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### A second new species of *Nanophyllium* Redtenbacher, 1906 from the northern coast of New Guinea (Phasmida, Phylliidae)

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A new species of leaf insect, *Nanophyllium larssoni* n. sp. is described and illustrated bringing the known species in the genus to a total of six. Like all species of *Nanophyllium* Redtenbacher, 1906, the new species is named from a single male specimen, which is deposited in the San Diego Natural History Museum. With this newly identified species, two clear species-groups emerge and are described, in detail, in the species key. Measurements of anatomical figures were made to the nearest 0.1 mm.

**Differentiation.** The presence of two posterior tubercles on the head and small body size place the new species in the genus *Nanophyllium* Redtenbacher, 1906. This new species closely resembles *Nanophyllium stellae* Cumming, 2016, but can be distinguished by the shape of the exterior lobe of the profemora, and unique abdominal shape. *Nanophyllium larssoni* n. sp. is the second species known from the Cyclops Mountains of Jayapura and is here differentiated from congenics.

#### *Nanophyllium larssoni* n. sp. (Figure 1).

Holotype, ♂: Indonesia, Irian Jaya (Sentani), Cyclops Mts. 24. XII. 2008 (S 2°31', E 140°31') [Coll.RC 16-240]. Collected by Viktor Sinjaev and purchased from Anton Kozlov of Russia.

**Coloration:** Body coloration a dark rich brown, except for a pale stripe along the medial sagittal plane from the head capsule to the mesothorax; on the ventral surface from the prosternum to the anterior of the metasternum. Granulation on the body is generally slightly lighter than the ground color.

**Morphology:** Head capsule as long as wide, with an irregularly granulose vertex, including the two posteromedian tubercles with additional noteworthy nubs just lateral to them. Three well-developed ocelli are slightly posterior to the compound eyes, which are protruding and ovular. Antennae long and slender, with 22 segments (including the scapus and pedicellus) covered in setae each as long as the segment is wide. Pronotum as long as wide with parallel lateral margins, and slightly irregularly granulose. Mesopraescutum wider than long, gradually narrowing posteriorly, surface slightly granular and slightly raised along the medial sagittal plane and lateral margins. Mesopleurae only gradually diverging, armed with a single spiniform tubercle on the anterior edge. Entire ventral aspect of pro- and mesosternum covered in irregularly sized and spaced granules. Tegmina (length 6.4 mm, maximum width 3.1 mm) not reaching the posterior of the metathorax. Alae well developed (length 30.0 mm), with exposed section of folded alae slightly sclerotized. Abdominal segment II tapering, III gradually widening, IV with a natural fold onto the dorsal surface, V the widest segment, V-VII each slightly widening and then converging creating an overall scalloped edge. Anal abdominal segment VIII slightly tapering, IX strongly tapering, X longer than wide and slightly widening towards the broad rounded apex. Genitalia, poculum broad, starting halfway through abdominal segment VIII and ending in a broad rounded apex that reaches the anterior margin of segment X. Cercus long, slender, and relatively flat without strongly curved margins. Vomer long and slender with sides gradually converging. Profemora, interior lobe rounded with three nubby, evenly spaced teeth. Exterior lobe significantly larger with a slight recurve and relatively smooth edges. Protibiae lacking an exterior lobe, interior lobe appears as a smooth triangle spanning the entire length of the protibia but more heavily weighted on the distal end. Mesofemora, exterior lobe gently arcing, interior lobe strongly rounded, smooth, and about twice as wide as exterior lobe. Intertior and exterior lobe of metafemora gently arcing with interior lobe only slightly wider. Meso- and metatibiae lacking lobes.

**Measurements [mm]:** Length of body 42.1, length/width of head 2.6/2.7, length of pronotum 2.1, length of mesonotum 1.8, length of tegmina 6.4, greatest width of tegmina 3.1, length of alae 30.0, greatest width of abdomen

12.7, length of profemora 7.8, length of mesofemora 7.6, length of metafemora 8.5, length of protibiae 4.5, length of mesotibiae 5.8, length of metatibiae 7.6, length of protarsi 4.4, length of antennae 20.4.

**Etymology.** The new species is named to honor Jerri Larsson, a passionate entomologist from California, United States. Mr. Larsson not only was the one who first introduced the author to leaf insects years ago, thus sparking the interest in the family, but also has been an invaluable mentor and dear friend over the years.



**FIGURE 1.** Male holotype of *Nanophyllium larssoni* n. sp., **A:** dorsal view; **B:** ventral view.

**Key to species-groups and known males of the genus *Nanophyllium* Redtenbacher, 1906**

1. Mesopleura with a single, anterior spine present, the remainder lacks spination; profemoral interior lobe rounded without a sharp angle; mesofemoral interior lobe a large rounded triangle, reaching from end to end and without spination: *stellae* species-group ..... 2.
    - Mesopleura with spination from end to end; profemoral interior lobe with a sharp angle giving the profemora a boxy appearance; mesofemoral interior lobe reduced at each end creating an overall angular shape with spination present; metafemora with interior lobe several times larger than the exterior lobe in an uneven arc weighted on the distal end: *pygmaeum* species-group ..... 3.
  2. Exterior profemoral lobe smoothly rounded with an obtuse angle; abdominal segments with smooth edges creating a clean, spade-shaped abdomen: (Irian Jaya, Jayapura) ..... *N. stellae* Cumming, 2016
    - Exterior profemoral lobe slightly recurved creating an overall acute angle; abdominal segment V with two large clear spots; segments V–VII each with margins that extend and then contract creating a scalloped edge: (Irian Jaya, Jayapura) ..... *N. larssoni* n. sp.
  3. Tegmina, head, and thorax brown; alae partially to completely brown ..... 4.
    - Tegmina/alae transparent; head/thorax pale green: (Irian Jaya, Fak Fak) ..... *N. rentzi* Brock & Grösser, 2008
  4. Alae uniformly brown ..... 5.
    - Alae margin brown, with a white interior: (Irian Jaya, Nabire) ..... *N. hasenpuschi* Brock & Grösser, 2008
  5. Exterior lobe of the profemora notably larger than interior lobe; head & pronotum light brown with dark brown medial stripe: (N. Guinea) ..... *N. adisi* Zompro & Grösser, 2003
    - Exterior lobe of the profemora not notably larger than interior lobe; head and pronotum uniformly dark brown in color ..... 6.
  6. Exterior profemora lobe distinct, exterior meso-, and metafemora lobe weak but present: (N. Guinea, Katau) ..... *N. pygmaeum* Redtenbacher, 1906
    - Exterior lobes of pro-, meso-, and metafemora greatly reduced: (Australia, Iron Range) ..... “*N. pygmaeum*” Redtenbacher, 1906\*
- \* The Australian *Nanophyllium* specimen collected by Rentz, is included in this key as a variation of *N. pygmaeum* Redtenbacher, 1906 (Rentz, 1988).

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## References

- Cumming, R. (2016) A new species of *Nanophyllum* Redtenbacher, 1906 from the northern coast of New Guinea (Phasmida, Phylliidae). *Zootaxa*, 4147 (1), 89–91.  
<http://dx.doi.org/10.11646/zootaxa.4147.1.7>
- Grösser, D. (2008) *Wandelnde Blätter. Ein Katalog aller bisher beschriebenen Phylliinae-Arten und deren Eier mit drei Neubeschreibungen. 2<sup>nd</sup> Edition*. Chimaira, Frankfurt am Main, 175 pp. [includes descriptions by Brock & Grösser]
- Redtenbacher, J. (1906) *Die Insektenfamilie der Phasmiden. I. Phasmidae, Areolatae*. Verlag W. Engelmann, Leipzig, pp. 180. [pls. 1–6]
- Rentz, D.C.F. (1988) *Nanophyllum pygmaeum* Redtenbacher (Phasmatodea: Phylliidae: Phylliinae), a leaf insect recently recognized in Australia. *Australian Entomological Magazine*, 15 (1), 3, figs. 12.
- Zompro, O. & Grösser, D. (2003). A generic revision of the insect order Phasmatodea: The genera of the areolate stick insect family Phylliidae (Walking Leaves). *Spixiana*, 26 (2), 129–141.