapleura smooth and highly shining; fore wings reaching to middle of T5.

Metasoma almost 5 times as long as wide; tergites in relative proportions 38:32, 37:40, 34:40, 31:37, 25:32, 17:23, 16:10; top of hump finely net-like reticulate, rest of T1 longitudinally costate; T2-T4 longitudinally costate with interspaces mostly smooth and shining; T5 with rather delicate longitudinal elements and some reticulation, T6 and T7 reticulate, T7 fully exposed and not even partly concealed by T6; ovipositor and sheaths protruding.

**Male.** Unknown.

**TYPE MATERIAL.** Holotype: 1 ♀ (CNC No. 15252), Ecuador, Napo Prov., Limoncocha, 250 m, June 15–28 1976, Jarmila & Stuart Peck (Malaise trap).

**DISTRIBUTION.** Ecuador.

**BIOLOGY.** Unknown.

**REMARKS.** This is a very distinct species of the xanthic subgroup of the oecanthi-group. The unique shape of metanotal lamina together with colour patterns distinguish L. jarmilae at once. It is my great pleasure to name this handsome species after one of the collectors, Dr. Jarmila Kukalova-Peck (Ottawa), the well known expert in insect paleontology.

Leptoteleia verae n. sp.

**Female.** Length 3.6 mm. Xanthic species; generally ochreous-yellow; A7–A12 brown; occellar space, vertex, and occiput dark brown; extreme top of hump with brown spot, T2–T4 with large brown spot anteromedially, T5–T7 entirely dark brown, S6 light brown; wings clear.

Head subrectangular, strongly transverse (37:60); frontal depression considerably deep, unmargined, with strong transverse rugae in upper half; frons in front of anterior ocellus remarkably narrow due to large bulging eyes, finely reticulate-rugulos; occellar space, vertex, occiput, and temples with same sculpture as area above; malar groove absent; occipital carina complete and strongly developed; eyes large, bulging, densely hairy, in dorsal aspect wider than frons in front of anterior ocellus; temples consequently reduced to narrow strips behind eyes; ocelli rather large, in equilateral triangle, POL = LOL, the lateral ones almost contiguous with inner orbit; antennal clava abrupt, 6-segmented (A7–A12 contrastly brown to yellow A1–A6); antennal segments in relative proportions 35:7, 14:5.5, 14:5, 10:5, 7:6, 5:7.5, 7:9.5, 7:10.5, 7:10.5, 7:10.5, 7:10, 10:8.5.

Mesosoma wider than high (65:57), mesonotum considerably flattened; suture between prothorax and mesoscutum unusually wide and deep; mesoscutum granulose-punctate, flattened but remarkably raised up along scuto-scuteellar suture; notauli quite distinct, narrow, deeply incised, not percurrent but abbreviate anteriorly; parapsidal carinae quite distinct; scuto-scuteellar suture unusually deep and wide; scutellum flat but raised in both its anterior margin and on posterior rim; metanotal lamina almost horizontal, slightly shorter than scutellum (11:17),
semioval, its semitransparent blade slightly notched medially and gently upcurved; in dorsal aspect lamina overlapping median (excavated) part of propodeum; dorsal carinae of propodeum running diagonally; sides of prothorax reticulate, mesopleura except for depression reticulate-punctate, metapleura mostly smooth; prepectus with strong crenulae; fore wings extending to anterior part of T6.

Metasoma strong but elongate, 4 times as long as wide, with all tergites but T7 distinctly transverse; metasomatic tergites in relative proportions 35:43, 40:56, 35:58, 33:54, 27:43, 15:28, 12:7; hump on T1 very low, only slightly elevated, irregularly rugulose at top, rest of T1 longitudinally costate; T2-T4 with longitudinal costae or rugae and reticulation in between; T5 partly longitudinally rugulose, partly reticulate (posterior part); T6 and T7 reticulate; ovipositor and sheaths extruded.

**Male.** Unknown.

**Type Material.** Holotype: 1 ♀ (CNC No. 15253), Brazil, Guanabara, Represa Rio Grande, Jan. 1968, M. Alvarenga. Paratypes: 2 0, same locality as the holotype but caught Aug.–Sept. 1969 and Dec. 1967 (CNC).

**Distribution.** Brazil (Guanabara).

**Biology.** Unknown.

**Variability.** Metanotal lamina is not notched medially in one paratype and the dark patches on T2–T5 are less distinct in the other paratype.

**Remarks.** This is the most robust of all known species of *Leptoteleia*. The large bulging eyes, semioval metanotal lamina, and abrupt 6-segmented antennal clava make this species very distinctive. It gives me rather unusual pleasure in naming this remarkable species after my mother-in-law Mrs. Vera Kosch (née Satran) of Prague.

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**Leptoteleia miladae n. sp.**

**Female.** Length 3 mm. Xanthic species; orange-yellow with a few darker spots such as tips of mandibles, little spots behind ocelli in inter-ocellar space, A7 light brown, A8–A12 dark brown, minute spot at meson of prothorax near pro-mesothorax suture, anterior margins of T2–T5, posterior margin of T6, entire T7 and ovipositor sheaths dark brown; wings clear.

Head sub-rectangular, transverse (33:45); frontal depression deep, completely margined by sharp keels, with transverse rugae in upper half; rest of frons, vertex, occipital and temples reticulate but rather shining, with minimum of pilosity; malar groove distinct; occipital carina strong; eyes large, glabrous, in dorsal aspect eyes 2.5 times as long as narrow temples behind them; ocelli in equilateral triangle (POL = LOL), lateral ones close to but not contiguous with inner orbits; antennal clava not abrupt, 5–6 segmented in that A7 is both chromatically and morphologically intermediate; antennal segments in relative proportions 25:5, 9:3.5, 9:3, 9:3, 6:3.6, 4:4.5, 4:5.5, 5:7, 5:7, 5:7, 5:7, 7:6.

Mesosoma as wide as high; mesocutum net-like reticulate-punctate; notauli absent; parapsidal carinae sharp, prominent; scutellum reticulate-punctate, strongly transverse (9:28), almost strip-like rectangular, with posterior margin slightly concave; metanotal lamina crescent-shaped, in about 60° angle towards body axis, tightly flanking top of hump, posterolateral corners acute; propodeum considerably excavate to house hump, its dorsal carinae pushed to sides and crowned with blades; sides of prothorax and most of mesopleura finely reticulate, mesopleural depression and most of metapleura smooth and shining; fore wings reaching to mid T5.

Metasoma strongly elongate, almost 6 times as long as wide; hump on T1 unusually long, strongly leaning on mesosoma, deeply housed in propodeum, in lateral aspect top of hump distinctly higher than top of mesosoma, top of hump partly smooth, partly reticulate-rugulose, rest of T1 with longitudinal rugae; T2–T4 with strong longitudinal rugae and finer sculpture in between; anterior margin of T5 with very short costae, otherwise reticulate, T6 and T7 also reticulate; T7 entirely external; tergites in relative proportions 45:30, 38:35, 36:37, 32:33, 29:29, 25:21, 12:7; ovipositor and sheaths extruded.

**Male.** Length 2.6 mm. Generally darker than female; interocellar space almost black, dark speck on prothorax almost black, middle part of mesoscutum with a brownish strip, middle part of
scutellum brown, metanotal lamina mostly brown, blackish spot at meson of propodeum; wings very slightly infuscate; metasoma from T1 progressively darkened, mostly dark brown except for lighter T1. Antennal segments in relative proportions 23:5, 10:4, 11:4, 12:4, 11:5, 8:4.5, 8:4.5, 7.5:4.5, 7:4.5, 7:5, 7:5, 11:5. Scutellum only twice as wide as long, not rectangular, posterior margin convex. Metanotal lamina almost horizontal, sub-trapezoidal. Propodeum with dorsal carinae parallel. Metasomatic tergites in relative proportions 25:22, 33:29, 30:30, 27:29, 22:26, 14:21, 3:15, 7:10.

**Type Material.** Holotype 1 ♀ (CNC No. 15254), Brazil, Pernambuco, Caruaru, May 1972, M. Alvarenga (mesoscutum partly cracked). Allotype: 1 ♂, with same data as holotype but caught in April (CNC).

**Distribution.** Brazil (Pernambuco).

**Biology.** Unknown.

**Remarks.** The shape of hump on T1, metanotal lamina and the scutellum make this species amply distinct within the xanthic subgroup of the oecanthi-group of *Leptoteleia*. Named after Ms. Milada Just (Prague) in recognition of her kind care during my very early years.

### Leptoteleia majkae n. sp.

**Female.** Length 3.5 mm. Varicolored species; head black, mesosoma orange-yellow (with darker spot anteromedially on mesoscutum), metasoma dark brown except for lighter T1 and the hump which is almost reddish brown; legs including coxae yellow; scape yellow, clava (A8–A12) black; wings slightly infumate, basalis and medialis indicated by darker lines.

Head subrectangular, transverse (38:53); frontal depression deep, completely margined by sharp keels at sides and above, with transverse rugae in upper half and a median keel running up from antennal insertion; ocellar space, occiput, and temples rough rugulose-reticulate, shining, with abundant pilosity; malar groove present but partly obscured by sculpture of cheeks; occipital carina strong and complete; eyes large, densely pilose, hairs rather long, in dorsal aspect eyes almost 4 times as long as narrow temples behind them; ocelli in lower triangle (POL > LOL), lateral ocelli close to but not fully contiguous with inner orbits; antennal clava not too abrupt but chromatically distinct in that A8–A12 is contrastingly black compared to xanthic A6 and A7; antennal segments in relative proportions 30:7, 12:4.5, 11:4, 10:4, 9:5, 5:6, 5:7, 6:9, 6:9, 6:9, 6:8, 9:8.

Metasoma slightly higher than wide (55:50); mesoscutum net-like reticulate-pectinate; notauli absent; parapsidal carinae sharp, prominent; scutellum with finer sculpture than in mesoscutum, strongly transverse (12:36), with posterior margin straight; metanotal lamina crescent-shaped, in about 60° angle towards body axis, tightly flanking top of hump, sinuate medially, with posterolateral corners prominent; propodeum considerably excavate medially to house hump; sides of prothorax and lower half of mesopleuron reticulate-pectinate, mesopleural depression and most of metapleura smooth and shining; fore wings not reaching the posterior margin of T5; hind basitarsus longer than tarsomeres 2–5 together (55:41).

Metasoma distinctly elongate, fully 6 times as long as wide; hump on T1 deeply housed into propodeum, in lateral aspect top of hump distinctly higher than top of mesoscutum; reaching the level of attachment of middle coxae; top of hump finely reticulate, rest of T1 with longitudinal costae; T2–T4 with strong longitudinal costae, shining, with very little of sculpture between the costae; costae in posterior half of T4 gradually fading away; anterior margin of T5 with slight costae, the rest reticulate; T6 and T7 finely reticulate; T7 entirely external; tergites in relative proportions 47:35, 44:40, 42:40, 40:38, 32:35, 25:25, 20:12; ovipositor sheaths shortly projecting.

**Male.** Unknown.

**Type Material.** Holotype 1 ♂ (CNC No. 15420), Panama, Chiriqui, 15 km NW Hato del Volcan, 1200 m, May 24–31 1977, Malaise trap, Stuart Peck & Henry Howden; well preserved.

**Distribution.** Panama.

**Biology.** Unknown.
REMARKS. This is the darkest species of the xanthic subgroup of the oecanthi-group. It differs from other species remarkably by colour pattern. It is closer to L. miladae and L. jarmilae rather than to L. marcelae and L. verae, the main difference being the shape of metanotal lamina and the hump. It is my pleasure in naming this species after my charming cousin, Mrs. Majka Janoušek (née Pavlík) of Vancouver.

The ARNDTI-GROUP

Leptoteleia arndti Dozier

Female (Holotype, USNM). Length 3.8 mm. Brownish species; light chestnut-brown, head slightly darker, T3 and T4 with lighter bands near anterior margin, prothorax, pleura, posterior part of mesosternum, antennae, and legs including coxae golden-yellow; wings clear.

Head subellipsoidal, distinctly transverse (25:36), almost opistognathous if viewed from side; frontal depression shallow, unmarginated both laterally and above, with fine transverse sculpture; rest of frons along inner orbits reticulate; frons in front of anterior ocellus and in ocellar triangle reticulate-granulose, becoming reticulate on vertex and temples; occipital carina fine but complete; malar groove absent; eyes densely hairy, hairs fairly long; in dorsal and lateral views eyes as long as temples behind them; POL distinctly longer than LOL (9:6), LOL shorter than distance of anterior ocellus from upper margin of frontal depression; antennal clava not abrupt, sub-tetramerous in that A8 is not too differentiated from A7; antennal segments in relative proportions 20:5, 7:3, 10:3, 10:3, 10:3.5, 7:4, 6.5:4.5, 5.5:5, 6:6, 5:6, 5:6, 7:5.5.

Mesosoma distinctly wider than high (37:22), generally flattened and perfectly levelled dorsally; prothorax unusually long, its cervical part longer than scutellum (13:9), reticulate-punctate; humeral part of prothorax also strongly developed; mesoscutum long, more than 4 times as long as the extremely short scutellum, with remarkably conspicuous scaly reticulation; notauli incomplete, indicated as rudiments just below mid-mesoscutum, as long as scutellum; parapsidal carinae present but fine; scutellum short, perfectly flattened, with same sculpture as mesoscutum but somewhat finer; metanotal lamina flattened, subrectangular; propodeum deeply excavate medially to contain hump, dorsal carinae running diagonally; fore wings not surpassing middle of T4; hind basitarsus longer than following four tarsomeres together.

Metasoma extremely elongate, fully 9 times as long as wide, all tergites distinctly elongate; hump on T1 distinct but flat, in lateral aspect not protruding above level of T1, its top perfectly smooth and shining, rest of T1 longitudinally rugulose with reticulation in between, T2, T3, and anterior half of T4 with similar sculpture; posterior half of T4, T5–T7 reticulate; metasomatic tergites in relative proportions 49:26, 48:30, 52:29, 46:28, 40:25, 35:20, 15:10; posterior one-third of T6 with sub-serrate margins; T7 retracted within T6; ovipositor and sheaths considerably extruded.

Male. Unknown.

TYPE MATERIAL. Holotype: 1 ♂ (USNM, slide no. 43328), Haiti, Fond-des-Negres, Feb. 19 1930, C.H. Arndt, Leptoteleia arndti Dozier, ex eggs of coffee tree cricket Chremon repentinus on coffee. Paratypes: 1 ♂ with same data as holotype but reared on May 10 (USNM, slide); 1 ♂ same data as holotype but reared on Feb. 28 by H.L. Dozier (USNM, on point) (det. Dozier).

DISTRIBUTION. Haiti.

BIOLOGY. Arndt and Dozier (1931) reared this species from eggs of the coffee cricket, Chremon repentinus Rehn, in Haiti. The cricket is reported injurious to young coffee bushes by ovipositing in twigs, causing defoliation and eventually loss of the plants. However, the cricket is not specific to coffee trees only, ovipositing in about a dozen of other trees and bushes in Haiti. Since the host eggs are deeply tunnelled in the wood, the way the wasp has to reach them is likely very elaborate. The sclerotized tips of ovipositor sheaths present in all Leptoteleia species may perhaps play some role in
facilitating this task. Similarly, the pointed T7, not extruded with ovipositor, may very well serve the same purpose.

**Variability.** The original description gives much darker colouring than encountered in the type series (slides and dry mounted specimens). This might be explained by the age of the type material.

**Remarks.** This is the first detailed redescription of this species. The original diagnosis was quite inadequate, laconic, and, in some respects, also misleading. On the other hand, the author did correctly classify this species in *Leptoteleia*, a genus not well recognized in the thirties. *L. arndti* is closely related to the Brazilian *L. marketae* from which it differs markedly by clear wings, hairy eyes, and complete occipital carina. In fact, the two species are much closer to each other than to *L. monicae*, which is, to some extent, transitional to *oecanthi*-group.

**Leptoteleia marketae** n. sp.

**Male.** Length 3.25 mm. Melanic species; black; A1–A3 and legs mostly reddish brown, hind coxae dark brown, middle and hind basitarsi as well as anterior third of hind tibiae yellowish, A4–A12 and hind tarsomeres 2–5 almost black; fore and hind wings heavily infuscate in basal half, veins dark brown.

Head in dorsal view sub-circular transverse (30:40), in lateral view almost opisthognathous and distinctly flattened, much wider than high (40:25); frontal depression narrow, remarkably deep, closed, sharply margined from all sides, bisected by strong keel running from antennal insertion up to upper arc of depression; surface of depression almost smooth and shining; rest of frons, between depression and inner orbits finely reticulate; deep, subcircular, smooth, and highly shining fossa in between upper arc of frontal depression and anterior ocellus; anterior ocellus sloping into the above fossa; ocellar area distinctly reticulate; vertex and temples reticulate-punctate, punctures rather deep; occipital carina not clearly developed although faintly indicated; malar groove absent; eyes glabrous, in dorsal aspect eyes as long as temples behind them, in lateral aspect shorter than temples; temples behind eyes rather bulging, head wider here than across eyes; ocelli in a low triangle, POL distinctly longer than LOL; A9–A11 twice as long as wide.

Mesosoma strongly flattened dorsoventrally, wider than high (40:30); prothorax strongly developed in both humeral and cervical parts; the latter longer than scutellum, slightly-swollen and higher than adjacent part of mesoscutum; sculpture of prothorax rougher than that of vertex, reticulate-punctate; mesoscutum net-like reticulate-punctate, punctuation more dense in anterior one-third; notauli absent; parapsidal carinae present; scutellum reticulate, with some fine punctuation, one-fourth as long as mesoscutum, longer than metanotal lamina (10:6); metanotal lamina perfectly flattened, slightly convex posteriorly, finely reticulate; propodeum with strong longitudinal costae in its median two-thirds, dorsal carinae running very close to each other, perfectly parallel; mesopleura sculptured, reticulate, metapleura smooth but with some longitudinal striae; fore wings not surpassing apex of T4; legs extremely long and slender; tarsi and hind tibiae with numerous tiny spine-like setae, reminiscent of pompilid wasps, hind basitarsus as long as hind tibia.

Metasoma extremely long and slender, almost 9 times as long as wide, all tergites but T7 distinctly elongate; tergites in relative proportions 35:25, 38:27, 38:26, 36:23, 34:20, 27:18, 10:13, 13:10; T1–T4 with heavy longitudinal costae and fine aciculation in between; costae becoming irregular on T5 and T6, T7 longitudinally aciculate, T8 reticulate, almost triangular, tapered into a spine which is truncate at very apex.

**Female.** Unknown.

**Type Material.** Holotype: 1♂ (CNC No. 15255), Brazil, Mato Grosso, Sinop, Oct. 1976, M. Alvarenga (Malaise trap).

**Distribution.** Brazil (Mato Grosso).

**Biology.** Unknown.
**Leptoteleia monicae n. sp.**

**Female.** Length 2.6 mm. Xanthic species; orange-yellow; head black, apex of metasoma including T7, T6, and T5 dark brown to black; posterior one-third of T4 brownish, little black speck situated medially at posterior margin of prothorax; antennae dark brown except for orange scape; legs orange-yellow, mid and hind tibiae in distal halves and hind femora dark brown; wings clear.

Head sub-rectangular, transverse (27:35); frontal depression shallow, unmargined, with fine dense transverse striae and moderate median keel running up from antennal insertion but not reaching the vague upper limits of depression; frons between upper arc of depression and anterior ocellus reticulate with some fine transverse rugae; ocellar space and vertex finely reticulate-granulose, temples reticulate; occipital carina complete but rather fine; malar groove absent; eyes large, densely pubescent, hairs fairly long, in dorsal aspect eyes fully twice as long as temples behind them; ocelli in a high triangle, POL = LOL; antennal clava not abrupt, sub-tetramerous; antennal segments in relative proportions 18:4, 7:3, 9:3, 9:3, 9:3, 6:3.5, 5:4, 4:4.5, 5:5.5, 5:5.5, 5:5.5, 6:5.5.

Mesosoma as high as wide, in lateral aspect slightly convex dorsally and not perfectly levelled; cervical part of prothorax slightly longer than scutellum (12:10), humeri well developed, epomia absent; sculpture of prothorax reticulate-granulate; mesoscutum slightly convex dorsally, net-like reticulate-punctate; notauli reduced to short shallow rudiments at meson of mesoscutum; parapsidal carinae well marked; scutellum finely reticulate, one-fourth as long as mesoscutum; twice as long as metanotal lamina, the latter entirely and slightly convex posteriorly; propodeum not excavate, partly smooth dorsally, its dorsal carinae parallel, very close to each other; sides of prothorax reticulate, most of mesopleura and entire metapleura smooth; fore wings reaching apex of T4; hind basitarsus markedly shorter than hind tibia, as long as tarsomeres 2–5 combined.

Metasoma considerably elongate, 6 times as long as wide; tergites in relative proportions 30:20, 31:26, 30:27, 26:28, 19:25, 17:18, 7:6; T1 slender, almost petiolate, without trace of hump, levelled dorsally, longitudinally costate, intercostal space delicately rugulose; T2–T4 with similar sculpture as T1 but costae becoming gradually irregular and disappearing in posterior half of T4; T5–T7 predominantly reticulate; ovipositor and tips of sheaths shortly protruding.

**Male.** Unknown.

**Type Material.** Holotype: 1 ♀ (CNC No. 15256), Dominican Republic, Colonia, Cordillera Central, 1000 m, Feb. 19 1972, J. Klapperich. Paratypes 2 ♀, with same data as holotype but one caught on May 1 (CNC).

**Distribution.** Dominican Republic.

**Biology.** Unknown.

**Variability.** One female caught at type locality on July 12 is not included in type series. It differs from the other three females in sculpture of T1–T3, however, some malformations all over the body indicate that the specimen is probably monstrous. No chromatic or morphological differences were encountered among the three females from the typical series.

**Remarks.** *L. monicae* belongs to the arndti-group, although it is not so flattened as the other two species, *arndti* and *marketae*; however, the length of prothorax and the antennal characters will bring it in this group. It gives me great joy to dedicate this gorgeous species to my sweet daughter, Monica Masner (10), the little admirer of my tiny wasps.
The AMERICANA-GROUP

Leptoteleia americana n. sp.

Female. Length 2.5 mm. Black; A1–A7, and legs except for hind coxae yellowish; A8–A12 brown; hind coxae light brown, metasoma dark brown, lighter at margins, posterior margin of T1 reddish brown; wings clear.

Head sub-quadrangular, as long as wide, as wide as mesosoma; frontal depression rather shallow, unmarginated at sides, with dense transverse striae, margined weakly in its upper part; rest of frons (in front of ocelli), vertex, temples, and occiput finely reticulate- punctate; genae weakly fan-like striate; eyes densely hairy, higher than long (23:17), in lateral aspect only slightly longer than temples (17:15), in dorsal aspect twice as long as temples; lateral ocelli almost contiguous with inner orbits, POL > LOL; occiput considerably concave dorsomedially, occipital carina developed only at sides; antennal clava distinctly 5-segmented; antennal segments in relative proportions 20:5, 8:3, 8:2.5, 5:3, 4:3.5, 4:4, 5:4.5, 5:6.5, 5:7, 5:6.5, 5:6.5.

Mesosoma as wide as high; epomia of the prothorax sharply angulate (dorsal aspect); mesoscutum and scutellum evenly scaly reticulate- puncate; parapsidal carinae extending to about middle of mesoscutum; sides of prothorax finely scaly reticulate in upper part, almost smooth in lower part; mesopleura partly scaly reticulate, partly smooth; metapleura entirely smooth; metanotal lamina sinate medially (concave); propodeum deeply excavate medially to house hump; fore wings extending to hind margin of T4.

Metasoma distinctly longer than mesosoma and head combined, 4 times as long as wide; T1 longer than wide (40:30), hump moderately elevated, sculptured at top, but partly smooth at sides, rest of T1 longitudinally rugulose; T2 slightly transverse (32:35), longitudinally rugulose; T3 more transverse (30:37), with same yet slightly finer sculpture than in T2; T4 transverse (25:36) with mostly reticulate rugulosity; T5 transverse (20:31) and reticulate; T6 transverse (17:21), almost triangular, finely reticulate; T7 minute, triangular, longer than wide (8:5); ovipositor sheaths extruded and well sclerotized, ovipositor protruding.

Male. Length 2.4 mm. Differs from female as follows. Legs and antennae entirely yellowish. Frons between anterior ocellus and upper margin of depression with several transverse rugae running across from orbit to orbit; vertex and occiput with rough reticulate- rugose sculpture; POL = LOL; occiput less excavate; eyes in dorsal aspect only 1.5 times as long as temples; flagellar segments only slightly elongate, A12 twice as long as wide; epomia of prothorax not prominent; mesoscutum and scutellum only reticulate, without distinct punctuation in between; metasoma over 5 times as long as wide; T1-T5 distinctly longitudinally costate with transverse reticulation in between; T6 less distinctly costate, T7 obtuse, finely coriaceous; metasomatic segments in relative proportions 30:22, 35:29, 30:30, 25:28, 20:25, 15:20, 3:14, 7:11.

TYPE MATERIAL. Holotype: 1 ♀ (CNC No. 15257), USA, Georgia, Forsyth, Sept. 23–30 1970; Malaise trap (F.T. Naumann). Allotype: 1 ♂, same data as holotype but captured on Oct. 9–17 (CNC). Paratypes: 1 ♀, USA, Florida, Gainesville, Alachua Co., April 18 1974, Malaise trap (FSCA); 2 ♀, USA, Virginia, Brunswick Co., June 10 1967, C.W. Berisford (CNC); 1 ♂, Washington, D.C., Aug. 1 1906, J.G. Sanders (USNM); 1 ♀, USA, Maryland, Plummer Is., Oct. 1 1960, K.V. Krombein (USNM).

DISTRIBUTION. Eastern USA from Washington, D.C., to Florida.

BIOLOGY. Host unknown but most likely a tree cricket (Oecanthus). The paratypes from Virginia are labelled “with Ips grandicollis on Pinus taeda” and the paratype from Washington is said to be reared from Gossypia spuria (Modeer) (Hom., Eriococcidae). However, neither of the two insects mentioned could be the potential hosts.

VARIABILITY. Little variability was observed in my material. Punctuation of head is denser in some paratypes and epomia less angulate than in the holotype.

REMARKS. Sexual dimorphism in sculpture of head is quite remarkable and suggests that the sexes may belong to different species. The closest relatives of this species are the Caribbean L. ferdinandi and L. lubomiri, both from the Dominican Republic.
Leptoteleia ferdinandi n. sp.

Female. Length 2.6 mm. Differs from L. americana only in the following few characters. Legs including coxae bright golden-yellow. Metasoma in posterior half light brown. Ocellar triangle higher, i.e. POL = LOL. Eyes only sparsely hairy. Occiput less excavate so that the temples behind eyes less bulging. Tergites 4-6 gradually longer, T5 almost as long as wide, T6 distinctly longer than wide (19:16).

Male. Unknown.

Type Material. Holotype: 1 ♀ (CNC No. 15258); Dominican Republic, Colonia, Cordillera Central, 1000 m, March 27 1972, J. Klapperich. Paratype: 1 ♀, with same data but caught on March 18 (CNC).

Distribution. Dominican Republic.

Biology. Unknown.

Remarks. Closely related to Nearctic L. americana and the Caribbean L. lubomiri, the differences from both are in the key to species. This new species is dedicated to Mr. Ferdinand Kosch (Prague), my good humoured and very original father-in-law.

Leptoteleia lubomiri n. sp.

Female. Length 2.7 mm. Black; A1–A7 orange-yellow, legs including coxae bright orange-yellow; posterior half of metasoma dark brown; wings clear.

Head sub-quadrangular, as long as wide; frontal depression extremely shallow, not margined, with dense transverse sculpture; frons between upper margin of depression and anterior ocellus with several transverse ridges running across from orbit to orbit; genae, temples, vertex, and occiput densely reticulate-punctate; eyes almost glabrous, in dorsal aspect almost twice as long as temples behind them; ocellar triangle high, POL < LOL; antennal clava abruptly 5-segmented, antennal segments in relative proportions 19:5, 9:3, 6:2.5, 4:2.5, 3:3, 2.5:4, 3.5, 4:8, 4:8, 4:8, 4:8, 4:7.

Metasoma over 5 times as long as wide; T1 elongate (30:22), hump moderate, reticulate at top, with smooth areas at sides, rest of T1 longitudinally costate; T2 slightly elongate (37:30), with longitudinal rugulae and transverse rugulosity in between; T3 almost as long as wide (35:33), basically with same sculpture as T2; T4 almost square (30:31), with finer longitudinal rugulosity tending to disappear in posterior one-third; T5 with even finer sculpture than in T4, slightly transverse (24:26); T6 almost triangular (17:17), finely punctate; T7 minute, triangular as long as wide (6:6); ovipositor and sheaths not extruded.

Male. Differs from female in following few characters. Flagellomeres elongate, A6–A11 only slightly elongate (7:6). Eyes with more short hairs. POL = LOL. Epomia of prothorax less angulate. Mesoscutum finely reticulate-punctate, its mid-section in front of scutellum almost smooth and punctate; parapsidal carinae almost obsolete; scutellum finely reticulate-punctate; sides of prothorax and most of mesopleura reticulate; mesosternum smooth; metanotal lamina deeply excavate medially to appear almost bidentate; fore wings reaching up about middle of T4.

Metasoma over 5 times as long as wide; T1 elongate (30:22), hump moderate, reticulate at top, with smooth areas at sides, rest of T1 longitudinally costate; T2 slightly elongate (37:30), with longitudinal rugulae and transverse rugulosity in between; T3 almost as long as wide (35:33), basically with same sculpture as T2; T4 almost square (30:31), with finer longitudinal rugulosity tending to disappear in posterior one-third; T5 with even finer sculpture than in T4, slightly transverse (24:26); T6 almost triangular (17:17), finely punctate; T7 minute, triangular as long as wide (6:6); ovipositor and sheaths not extruded.

Type Material. Holotype: 1 ♀ (CNC No. 15259), Dominican Republic, Colonia, Cordillera Central, 1000 m, May 1 1972, J. Klapperich. Allotype: 1 ♂ (CNC), same data as holotype. Paratypes: 1 ♀, same data as holotype (head missing), 1 ♂ same data as holotype but caught April 21 (CNC).

Distribution. Dominican Republic.

Biology. Unknown.

Variability. No substantial variability encountered.

Remarks. This species is close to the Caribbean L. ferdinandi and the Nearctic L. americana. It differs from both mainly in female sex by having frons between anterior
ocellus and upper margin of frontal depression with transverse ridges. The species is dedicated to my late father, Lubomir Masner, one time enthusiastic young amateur-coleopterist who introduced me to the study of insects.

**Leptoteleia stani n. sp.**

**Female.** Length 2.8 mm. Black; legs, except for darker hind femora, entirely golden-yellow; A1–A7 dark orange, antennal club brown; metasoma brown, lighter in posterior half and along posterior margins of tergites; wings clear.

Head slightly transverse (37:41); frontal depression not margined, very shallow, with distinct transverse ridges; frons in front of anterior ocellus with transverse rugae; genae and temples behind eyes (lateral aspect) reticulate-punctate, posterior part of temples rugoso-punctate; vertex and particularly occiput rough rugoso-punctate; occular triangle high, POL < LOL; eyes almost glabrous, hairs short and scattered, in dorsal aspect eyes only a little longer than temples behind them; antennal clava abruptly 5-segmented, antennal segments in relative proportions 20:6, 9:3.5, 6:3, 3:3, 2.5:3.5, 2.5:4, 2.5:5, 4.5:9, 4.5:9, 4.5:8, 4.5:7.

Mesosoma slightly higher than wide (41:38); epomia of prothorax slightly developed; mesoscutum and scutellum reticulate-punctate, parapsidal carinae prominent; metanotal lamina deeply excavate medially and hence bilobate in appearance; fore wings extending up to hind margin of T4.

Metasoma over 5 times as long as wide; hump on T1 reticulate at top, smooth as sides; T1–T4 longitudinally costate, T2–T4 with fine transverse sculpture in between, T5 with some longitudinal sculpture in anterior half; T6 and T7 finely reticulate; metasomatic segments in relative proportions 32:24, 40:33, 33:33, 28:32, 22:25, 16:15, 6:6; ovipositor and sheaths not exserted.

**Male.** Differs from female in following characters. Legs golden-yellow except for darker mid- and hind tibiae (dorsal aspect); A6–A11 only slightly longer than wide; head transverse (35:45); frons in front of anterior ocellus transversely rugose; eyes with conspicuous scattered hairs, in dorsal aspect eyes almost twice as long as temples behind them; POL = LOL, ocelli considerably convex; vertex and occiput with sculpture more rugose than in female; T1–T5 with strong costae, stronger than in any other species.

**Type Material.** Holotype: 1♀ (CNC No. 15260), Dominican Republic, Colonia, Cordillera Central, 1000 m, Feb. 6 1972, J. Klapperich. Allotype 1♂ (CNC), same locality as holotype but caught Jan. 30.

**Distribution.** Dominican Republic.

**Biology.** Unknown.

**Remarks.** I have some doubts about the association of sexes in this species. The male (allotype) cephalic characters and sculpture of T1–T5 are rather different from female; however, other characters plus the locality and timing are exactly as in the holotype. More material, preferably reared, will be needed to solve this question. This species is dedicated to my late uncle, Mr. Stan[islaus] Suk (formerly of Prague), my beloved companion and instructor in the art of fishing.

**Leptoteleia radeki n. sp.**

**Female.** Length 2.5 mm. Black; scape and legs bright yellow, A2–A7 darker, A8–A12 dark brown, T1 strikingly yellow (almost concolorous with legs), T2–T7 light chestnut-brown, with lighter margins; wings clear.

Head slightly transverse (35:40); frontal depression shallow, unmargined at sides, weakly above, with transverse dense sculpture in middle; frons in front of ocelli, on vertex, occiput and temples reticulate-punctate; cheeks shortly striate; eyes with short scattered hairs, in dorsal aspect eyes almost 2.5 times as long as short temples behind them; occular triangle high, POL = LOL; occiput not excavate dorsally; antennal segments in relative proportions 20:5, 10:3.5, 9:3, 5:3.5, 4:3.5, 3:4, 3:5, 5:7, 5:8, 5:8, 5:7; clava abruptly 5-segmented.
Mesosoma as high as wide; epomia of prothorax only slightly indicated; mesoscutum and scutellum reticulate-punctate; parapsidal carinae strongly prominent; sides of prothorax almost completely reticulate; mesopleura mostly smooth, metapleura entirely smooth; metanotal lamina deeply sinuate medially; fore wings extending up to middle of T5 because of shorter metasoma.

Metasoma slightly more than 4 times as long as wide, with all tergites square or transverse, 28:28, 30:30, 28:34, 23:23, 20:20, 20:20, 8:8; hump very low; T1–T4 with weak longitudinal costae and reticulation in between, T5 with weak longitudinal sculpture in anterior half, reticulate in posterior half, T6 and T7 reticulate; ovipositor and sheaths not exserted.

Male. Unknown.

Type Material. Holotype: 1♀ (CNC No. 15261), Dominican Republic, Colonia, Cordillera Central, 1000 m, May 1 1972, J. Klapperich.

Distribution. Dominican Republic.

Biology. Unknown.

Remarks. The striking yellow T1 will distinguish readily this species from the other three species of the americana-group *(americana, ferdinandi, josephi)* in which the frons is not transversely wrinkled. *L. radeki* can be easily distinguished from the other two species with yellow T1 *(andrei, normani)* in that the frons is transversely wrinkled in the latter two species but reticulate–punctate in *radeki*. This species is dedicated to my son Radek (13), my valuable helper and companion.

**Leptoteleia kareli** n. sp.

Male. Length 2.2 mm. Black; fore and middle legs including coxae, A1–A7 and palpi bright yellow, hind legs partly brown (coxae, femora, part of tibiae), pleura of mesosoma, metanotal lamina, propodeum, and all of metasoma dark chestnut-brown; wings clear.

Head subquadrangular, slightly transverse (35:40); frontal depression rather shallow but well marked, not margined, with dense transverse striation; frons in front of anterior ocellus, in ocellar space, vertex, occiput, and temples granular punctate; eyes large, densely pubescent, hairs long, in lateral aspect eyes more than 1.5 times as long as temples behind them, in dorsal aspect fully twice as long as temples; ocelli in a high triangle, POL = LOL; all flagellomeres distinctly elongate, segments in relative proportions 20:4.5, 6:4, 13:5, 11:4.5, 10:5.5, 9:5, 9:5, 9:5, 8:4.5, 8:4, 8:4, 11:4.

Mesosoma slightly higher than wide (41:37); epomia of prothorax sharply angulate; mesoscutum and scutellum reticulate-punctate; parapsidal carinae fairly prominent; metanotal lamina deeply bilobate; fore wings reaching to apex of T4.

Metasoma 4 times as long as wide, tergites in relative proportions 25:26, 27:29, 25:31, 20:31, 15:26, 10:20, 11:11, 7:10; T1–T4 with longitudinal costae and reticulation in between, T5–T8 mostly reticulate.

Female. Unknown.

Type Material. Holotype: 1♂ (MCZ), Jamaica, W.I., Balaclava, R. Thaxter (right antenna missing).

Distribution. Jamaica.

Biology. Unknown.

Remarks. This species is rather unusual among the members of the americana-group in having flagellomeres distinctly elongate, twice as long as wide or nearly so. It is my pleasure to dedicate this species to my late uncle Mr. Karel Preiss (formerly Prague) for his kind financial support of my entomological activities while a student at Charles University, Prague.

**Leptoteleia josephi** n. sp.

Female. Length 2.8 mm. Black; A1–A7, legs including coxae and tegulae orange-yellow; wings subhyaline.

Head slightly transverse (40:47), sub-quadrangular; frontal depression shallow unmargined, with dense transverse sculpture; frons in front of anterior ocellus, in ocellar area, vertex, temples,
and occiput mat due to rather coarse granular-punctate sculpture (no reticulation) cheeks fan-like striate; eyes large, densely pubescent, hairs long, in lateral aspect eyes only slightly longer than temples, in dorsal aspect 2.5 times as long as temples; ocelli in a low triangle, POL > LOL; antennal clava abruptly 5-segmented, A4 slightly elongate, A5–A7 slightly transverse.

Mesosoma slightly wider than high (45:40), moderately flattened dorsally (mesonotum); epomia of prothorax rather sharp; mesoscutum with sculpture similar to that of vertex, i.e. rather mat, granulose-punctate; parapsidal carinae very prominent, almost percurrent; sculpture of scutellum finer than that of mesoscutum; metanotal lamina deeply sinuate; mesopleura almost completely sculptured, reticulate-punctate; metapleura smooth; fore wings extending beyond apex of T4.

Metasoma rather robust, with all tergites but T7 distinctly transverse, 4 times as long as wide; tergites in relative proportions 33:35, 35:46, 30:46; 27:41, 24:34, 20:21, 10:8; ovipositor and sheaths shortly protruding.

**Male.** Unknown.

**Type Material.** Holotype: 1♀ (CNC No. 15262), Dominican Republic, Boca Chica, 10 m, Jan. 6 1973, J. Klapperich (left antenna after A5 missing).

**Distribution.** Dominican Republic.

**Biology.** Unknown.

**Remarks.** This species is unique in the *americana*-group, with its rough and rather mat sculpture of head and mesoscutum. Named in honour of my late grandfather, Mr. Joseph Masner, dedicated Czech forester and entomologist.

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**Leptoteleia petrum n. sp.**

**Female.** Length 3.1 mm. Black; legs uniformly orange yellow, scape orange, A2–A7 light brown, clava black; wings clear.

Head slightly transverse (32:40); frontal depression very shallow, unmarginated, with dense transverse ridges; frons in front of anterior ocellus with several strong transverse ridges running across from orbit to orbit; ocellar space, vertex, and occiput reticulate-rugulose, temples reticulate-punctate; eyes large, almost glabrous, with short sparse pubescence, in lateral aspect eyes 1.5 times as long as temples, in dorsal aspect fully twice as long as temples behind them; ocelli in high triangle POL = LOL; antennal clava abruptly 5-segmented; antennal segments in relative proportions 22:5, 8:3, 7:3, 4:3:5, 3:3:5, 3:3:5, 3:4, 5:7, 5:8, 5:8, 5:7, 7:6.

Mesosoma as wide as high; epomia of prothorax not developed; mesoscutum and scutellum with extremely fine reticulate-punctate sculpturing; parapsidal carinae present; metanotal lamina deeply sinuate; mesopleura partly smooth, partly reticulate; fore wings not reaching the apex of T4.

Metasoma remarkably elongate, 6.5 times as long as wide, with all tergites longer than wide, tergites in relative proportions 35:30, 38:35, 37:34, 35:28, 30:19, 22:13, 12:7; hump moderate, reticulate at top, rest of T1 longitudinally costate, same costae on T2–T4, T5 mostly aciculate, T6 and T7 mostly reticulate-punctate; ovipositor and sheaths not extruded.

**Male.** Unknown.

**Type Material.** Holotype: 1♀ (CNC No. 15263), Bélize (formerly British Honduras) Middlesex Co., Stan Creek Distr., March 18 1965.

**Distribution.** Bélize (formerly British Honduras).

**Biology.** Unknown.

**Remarks.** *L. petrum* is very close to the Nearctic *L. vaclavi* on account of the remarkably elongate metasoma, transverse ridges on frons in front of anterior ocellus, and the rough reticulate-rugulose sculpture of vertex. *L. petrum* is dedicated to my brother Dr. Petr Masner (Dielsdorf-Zurich) with whom I once shared the love for microhymenoptera. Also dedicated to my nephew Petr Masner Jr., the young naturalist, and, finally to Mr. Petr Kosch (Prague), my jolly brother-in-law.
Leptoteleia vaclavi n. sp.

Female. Length 2.9 mm. Very similar to L. petrum from Belize from which it differs only in the following characters. Metasoma chestnut-brown to almost golden-brown along sutures and margins; eyes only 1.5 times as long as temples if viewed from above; metanotal lamina deeply excised medially to almost absent at meson; apex of stigma1 vein with recurrent hook-like process; T1 moderately elongate (38:28).

Male. Unknown.

Type Material. Holotype: 1 ♂ (CNC No. 15264), USA, Virginia, Brunswick Co., June 10 1967, C. W. Berisford.

Distribution. USA (Virginia).

Biology. The holotype is labelled "With Ips grandicollis on Pinus taeda"; however, the host is presumed to be a tree cricket associated with that pine.

Remarks. Because of its slender metasoma and sculpture of frons in front of anterior ocellus this species comes very close to L. petrum. Named in honour of my late grandfather, Mr. Vaclav (Wenceslas) Suk, formerly of Prague.

Leptoteleia andreai n. sp.

Female. Length 2.0 mm. Strikingly varicoloured; head ebony-black, antennae (including clavae) yellowish, A1 and A2 lighter, mesosoma mostly orange-yellow (ventrally and on pleura), posterior two-thirds of mesoscutum, strip from tegula to front coxa as well as the collar part of pronotum dark chestnut brown, legs including coxae whitish yellow, tarsi slightly darker, metasoma yellow ventrally except for light brown S2 and S6, yellowish-brown dorsally, T1 golden-yellow, T2 light brown except for posterior margin, T3–T6 yellow with 3 light brown patches (medially and laterally), T7 brown, wings clear.

Head sub-quadrangular, as long as wide; frontal depression shallow, unmarginated, with transverse sculpture; frons immediately above depression almost smooth, with extremely fine reticulation, however, further up (right in front of anterior ocellus) with 3 transverse ridges; frons in ocellar triangle, vertex and occiput finely reticulate, with few scattered large punctures; temples immediately behind eyes almost smooth, then becoming longitudinally striate-punctate; eyes 1.3 times as long as temples behind them (both lateral and dorsal views), with short scattered hairs; ocellar triangle high, POL = LOL; antennal clava abruptly 5-segmented, antennal segments in relative proportions 18:4, 8:3, 6:3, 3.5:3, 3:3, 2.5:4, 4:6.5, 4:7, 4:7, 5:6.

Mesosoma as wide as high; epomia of prothorax not angulate; mesoscutum and scutellum finely reticulate with a few scattered punctures; parapsidal carinae quite conspicuous; metanotal lamina deeply excavate medially and hence almost bidentate; mesopleura mostly smooth, metapleura entirely smooth; fore wings slightly exceeding posterior margin of T4.

Metasoma slightly less than 4 times as long as wide, with T1–T6 transverse, hump moderate; T1–T4 longitudinally costate; tergites in relative proportions 26:28, 27:35, 22:36, 17:34; 14:27, 9:16, 7:6; ovipositor and tips of sheaths slightly extruded.

Male. Unknown.

Type Material. Holotype: 1 ♂ (USNM), Cuba, Rio Cauto (Oriente), March 1928, C.F. Stahl.

Distribution. Cuba.

Biology. Unknown.

Remarks. The striking varicoloured pattern makes this species quite remarkable. Named in honour of my little nephew Andreas (Ondřej) Masner (Dielsdorf-Zürich), a young naturalist and would-be explorer.

Leptoteleia normani n. sp.

Female. Length 2.5 mm. Melanic species with varicolored metasoma; head and mesosoma ebony-black, legs including coxae, and A1–A6 predominantly bright golden-yellow, clava darker, tibiae of middle and hind legs as well as tarsi of all legs brownish yellow; metasoma strikingly varicolored, segment 1 (T1+S1) including hump uniformly and brightly golden-
yellow, T2–T4 dark brown with golden margins anteriorly and posteriorly, T5 with 3 darker stripes (laterally and at meson), T6 with only two darker stripes laterally, T7 dark brown.

Head sub-quadrangular, as long as wide, widest at temples; frontal depression shallow, unmarginated (no keels) but with extremely strong transverse ridges from orbit to orbit, leaving only narrow stripes of frons along lower inner orbits reticulate; frons between upper margin of depression and anterior ocellus with 5–6 strong transverse ridges; ocellar triangle reticulate-rugose; vertex and occiput with finer reticulate-rugose sculpture; temples reticulate-punctate; malar groove distinct, cheeks finely fan-like striate; maxillary palpi 3-segmented, labial palpi 2-segmented; eyes 1.5 times as long as temples behind them (dorsal view), with short scattered hairs; ocellar triangle high, POL = LOL; antennal clava abruptly 5-segmented, antennal segments in relative proportions 18:4.5, 8:3.5, 6:3, 4:3, 3:2.5, 3:3, 3:4.5, 3:7, 3:5:7, 3:7, 3:7, 3:7.

Mesosoma slightly higher than wide (35:32); collar of prothorax distinct but shorter than scutellum (8:11); epomia not angulate, indistinct; mesoscutum and scutellum finely reticulate-punctate; parapsidal carinae indistinct; metanotal lamina deeply excavate medially, with posterolateral corners sharp and prominent; propodeum deeply excavate medially, with dorsal carinae straight oblique; sides of prothorax reticulate-rugose; mesopleura finely coriaceous, partly smooth; metapleura entirely smooth; fore wings clear, slightly exceeding posterior margin of T4.

Metasoma 4.3 times as long as wide, T1 distinctly elongate, with moderate hump; T1–T5 longitudinally costate; tergites in relative proportions 31:25, 32:33, 29:35, 26:34, 22:28, 19:16, 10:6; ovipositor and tips of sheaths slightly extruded.

**Male.** Length 2.3 mm. Differs from female principally in secondary sexual characters and different colour pattern of metasoma which is basically bicolor, with segment 1 bright golden-yellow and T2–T8 dark chestnut-brown, with only small lighter spots situated in anterolateral corners of T3–T5. Metasomatic tergites in relative proportions 28:23, 28:30, 24:31, 20:30, 16:28, 8:20, 2:12, 5:10. A6 and following 5 antennal segments only slightly longer than wide (5:4).

**Type Material.** Holotype: 1 ♀ (USNM), USA, Florida, Clearwater, Pinellas Co., April 6–12 1977, in pan trap, N.F. Johnson. Allotype: 1 ♂ (CNC No. 15499), USA, Florida, Flamingo, Everglades Nat. Park, Monroe Co., Jan. 5 1971, swept from evergreen bushes along canal, L. Masner.

**Distribution.** Florida.

**Biology.** Unknown.

**Remarks.** In colour pattern similar to radeki and partly also to andreai. From the former species normani differs distinctly by transversely ridged forehead, from the latter species principally by having head and mesosoma unicolor black (bicolor in andreai), T1 distinctly elongate in both sexes (transverse in andreai), etc. It is my pleasure in naming this handsome species after Mr. Norman F. Johnson (Ithaca, N.Y.), a keen student of scelionid wasps.

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career. Twenty-two new species of the handsome genus *Leptoteleia* Kieff. are named after my beloved ones; feminine names were employed in the *oecanthi-* and *arndti-*groups, male names in the *americana-*group.

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