

**A Check List of the Parasitic Hymenoptera
of the Samoan Islands
with Descriptions of New Species Appended**

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EVANIIDAE

- Evania affinis** LeGuillou, Ann. Soc. Ent. Fr. 1841, p. 511. Listed in Bishop Museum Catalogue.
- Evania sericea** Cam., Tr. Ent. Soc. London, 1883, p. 191. Well-known cockroach egg-parasite. Bishop Museum Collection.

ICHNEUMONIDAE

- Echthromorpha samoana** Full., Proc. H.E.S., X, (1), p. 50, 1938. Bishop Museum Collection.
- Paniscus samoanus** Kohl, Denkschr. Math. Naturw. Kl. K. Akad. Wien, 1907, LXXXI, p. 314, no. 38. Bishop Museum Collection.
- Henicospilus nocturnus** Kohl, *ibid.* p. 315. Bishop Museum Collection.
- Henicospilus expeditus** Kohl, *ibid.* Bishop Museum Collection.
- Henicospilus samoana** Kohl, *ibid.* Bishop Museum Collection.
- Eugalta samoana** Full., Proc. H.E.S., X, (1), p. 52, 1938. Bishop Museum Collection.
- Hemiteles samoanus** Full., *ibid.* X, (3), p. 399, 1940. Bishop Museum Collection.
- Ichneumon samoanus** Full. *ibid.* X, (1), p. 49, 1938. Bishop Museum Collection.
- Therion savaiiensis** Full., *ibid.* X, (3), p. 400, 1940. Bishop Museum Collection.
- Porizon savaiiensis** Full., *ibid.* X, (3), p. 401, 1940. Bishop Museum Collection.
- Habronyx** sp. Bishop Museum Collection.
- Ephialtes** sp. Bishop Museum Collection.
- Amorphota** sp. Bishop Museum Collection.
- Mesochorus** sp., ex leaf-roller on *Homalanthus*, reared by Swezey, 1940.
- Mesochorus** sp., ex *Pachyrhabda amianta* on *Asplenium nidus*, reared by Swezey, 1940.
- Diplazon laetatorius** (Fabr.), Spec. Ins., 1, p. 424, no. 26, 1781, ex syrphid puparium (Swezey), 1940.
- Campoplex (Dioctes) tutuilensis** Full., Proc. H.E.S., X, (3), p. 402, 1940. Bishop Museum Collection.

BRACONIDAE

- Aneurobracon samoanus** Full., (see p. 45 below). Reared from lepidopterous larvae by Swezey, 1940.
- Zelee filicornis** Cam., Jn. Str. Asiat. Soc., XXXIX, p. 128, 1903. Bishop Museum Collection.
- Apanteles expulsus** Turner, Tr. Ent. Soc. London, 1918, p. 346. Attacks larvae of *Cirphis unipuncta* and *Anticarsia irrorata*; reared by Swezey from a Plusia-like caterpillar on *Ipomoea pes-caprae*; also from caterpillar of *Azasia rubricans* on *Vigna marina*.
- Apanteles hyblaeae** Wilk., Bull. Ent. Res., XIX, p. 114, 1928. Reared by Buxton from the Noctuid *Hyblaea sanguinea*; by Swezey from *Pachyrhabda amianta* on *Asplenium nidus*.
- Apanteles samoanus** Full., Proc. H.E.S., X, (3), p. 402, 1940. Reared by Swezey from caterpillars of *Marasmia trapezalis* on *Miscanthus japonicus* and *Marasmia trebiusalis* on *Oplismenus compositus*.
- Apanteles agonoxenae** Full., (see p. 48 below). Reared by Swezey from *Agonoxena argaula* caterpillars on *Clinostigma oncorhyncha*, 1940.
- Apanteles bedelliae** Full., *ibid.* p. 46. Reared by Swezey from leaf-miners in sweet potatoes, yam, and *Desmodium umbellatum*, 1940.
- Apanteles operculinae** Full., *ibid.* p. 47. Reared by Swezey from leaf-miners in yam and *Operculina turpethum*, 1940.
- Apanteles operculinae** var. **polita** Full., *ibid.* p. 47. Reared by Swezey from caterpillar of a Hesperid on rattan, 1940.
- Apanteles upoluensis** Full., *ibid.* p. 48. Reared by Swezey from leaf-rolling caterpillar on *Ficus* sp. 1940.
- Apanteles afamaluana** Full., *ibid.* p. 49. Reared by Swezey from lepidopterous leaf-miner, host (?), 1940.
- Microdus hawaiiicola** Ashm., Fauna Hawaiiensis, I, (3), p. 361, 1901. Parasite of *Opogona*. Bishop Museum Collection.
- Microdus tautirae** Cheesman, Ann. Mag. N.H., 10, (1), p. 186, 1928.
- Chelonus vitiensis** Turner, Tr. Ent. Soc. London, 1918, p. 345. Reared by Swezey from *Sylepta sabinusalis* on *Cypholophus macrocephalus*, 1940.
- Phanerotoma samoana** Full., Proc. H.E.S., X, (3), p. 403, 1940. Bishop Museum Collection.
- Spathius tutuilensis** Full., *ibid.*, p. 404, Bishop Museum Collection.
- Doryctes samoanus** Full., *ibid.*, p. 405, Bishop Museum Collection.
- Microbracon** sp. Reared by Swezey from a leaf-miner in wild cucumber leaves, 1940.

Camptocentrus sp. Reared by Swezey from a larva in fruits of Trema-like tree, 1940.

Glyptomorpha sp. Reared by Swezey from a leaf-miner in *Macaranga* leaves, 1940.

CHALCIDIDAE

Chalcis samoana Full., Proc. H.E.S., X, (3), p. 405, 1940. Bishop Museum Collection.

Chalcis sp. Reared by Swezey from a pupa ex *Wedelia biflora*, 1940.

Stomatoceras samoana Full., Proc. H.E.S., X, (3), p. 407, 1940. Bishop Museum Collection.

AGAONIDAE

Blastophaga spp. Reared by Swezey ex large figs, 1940.

Pleistodontes sp. Reared by Swezey ex small figs, 1940.

EUCCHARIDAE

Chalcura samoana Full., Proc. H.E.S., X, (3), p. 408, 1940. Bishop Museum Collection.

Stibulaspis samoana Full., *ibid.*, p. 409. Bishop Museum Collection.

TORYMIDAE

Megastigmus sp. Bishop Mus. Collection.

Lochites sp. Bishop Museum Collection.

Sycoscapter sp. Reared by Swezey ex large figs, 1940.

ENCYRTIDAE

Encyrtus infelix (Embleton), Tr. Ent. Soc. London, 1902, p. 223, Bishop Museum Collection.

Microterys sp. Bishop Museum Collection.

Acerophagus sp. Bishop Museum Collection.

Psyllaphagus sp. Reared by Swezey from a psyllid, *Mesohomotoma hibisci* on hau, *Hibiscus tiliaceus*, 1940.

Echthrogonatopus exitiosus Perk., H.S.P.A. Exp. Sta. Bul. 1, (8), Div. Ent., p. 256, 1906. Reared by Swezey from dryinid cocoon on taro, 1940.

EUPELMIDAE

Eutrichosoma sp. Bishop Museum Collection.

Charitops sp. Bishop Museum Collection.

Eupelmus sp. Bishop Museum Collection.

Metapelma sp. Bishop Museum Collection.

PTEROMALIDAE

- Panstenon** sp. Reared by Swezey from agromyzid leaf-miner in Job's tears, 1940.
Micromelus sp. Bishop Museum Collection.
Pteromalus sp. Bishop Museum Collection.
Stenomesus sp. Bishop Museum Collection.
Sympiesis sp. Hyperparasite ex *Homalanthus* leafroller. Reared by Swezey, 1940.
Pediobius sp. Reared by Swezey ex leaf-miner in *Premna taitensis*, 1940.
Chrysocharis sp. Reared by Swezey ex leaf-miner in *Morinda citrifolia*, 1940.

EULOPHIDAE

- Spalangia hirta** Haliday, Ent. Mag., 1, p. 334, 1876. Buxton Researches in Polynesia and Melanesia, p. 57, 1927.
Spalangia sp. Bishop Museum Collection.
Tetrastichus sp. Collected by Swezey and Wilder at Tuaeфу, 1923.
Tetrastichus sp. Reared by Swezey ex leaf-miner in hau (*Hibiscus tiliaceus*), 1940.
Tetrastichus sp. Reared by Swezey ex *Pachyrhabda antinoma* on Polypodium-like fern, 1940.
Tetrastichus sp. Reared by Swezey ex abundant leaf-miner (*Acrocercops* sp.) host (?), 1940.
Tetrastichus sp. Reared by Swezey ex Agromyzid.
Ootetrastichus beatus Perk., H.S.P.A. Exp. Sta. Bul., 1, (8), Div. Ent., p. 263, 1906. Reared by Swezey from eggs of *Perkinsiella vitiensis* in sugar cane, 1940.
Horismenus sp. Reared by Swezey ex leaf-miner in *Macaranga*, 1940.
Euplectrus sp. Reared by Swezey ex *Prodenia litura* caterpillars on taro, 1940.
Elachertus sp. Bishop Museum Collection.
Notanisomorpha sp. Reared by Swezey ex leaf-miner (*Phytomyza spicata*) in Job's tears, 1940.
Melittobiopsis ereunetiphila Timb., Proc. H.E.S., VI, (2), p. 319, 1926. Reared by Swezey from *Decadarchis* larvae in old cacao pod, 1940.
Chrysocharis sp. Reared by Swezey ex agromyzid, host (?), 1940.

MYMARIDAE

- Anagrus** sp. Parasite of leaf-hoppers ?
Polynema sp.
Paranagrus optabilis Perk., H.S.P.A., Exp. Sta. Bul., 1, (6), Div. Ent. p. 199, 1905, ex *Perkinsiella vitiensis* eggs, Swezey, 1940.

ELASMIDAE

Elasmus sp. Reared by Swezey ex leaf-miner in *Morinda citrifolia*, 1940.

PROCTOTRUPIDAE

Caloteleia savaiiensis Full., Proc. H.E.S., X, (2), p. 209, 1939. Bishop Museum Collection.

Caloteleia bryani Full., *ibid.*, p. 210. Bishop Museum Collection.

Caloteleia upoluensis Full., *ibid.*, p. 210. Bishop Museum Collection.

Caloteleia nigra Full., *ibid.*, p. 211. Bishop Museum Collection.

Caloteleia swezeyi Full., *ibid.*, p. 212. Bishop Museum Collection.

Caloteleia wilderi Full., *ibid.*, p. 212. Bishop Museum Collection.

Caloteleia melanocephala Full., *ibid.*, p. 213. Bishop Museum Collection.

Macroteleia tutuilana Full., *ibid.*, p. 214. Bishop Museum Collection.

Macroteleia bryani Full., *ibid.*, p. 215. Bishop Museum Collection.

Macroteleia upoluensis Full., *ibid.*, p. 216. Bishop Museum Collection.

Opisthacantha wilderi Full., *ibid.*, p. 217. Bishop Museum Collection.

Cremastobaeus samoanus Full., *ibid.*, p. 217. Bishop Museum Collection.

Sparasion savaiiensis Full., *ibid.*, p. 218. Bishop Museum Collection.

Pentacantha wilderi Full., *ibid.*, p. 219. Bishop Museum Collection.

Telenomus upoluensis Full., *ibid.*, p. 219. Bishop Museum Collection.

Leptacis upoluensis Full., *ibid.*, p. 220. Bishop Museum Collection.

Trichopria savaiiensis Full., *ibid.*, p. 220. Bishop Museum Collection.

DRYINIDAE

Haplogonatopus vitiensis Perk., H.S.P.A. Exp. Sta. Bul. 1, (10), p. 488, 1906. Reared by Swezey ex taro leaf-hopper *Megamelus proserpina*, 1940.

CYNIPIDAE

Eucoila sp. Reared by Swezey ex agromyzid leaf-miner in *Wedelia triflora*, 1940.

Aneurobracon samoanus n. sp.

Female. Length 3.5 mms.; hind leg 5.25 mms. Black, the fore and middle legs and the trochanters together with apex of coxae and base of femur of long hind legs, the palpi, and the pedicel of the antennae brownish; wings hyaline, the stigma and metacarp piceous, the few other veins pale testaceous.

Head generally smooth and shining, face and genae finely, indeed microscopically, punctuate and sparsely clothed with silvery hairs, vertex and occiput microscopically reticulate. Thorax has the mesonotum smooth and shining with microscopic punctuation as on head and fine hairy clothing, scutellum almost bare and microscopically reticulate, propodeum dull with extremely fine microscopic rugosity except in the middle where there is an elongate areola rather more coarsely sculptured, mesopleura and pleural area of the prothorax behind finely punctuate and hairy, the sides of the propodeum finely shagreened. Abdomen shining above and smooth, except the first segment, which is striate basally and to the middle, beyond that microscopically reticulate; this segment being more than twice as long as it is wide, while the following segments are not proportionately so long, the second quadrate or nearly so; ovipositor is a pale straw yellow and as long as the abdomen, the valves black and hairy. Hind coxae stout, elongate and narrowed apically, more than half the length of the thorax; trochanters thin, cylindrical, two-thirds as long as the coxae; femora perhaps a half longer but tibiae and tarsi together longer than the three proximal parts of the leg and clothed with bristly hairs, the longer spur of the tibiae two-thirds the length of the first tarsal segment, which is nearly half as long as the tibiae. Wings clothed with short, fine hairs. Male in a general way similar.

Described from 6 female and 1 male specimens (type, allotype and paratypes) reared from lepidopterous larvae in Samoa by O. H. Swezey, as follows: 3 females (one of which is labelled type), Afiamalu, Upolu, 2200 ft., ex leaf roller VI-9-40; 2 females, Tapatapao, Upolu, 800-1000 ft., ex leaf-miner in yam, VII-20-40; 1 female, Pago Pago, Tutuila, VIII-13-40 ex leaf-miner; 1 male (allotype), Fagatogo, Tutuila, VIII-3-40, ex leaf-miner in *Operculina*.

The specimens have been examined by Prof. Brues and compared with examples of his *Aneurobracon bequaerti* with the following comments: "The legs are shorter and also the spurs on the hind tibiae are not so long. The cell in the hind wing is perhaps stronger in your species but it is not very noticeable in either one. The stigma is wider and more swollen."

***Apanteles bedelliae* n. sp.**

Female. 1.75 mms. long, black, the tibiae, tarsi and femora apically of fore and middle legs, tibiae and tarsi basally and apical four tarsal joints of the hind legs reddish brown; antennae, tegulae, parts of legs not specified above and ovipositor sheaths black also. Head mostly finely rugose, face exceedingly finely indistinctly punctate (degree 1); mesonotum closely and finely punctate (degree 3); disc of scutellum impunctate, smooth and shining; propodeon rugose but not dull, areola and costulae distinct and moderately strong, former open at extreme base; wings with 1st abscissa of the radius longer than the transverse cubital, which it joins at an angle, the latter a little thicker and about as long as width of stigma, longer than the recurrent nervure, which is about twice the length of the upper portion of the basal but not as long as the apical portion of the 1st cubital plus pigmented portion of 2nd, stigma and metacarp of about equal length. Legs with hind coxae on the outer face finely punctate (degree 1), the longer hind tibial spur about one-fourth, the shorter about one-fifth the length of the basal joint of the tarsus. Abdomen with 1st tergite longer than wide by nearly a half, apically

truncate, basally depressed and having a median smooth concavity, the surface otherwise rugose, lateral margins somewhat convex and bowed outwardly, apical margin concave and bowed inwardly, apical length less than basal; 2nd tergite transverse basally with a knob or nipple-like extension into apical margin of 1st, apically spread fan-shape, the wings filling the angles, surface entirely smooth, as is also the surface of the following tergites, ovipositor sheaths as long as the hind basitarsus, going about three in the length of the abdomen.

Described from one female (type) reared from a leaf-miner (*Bedellia* sp.) in sweet potatoes collected at Tapatapao, Upolu, VII-23-40 at 800-1000 ft. elevation by O. H. Swezey. A male reared from a larva on yam collected at Vaialua, Upolu, VII-28-40 and one reared from a leaf-miner in *Desmodium umbellatum* collected on Goat Island, Tutuila, VIII-24-40 are probably this species.

***Apanteles operculinae* n. sp.**

Male and female. 1.75 mms. in length, black, legs with the exception of the coxae, which are shining black, together with the proximal half of the antennae reddish brown. Head with the face, vertex and occiput finely punctate (degree 1). Thorax: mesonotum with closely spaced punctation anteriorly, less closely spaced punctation posteriorly (degree 3), disc of scutellum smooth and shining, with a few coarse punctures on the sides near the base (degree 5), propodeum without areola or costulae or median longitudinal carina, faintly rugose but shining. Wings: 1st abscissa of the radius hardly longer than the transverse cubitus, which it joins at an angle, a little longer than the recurrent nervure and hardly exceeding width of stigma, apical portion of 1st cubitus plus pigmented portion of 2nd about equalling the transverse cubitus and definitely longer than the upper portion of the basal; stigma shorter than the metacarp. Legs: hind coxae smooth and shining; long hind tibial spur about one-third, short spur about one-fourth length basal tarsal joint. Abdomen: 1st tergite a little longer than wide at base, planes of the basal square portion and apical triangular portion almost at right angles, both fairly flat, smooth and shining, 2nd tergite very narrow in the middle basally and spreading out apically to a flat fan-shaped disc, width less than twice the length, wings angulate, following tergites smooth and shining, really polished; ovipositor about one-half as long as abdomen, a little longer than basal joint of tarsus.

Described from one female (type) and four males reared from a lepidopterous leaf-miner in yams collected at Tapatapao, Upolu 800-1000 ft. elev., VII-20-40; and two females and one male reared from a lepidopterous leaf-miner in *Operculina turpethum* collected at Fagatogo, Tutuila VIII-3-40 by O. H. Swezey (allotype and paratypes).

***Apanteles operculinae* var. *polita* n. var.**

Male. Similar to preceding but more highly polished and shining, even the front and middle coxae, likewise tegulae and lateral margins of tergites 1-3 reddish brown while the antennae are black throughout, punctation on face degree 2, on mesonotum degree 1, surface well covered with appressed silvery hairs, scutellum more convex and highly polished than usual and with lateral wings apically; propodeum perfectly smooth on the disc. Wings: 1st

abscissa of the radius thicker and longer than the transverse cubital, which it joins at a well marked angle, recurrent nervure about same length as transverse cubital, apical portion of 1st cubitus and upper portion of basal vein about equal length, pigmented portion of 2nd cubital a little longer, width of the stigma less than the length of the 1st abscissa of radius, length nearly equalling that of metacarp. Legs: hind coxae strongly punctate (degree 3-4) above and to some extent on outer face, clothed with short silvery hairs. Abdomen: 1st tergite nearly twice as long as wide, truncate at apex where width is less than at base, lateral margins slightly curved and bowed outward, smooth and polished except on apical portion of lateral margins where it is slightly rugose, basal two-thirds depressed, 2nd tergite transverse, three times as wide as long, slightly convex in the middle, smooth and shining, as are also the following tergites. Cocoon white.

Described from two males reared from the caterpillars of an hesperid found on rattan at Tapatapao, Upolu, VII-17-40, by O. H. Swezey.

Apanteles upoluensis n. sp.

Male. 2.5 mms. long, black, antennae concolorous, the legs except front and hind coxae, apical half of hind tibiae, hind tarsi, also tegulae and trophi testaceous. Head: face, vertex and occiput finely punctate (degree 1). Thorax: mesoscutum with close but distinctly separated punctation (degree 4), disc of scutellum smooth and shining, only a few scattered fine punctures along the margins; propodeum rugose but not dull, with indistinctly formed areola and costulae, of which the carinae are very weak. Wings: 1st abscissa of the radius and transverse cubital vein not differentiated in their well-rounded course, apical portion of the 1st abscissa of the cubital plus the pigmented portion of the 2nd abscissa a trifle longer than the recurrent nervure in length but less than twice as long as the transverse cubital or the upper portion of the basal vein, the 1st abscissa of the radius longer than the stigma's width, stigma shorter than the metacarp. Legs: hind coxae on outer faces smooth and shining, punctate (degree 2) on the top basally, the longer hind tibial spur more than half the length of the basal joint of tarsus, the shorter one less than half. Abdomen: 1st tergite a little longer than wide, a little wider at apex than at base, the sides then hardly parallel though straight, the disc slightly convex, basally declivous, disc with sparse and shallow punctation basally, some short striae apically at the sides in shallow foveae, otherwise smooth and shining; 2nd tergite transverse, smooth and shining also, length into breadth would go three times, following tergites smooth and shining as well.

Described from one specimen (type) reared from a leaf-rolling caterpillar found on *Ficus* at Sinaele, Upolu, VII-27-40, by O. H. Swezey.

Apanteles agonoxenae n. sp.

Female. 2 mms. long, black, the legs except the coxae, the hind femora, tibiae apically and tarsi yellowish brown, hind tibiae at base and hind basitarsus and tibial spurs sordid white to brown, antennae and sheaths of ovipositor black also. Head: face finely punctate on smooth and shining surface (degree 1), vertex and occiput the same. Thorax: mesonotum rather closely and strongly punctate (degree 4-5), disc of scutellum for the most part smooth and shining, with scattered shallow punctuations (degree 4); metanotum with a median umbilicus; propodeon rugose and with well and strongly formed areola and costulae. Wings: 1st abscissa of the radius a little longer than the

transverse cubital, both rather thick and evenly rounded, the recurrent nervure hardly longer than the transverse cubital, about as long as the apical portion of the 1st cubitus plus pigmented portion of 2nd, the upper portion of the basal nervure only about half this or equal to one or the other in length, 1st abscissa of the radius as long as width of stigma, which is shorter than the metacarp. Legs: hind coxae smooth and polished on outer face, the femora finely punctate, tibial spurs about a third the length of the basitarsus. Abdomen: 1st tergite a little longer than wide, a little wider at the apex than at the base, where it is declivous, the surface strongly rugose, 2nd tergite transverse, length four into width, rugose but not as rough as 1st tergite, following tergites smooth; ovipositor sheaths longer than basitarsus, almost as long as femora.

Described from four specimens (type and co-types) reared from *Agonoxena argaula* caterpillars found on *Clinostigma oncorhyncha* at Afiamalu, Upolu, VI-27-40, by O. H. Swezey.

***Apanteles afiamaluana* n. sp.**

Female. 1.75 mms. long, black, legs (except hind tibiae and basitarsus, which are infuscated), scape of antennae, stigma of wing and wings of first abdominal tergite, tegulae golden to dark brown. Head with face finely rugose and punctate (degree 1), vertex and occiput smooth and shining, with stronger punctuation (degree 2-3), mesonotum and scutellum not closely but evenly and strongly punctate (degree 4-5); propodeon smooth and shining except for some pin-point punctation near apical and lateral margin, and with a median longitudinal carina and strong apical and lateral marginal carinae. Wings with venation clear and sharp; 1st abscissa of the radius as long as width of stigma but hardly as long as the transverse cubitus, which it joins at a decided angle, the recurrent nervure almost as long as the transverse cubitus and about equalling the length of the apical portion of the 1st cubitus plus pigmented portion of 2nd cubitus; upper portion of basal small, no longer than the pigmented portion of 2nd abscissa of radius; metacarp longer than stigma. Legs: coxae smooth and shining, longer spur on tibiae one-half length of basitarsus, shorter one-third. Abdomen: 1st tergite a little longer than wide, apical width more than one-half basal width, surface faintly rugoso-punctate but not dull, 2nd tergite transverse, twice as wide as long, smooth and shining but with a few scattered punctures on the disc, which is separated from the wings by a curved groove or impression extending diagonally inward from apical lateral angle to basal margin, which it meets at about the apical lateral margin of the first tergite; following tergites smooth and shining; sheaths of ovipositor short, shorter than the hind basitarsus.

Described from one specimen reared from a lepidopterous leaf-miner, host (?), collected at Afiamalu, Upolu, 2200 ft. elev., VI-10-40, by O. H. Swezey.