NOMENCLATURAL CHANGES AND NEW SPECIES OF SCOLYTIDAE (COLEOPTERA), PART II

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ABSTRACT.—The following new synonymy is proposed: *Halystus* Schedl (= *Phloeographus* Wood), *Hylesinopsis* Eggers (= *Aridiamerus* Schedl), *Halystus namibiae* Schedl (= *Phloeographus mamibiae* Wood), *Ips stebbingi* Strohmeyer (= *Tomicus blandfordi* Stebbing), *Olonthogaster (Hylurgus) concinnulus* (Walker) (= *Olonthogaster nitidifrons* Motschulsky), *Olonthogaster nitidicollis* Motschulsky (= *Hylecius asper* Sampson), *Polygraphus longifolia* Stebbing (= *Polygraphus himalayensis* Stebbing), *Pseudochramesus harringtoni* Blackman (= *Pseudochramesus multiseriatus* Schedl), *Pseudodiamerus obscurus* Eggers (= *Phloeoditica obscura* Schedl, 1962, and *Phloeoditica obscura* Schedl, 1963), *Xylechinosomus brasiliensis* (Schedl) (= *Xylechinosomus araucariae* Schedl), *Xylechinus (Pseudochramesus) imperialis* (Schedl), new combination (= *Xylechinus calvus* Schedl). The following species are named as new to science: *Aphanarthrum indicum* (India), *Aphanarthrum reticulatum* (India), *Aphanarthrum royaleanum* (India), *Bothinodroctonus indicus* (India), *Bothinodroctonus setosus* (Andaman Islands), *Carphoborus lautus* (India), *Liparthrum artocarpus* (India), *Liparthrum tinianesis* (Tinian Island), *Polygraphus anogeissi* (India and Burma), *Polygraphus difficilis* (India and Pakistan), *Polygraphus querci* (Burma).

On the following pages are presented 2 cases of new generic synonymy, 9 cases of new specific synonymy, 1 new combination, and 11 species new to science. These items are necessary nomenclatural housekeeping discovered during the preparation of a new world catalog of Scolytidae and are published here to facilitate citation for the catalog. The new synonymy affects species from Africa, southeastern Asia, and South America. The species new to science represent the genera *Aphanarthrum* (3), *Bothinodroctonus* (2), *Carphoborus* (1), *Liparthrum* (2), and *Polygraphus* (3). They are from the following countries or areas: India (8), Burma (2), Pakistan (1), Tinian Island (1), Andaman Islands (1).

NEW SYNONYMY

Halystus Schedl

Halystus Schedl, 1982, Ann. Transv. Mus. 33(15):283 (Type-species: *Halystus namibiae* Schedl, monobasic)

Phloeographus Wood, 1984, Great Basin Nat. 44(2):229 (Type-species: *Phloeographus mamibiae* Wood = *Halystus nambiae* Schedl, original designation. *New synonymy of genus and species*

Schedl had the habit of placing manuscript names on undescribed species in his collection and then describing them at a subsequent date. On several occasions such names appeared repeatedly in the literature but were never validated. When the holotype of *Halystus namibiae* Schedl was found in his collections in 1981, two years after his death, it was assumed that this was another nomen nudum. When no record of its publication had been found by 1984, either by myself or by the Wien Museum staff, it was decided to publish the genus and species in order to make it available for my generic study (Wood 1986). The validation of Schedl's name was found within days after the generic study was printed. Both *Halystus namibiae* Schedl and *Phloeographus mamibiae* Wood were based on the same female specimen in the Schedl Collection at the Wien Museum; consequently, they are objective synonyms of one another.

Hylesinopsis Eggers

Hylesinopsis Eggers, 1920, Ent. Blätt. 16(1–3):40 (Type-species: *Hylesinopsis dubius* Eggers, monobasic)

Aridiamerus Schedl, 1982, Ann. Transv. Mus. 33(15):284 (Type-species: *Aridiamerus angolensis* Schedl, monobasic). *New synonymy*

The holotype of *Aridiamerus angolensis* Schedl was examined and found to represent a species of *Hylesinopsis*. For this reason,

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Schedl's genus is placed in synonymy as indicated above.

Ips stebbingi Strohmeyer

Ips stebbingi Strohmeyer, 1908, Ent. Rundschau 25:69 (Syntypes, male; Kulu, Himalaya occidentalis, *Cedrus deodara;* Strohmeyer Collection)

Tomicus blandfordi Stebbing, 1909, Indian For. Mem. 1(2):27 (Syntypes, 3, female; Shinghar Chilgaza forests, North Zhob, Baluchistan, Pakistan; Forest Research Institute, Dehra Dun). *New synonymy*

At the Forest Research Institute, Dehra Dun, I found three female syntypes of *Tomicus blandfordi* Stebbing and one syntype of *Ips stebbingi* Strohmeyer. The comparison of these specimens to one another and to a long series of this species clearly indicates that only one species is represented. For this reason, Stebbing's name must be placed in synonymy as indicated above.

This species should not be confused with *Ips longifolia* Stebbing, which is quite distinct.

Olonthogaster concinnulus (Walker)

Hylurgus concinnulus Walker, 1859, Ann. Mag. Nat. Hist. (3)3:261 (Holotype, male; Ceylon; British Museum, Natural History)

Olonthogaster nitidifrons Motschulsky, 1866, Bull. Soc. Imp. Nat. Moscow 39:402 (Holotype, male; Ceylon; Institute of Zoology, Academy of Science, Moscow). *New synonymy*

The male holotypes of *Hylurgus concinnulus* Walker and *Olonthogaster nitidifrons* Motschulsky were examined and compared to a series I collected in Ceylon. There is no doubt whatever that these specimens all represent the same species that is common in *Myristica dactyloides*. The Motschulsky name is here placed in synonymy as indicated above.

Olonthogaster nitidicollis Motschulsky

Olonthogaster nitidicollis Motschulsky, 1866, Bull. Soc. Imp. Nat. Moscow 39:401 (Holotype, male; Ceylon; Institute of Zoology, Academy of Science, Moscow)

Hyledius asper Sampson, 1921, Ann. Mag. Nat. Hist. (9) 7:35 (Holotype, male; Luang Prebang, Houei Ko; British Museum, Natural History). *New synonymy*

The male holotypes of *Olonthogaster nitidicollis* Motschulsky and *Hyledius asper* were examined and compared to several examples from southeastern Asia, New Guinea, and Ceylon. Although minor variation is present, all are considered to represent the same species. For this reason, Sampson's species is here placed in synonymy as indicated above.

Polygraphus longifolia Stebbing

Polygraphus longifolia Stebbing, 1902, Departmental notes on insects that affect forestry, Supt. Doc., Gov. Printing, Calcutta, p. 255 (Holotype, female; labeled as Tons Valley, Tehri Garhwal, U.P., India, published as NW Himalayas, Beshahr. St.; Taklesh; Gaunsar Div.; Tehri-Garhwal; Forest Research Institute, Dehra Dun)

Polygraphus himalayensis Stebbing, 1908, Indian For. Mem. 1(1):8 (Holotype, male; labeled as Ringali, Chakrata, U.P., India, published as North-Western Himalayan Forests; Forest Research Institute, Dehra Dun). *New synonymy*

The female holotype of *Polygraphus longifolia* Stebbing, the male holotype of *P. himalayensis* Stebbing, and more than 300 other examples of this species were examined at the Forest Research Institute. From this material it is evident that the two holotypes represent the two sexes of this common species.

Pseudochramesus harringtoni Blackman

Pseudochramesus harringtoni Blackman, 1939, Rev. de Ent. 10(1):93 (Holotype, male; Aguio, Bolivia; U.S. National Museum)

Pseudochramesus multiseriatus Schedl, 1978, Entomol. Abh. Mus. Tierk. Dresden 41(8):296 (Holotype, female; Argentinien, Tablillas Salta; Schedl Collection in Wien Museum). *New synonymy*

The type series, including the male holotype, of *Pseudochramesus harringtoni* Blackman were compared to my series of this species and were found to be identical. These specimens were then compared to the female holotype of *Pseudochramesus multiseriatus* Schedl. Because only one species is represented by these specimens, Schedl's name is here placed in synonymy as indicated above.

Pseudodiamerus obscurus Eggers

Pseudodiamerus obscurus Eggers, 1943, Entomologische Blätt. 39:72 (Syntypes, sex?; Mozambique [La Pery; Chimoio]; Paris Museum and 2 in Eggers Collection, Eggers' 2 syntypes on loan to Schedl)

Phloeoditica obscura Schedl, 1962, Verhandl. Naturf. Ges. Basel 73(1):189 (Holotype, sex?; Basutoland; Schedl Collection, preoccupied). *New synonymy*

Phloeoditica obscura Schedl, 1963, Entom. Abh. Ber. Mus. Tierk. Dresden 28(6):261 (Holotype, sex?;

Basutoland; Schedl Collection, preoccupied). *New synonymy*

For reasons not at all apparent, Schedl (1962:189) described a preoccupied genus, *Phloeoditica*, and then assigned the species *obscura* to it. A year later Schedl (1963:261) again named the same specimens *Phloeoditica obscura*. These were placed in his collection immediately behind the two Eggers cotypes with the note that they were the same. The genus *Phloeoditica* of Eggers, from southeastern Asia, is entirely unrelated. Both of Schedl's names must be transferred to *Pseudodiamerus* and must receive a masculine spelling. This makes them both junior homonyms as well as junior synonyms of the Eggers species as indicated above.

Xylechinosomus brasiliensis (Schedl)

Pseudohylesinus brasiliensis Schedl, 1951, Dusenia 2:95 (Syntypes, sex?; Brasilien, Santa Catarina, Nova Teutonia; Schedl and Plaumann collections)

Xylechinosomus araucariae Schedl, 1963, Reichenbachia 1:210 (Holotype, male; Brasilien: Santa Catarina, Nova Teutonia). *New synonymy*

The Schedl syntypes of *Pseudohylesinus brasiliensis* Schedl were compared directly to the male holotype *Xylechinosomus araucariae* Schedl and were found to represent only one species. The junior name is here placed in synonymy as indicated above.

Xylechinus imperialis (Schedl), n. comb.

Pseudochramesus imperialis Schedl, 1958, Acta Zool. Lilloana 16:39 (Lectotype, male; Argentinien: Buenos Aires: Tigre; Wien Museum, designated by Wood 1986:268)

Xylechinus calvus Schedl, 1978, Acta Zool. Lilloana 33:60 (Holotype, male; publication not seen; Schedl Collection in Wien Museum). *New synonymy*

The Schedl syntypes of *Pseudochramesus imperialis* Schedl were examined and found to represent the genus *Xylechinus*. They were compared directly to the male holotype of *Xylechinus calvus* Schedl and found to be identical. It is, therefore, necessary to transfer *imperialis* to *Xylechinus* and to place *calvus* in synonymy under the senior name as indicated above.

NEW TAXA

Aphanarthrum indicum, n. sp.

The three species of *Aphanarthrum* named here are the first species of this genus known from this far east in Asia. The species *indicum* is distinguished from the other two by the impressed elytral declivity, by the larger, deeper strial and interstrial punctures, and by the more strongly, broadly elevated costa on the anterior margin of the pronotum.

MALE.—Length 2.0 mm (paratypes 1.5–2.1 mm), 2.4 times as long as wide; color light brown with variable, yellowish brown markings on elytra, vestiture pale.

Frons transversely convex, longitudinally almost flat from epistoma to upper level of eyes; surface apparently smooth, shining, and closely, rather coarsely punctured; vestiture of fine, rather short, inconspicuous hair.

Pronotum 1.2 times as long as wide; widest behind middle, sides rather weakly arcuate on posterior half, strongly converging to narrowly rounded anterior margin; median part of anterior margin acutely costate; summit indefinite, behind middle; surface on posterior four-fifths smooth, shining, uniformly very closely, rather coarsely punctured, interspaces equal to less than diameter of a puncture, anterior fifth reticulate and with punctures replaced by very small granules; vestiture of fine, short, abundant hair.

Elytra 1.3 times as long as wide, 1.2 times as long as pronotum; sides almost straight and parallel on more than basal half, very broadly rounded behind; striae not impressed, punctures distinct, rather small, not deep, in definite rows; interstriae smooth, shining, punctures in rows, only slightly smaller and spaced similar to those of striae. Declivity steep, subconcavely impressed between interstriae 3; sculpture similar to that on disc. Vestiture of rather abundant, moderately short, fine, strial and interstrial hair uniformly distributed, except reduced on lower declivity.

FEMALE.—Similar to male except costa on anterior margin of pronotum reduced and largely replaced by a single, median serration; impression on declivity greatly reduced, very weak.

TYPE MATERIAL.—The male holotype, female allotype, and 13 paratypes were taken at Chikalda, Melghat, C.P., India, 9-XI–1936, R.R.D. 106, B.C.R. 181, Cage 660, ex *Euphorbia* sp., by N. C. Chatterjee. The holotype (uppermost), allotype (lowermost), and 1 paratype (middle) are all mounted on the same pin that is in the Forest Research

Institute, Dehra Dun. The remaining 12 paratypes are in my collection. About 200 additional specimens are at the FRI.

Aphanarthrum reticulatum, n. sp.

This species is distinguished from *royaleanum* by the dull, pseudoreticulate pronotal and elytral surfaces, by the smaller, confused elytral punctures, and by the subangulate anterior margin of the pronotum.

MALE.—Length 1.7 mm (paratypes 1.6–1.9 mm), 2.4 times as long as wide; color pale yellowish brown, darker brown spots at middle of pronotum, at humeral angles (2), at middle of elytra (4), and on lower declivity (2), vestiture pale.

Frons about as in *royaleanum*.

Pronotum as in *royaleanum* except anteromedian costa obsolete, replaced by one median, strong serration; surface reticulate throughout; color primarily yellowish brown with a dark, transverse mark near middle.

Elytra similar to *royaleanum* except surface uniformly reticulate, punctures confused, not in rows.

FEMALE.—Similar to male except anterior margin of pronotum more narrowly produced into a slightly larger median denticle.

TYPE MATERIAL.—The male holotype, female allotype, and 4 paratypes are from Hunsur, Mysore, India, 10-VII–1930, ex *Euphorbia* sp., by C.F.C. Beeson; 3 paratypes are labeled near Hunsur, Mysore, Madras, 28-VII–1930, R.R.D. 149, B.C.R. 203, Cage 804, ex *Euphorbia* sp., C.F.C. Beeson; 3 paratypes are labeled 4,000′, Mussoorie, U.P., India, 7-IV–1934, ex *Euphorbia royaleana*, G. D. Bhasin. The holotype (lowermost), allotype (middle), and 1 paratype (uppermost) are all mounted on the same pin that is in the Forest Research Institute, Dehra Dun. The remaining 9 paratypes are in my collection. About 70 additional specimens are at the FRI.

Aphanarthrum royaleanum, n. sp.

The species is distinguished from *reticulatum* by the shining pronotal and elytral surfaces, by the strial and interstrial rows of punctures, and by the more broadly rounded anterior margin of the pronotum.

MALE.—Length 1.7 mm (paratypes 1.5–1.7 mm), 2.4 times as long as wide; color light brown except elytra pale yellowish brown with darker markings on costal margin, declivity, and near middle of disc, vestiture pale.

Frons resembling *indicum* except surface subreticulate, punctures small to obsolete, vestiture inconspicuous.

Pronotum 1.2 times as long as wide; as in *indicum* except granules on anterior slope larger, more numerous; punctures on posterior half very small, each with a rounded granule on its lateral or posterior margin; reticulate in anterior and lateral areas.

Elytra 1.3 times as long as wide; as in *indicum* except outline more narrowly rounded behind, elytral punctures slightly smaller, in more definite rows, declivity convex (without any impression).

FEMALE.—As in male except sexual differences on pronotum as in *indicum*.

TYPE MATERIAL.—The male holotype, female allotype, and 1 paratype are from Chikalda, Malghat, C.P., India. 14-XI–1936, R.R.D. 106, B.C.R. 181, Cage 660, ex *Euphorbia* sp., by N. C. Chatterjee; 9 paratypes are labeled Sulphur Spring, Dehra Dun, U.P., India, 11-VIII–1930 or 6-VIII–1930, R.R.D. 147, B.C.R. 202, *Euphorbia royaleana*, B. M. Bhatia. The holotype (lowermost), allotype (middle), and 1 paratype (uppermost) are all mounted on the same pin in the Forest Research Institute, Dehra Dun. The remaining 9 paratypes are in my collection. About 150 additional specimens are at the FRI.

Bothinodroctonus indicus, n. sp.

This species is distinguished from *bicinctus* Schedl by the much shorter frontal vestiture on the female, by the absence of pronotal granules, by the more distinctly punctured striae, by the absence of granules on discal interstriae, and by the much stronger declivital impression, elytral scales much less abundant to obsolete, erect setae more slender.

MALE.—Length 2.1 mm (paratypes 1.8–2.4 mm), 2.1 times as long as wide; color almost black, vestiture pale.

Frons profoundly excavated and armed as in *bicinctus* except almost glabrous.

Pronotum similar to *bicinctus* except surface smooth, shining, closely, rather coarsely punctured, granules reduced to about 4 to 6 near middle; vestiture very sparse, slender.

Elytra resembling *bicinctus* except strial

punctures distinctly impressed, punctures small, shallow, close; interstriae about four times as wide as striae, smooth, shining, punctures only slightly smaller than those of striae, confused. Declivity moderately steep, broadly impressed, almost flat between interstriae 3 (1 not elevated as in *bicinctus*); striae not evident, punctures confused; interstriae 3 each armed by three or four small granules; lateral margin from interstriae 7 to sutural apex strongly, acutely elevated (explanate somewhat as in *Ips*), crest armed by about five obtuse tubercles (elevation much stronger than in *bicinctus*). Ground vestiture obsolete; interstriae on and near declivity each with a sparse row of erect, rather stout setae.

FEMALE.—Similar to male except frons moderately concave, vertex not modified, surface apparently closely punctured, covered by a dense tuft of long, yellow hair, hair much longer on lateral and upper margins; pronotum with sparse, slender hair; elytral declivity steeper, much less strongly impressed, ventrolateral margin less strongly elevated, sparse granules also on interstriae 1 and 2, vestiture in interstrial rows attains base, longer, much more slender.

TYPE MATERIAL.—The male holotype, female allotype, and six paratypes are labeled Tavargati, Belgaum Div., Bombay, 28-X–29, *Odina wodier*, B. M. Bhatia, except two paratypes bear the date 27-X–29. Specimens from Bengal (India) and Sri Lanka have been seen, but were not at hand.

The holotype and allotype are in the Forest Research Institute; the paratypes are in my collection.

Bothinodroctonus setosus, n. sp.

This unique species is distinguished by the reddish brown color, by the more abundant, shorter female frontal vestiture, by the more narrowly impressed elytral declivity, and by the larger spines on the posterolateral area of the declivity.

FEMALE.—Length 1.7 mm, 2.2 times as long as wide; color reddish brown, vestiture pale.

Frons shallowly concave on central half; surface closely, rather finely punctured; vestiture of dense, erect, rather stout setae of uniform length, about half as long as in *indicus*.

Pronotum 1.3 times as long as wide; widest on basal third, sides weakly arcuate, converging slightly to very broadly rounded anterior margin; vestiture of erect scales, each about twice as long as wide, and fine hair.

Elytra 1.6 times as long as wide; sides almost straight and parallel on slightly more than basal two-thirds, rather broadly rounded behind, posterolateral profile interrupted by tubercles; striae not impressed, punctures rather coarse, moderately deep, very close; interstriae less than twice as wide as striae, shining, each armed by a uniseriate row of very closely set, low, rounded nodules (almost as wide as an interstriae) except on 2, these nodules confused on posterior half of disc. Declivity steep, impressed between striae 2; interstriae 1 and 2 with tubercles suppressed, 1 feebly elevated, 3 much more strongly elevated on lower half, this crest continuing with 7 to suture; tubercles becoming pointed on 3 to 9, those along 7 to suture moderately large. Vestiture of rather sparse, short, strial and interstrial hair, and rows of longer, erect scales, each scale about four times as long as wide and about two-thirds as long as distance between rows.

TYPE MATERIAL.—The female holotype is labeled North Andaman, 30-III–30, *Canarium euphyllum*, C.F.C. Beeson. It is in my collection.

Carphoborus lautus, n. sp.

This species is distinguished from *boswelliae* (Stebbing) by the much stouter body form, by the small, shallow, distinct, strial punctures, by the presence of small tubercles on declivital interstriae 1 and 3, and by the less strongly impressed female frons that is armed by a conspicuous, subcarinate, median tubercle, with setae on lateral and upper margins shorter. All published citations to *boswelliae* except those by Stebbing are to this species. The name *lautus* was used by Beeson as a nomen nudum for this species.

FEMALE.—Length 1.8 mm (paratypes 1.6–2.0 mm), 2.0 times as long as wide (2.2 times in *boswelliae*); color rather pale brown, vestiture pale.

Frons broadly, shallowly impressed on lower two-thirds, armed on upper third by a conspicuous, subcarinate, median tubercle; surface smooth, shining, punctures very abundant, small; vestiture shorter in central area, longer on lateral and upper margins, distance from eye to lateral fringe equal to

three times diameter of a facet of eye (in *boswelliae* frons shallowly concave, tubercle absent, eye separated from lateral fringe by six diameters of a facet).

Pronotum 0.74 times as long as wide; outline somewhat semicircular; surface subreticulate, punctures fine, small, close; vestiture of small, erect scales.

Elytra 1.3 times as long as wide; sides almost straight and parallel on basal half, broadly rounded behind; striae 1 feebly others not impressed, punctures small, shallow, distinct (largely obsolete in *boswelliae*); interstriae about six times as wide as striae, smooth, shining, a few impressed lines, punctures small, close, confused. Declivity steep, convex; sculpture about as on disc except interstriae 1 and 3 each with a row of small, pointed tubercles, a few similar tubercles on 5, 7, and 9. Vestiture of minute, strial hair and erect, small, interstrial scales.

MALE.—Similar to female except frons more nearly convex, median tubercle higher, more sharply pointed, frontal vestiture inconspicuous.

TYPE MATERIAL.—The female holotype, male allotype, and two paratypes were taken at Baihar, Balaghat, C.P., G.D., 7-VIII–1927, ex bark *Boswellia serrata*; 3 paratypes are labeled India (M.P.), Sillari Forest, Nagpur-Wardah Div., 24-V–1953, *Boswellia serrata*, M. L. Roonwal; 3 paratypes are labeled India, M.P., 14 mi. S. Kanker, 450 m, 31-I–1962, E. S. Ross, D. Q. Cavegnaro. The holotype and allotype are in the Forest Research Institute, and the paratypes are in my collection.

Liparthrum artocarpus, n. sp.

This species is distinguished from *longifoliae* (Stebbing) by the much more coarsely punctured striae and by the fine, regular, rather closely spaced interstrial granules. This is *L. artocarpus*, nomen nudum, of Beeson 1941:290.

MALE.—Length 0.8 mm (paratypes 0.8–0.9 mm), 2.0 times as long as wide; color brown, vestiture pale.

Frons weakly convex from epistoma to well above eyes, epistomal margin weakly elevated; surface finely rugose-reticulate except smooth and shining near epistoma and on median line on lower half; vestiture of fine, inconspicuous hair.

Pronotum 0.90 times as long as wide, widest just behind middle, sides strongly arcuate; surface shining, obscurely reticulate, median third armed by fine, rather abundant tubercles of uniformly small size from anterior margin to near base; anterior margin unarmed; vestiture of rather abundant, stout, recumbent hair and less numerous, erect scales, each scale rather short, wider than long.

Elytra 1.75 times as long as wide; outline as for most members of genus; basal margin of each elytron armed by five crenulations; striae not impressed, punctures rather coarse, impressed; interstriae slightly narrower than striae, smooth, shining, each armed by a row of small, rounded, rather closely set tubercles. Declivity convex, steep; sculpture as on disc except striae more distinctly impressed. Vestiture of semirecumbent, stout hair and rows of erect scales, both of equal length; widest scales almost as wide as long.

FEMALE.—Specimens considered to be females are as in male except frons more strongly convex and pronotum with a few (two to four) asperities on anterior half distinctly larger.

TYPE MATERIAL.—The male holotype, female allotype, and 4 paratypes were taken at Hattikeri, S. Kanara Div., Bombay, 18-XI–29, ex *Artocarpus integrifolia*, B. M. Bhatia. The holotype and allotype are in the forest Research Institute, Dehra Dun; the paratypes are in my collection. There are 15 other specimens in the FRI.

Liparthrum tinianensis, n. sp.

This unique species is distinguished by the stout body form, by the concave female frons, by the total absence of hairlike setae on the elytra, and by the rather slender, interstrial scales.

FEMALE.—Length 1.0 mm, 2.1 times as long as wide; color brown, vestiture pale.

Frons shallowly concave on a triangular area extending from epistoma to upper level of eyes; surface in impressed area finely rugose-reticulate, subreticulate in dorsal and lateral areas; vestiture of fine, rather sparse, inconspicuous hair.

Pronotum 0.83 times as long as wide; widest on basal third, sides strongly arcuate, converging to rather broadly rounded anterior margin; surface shining, obscurely

reticulate, median fourth with small, rounded granules except near anterior and posterior margins; vestiture abraded, apparently restricted to a few erect, rather slender scales in median area.

Elytra 1.3 times as long as wide; outline about as for genus; striae not impressed, punctures impressed, rather coarse; interstriae slightly narrower than striae, smooth, unarmed, punctures small, in rows. Declivity convex, steep; sculpture similar to disc except striae slightly impressed, interstriae with low, rounded granules. Ground vestiture not represented; each interstriae with a row of erect, spatulate scales, each about twice as long as wide, spaced in a row by distances slightly longer than a scale.

TYPE MATERIAL.—The female holotype is from south end of Tinian Isl., 11-VI–46, No. 628, H. K. Townes. The holotype is in my collection.

Polygraphus anogeissi, n. sp.

This species is unique in having the female frons transversely impressed and armed above by a pair of transverse tubercles as in the males of many species of this genus. Its comparatively small size and slender body form also help to distinguish it. Beeson used the manuscript names *anogeissi* and *bassiae* for this species. The label on the latter series had been turned over by him and replaced by the former name.

FEMALE.—Length 1.7 mm (paratypes 1.5–1.7 mm), 2.5 times as long as wide; color dark brown, vestiture pale.

Frons as in male, strongly, transversely impressed on lower half, convex above and armed just below upper level of eyes by a pair of transversely arranged tubercles; surface closely, deeply, rather coarsely punctured, lower area between punctures smooth, shining, upper area subreticulate; vestiture below tubercles of rather sparse, fine, long hair. Eye large, coarsely faceted, divided. Antennal funicle 5-segmented; club small, ovate.

Pronotum 0.90 times as long as wide; sides almost straight and parallel on basal half, moderately constricted before broadly rounded anterior margin; surface smooth and shining except reticulate on anterior third, punctures rather small, shallow, moderately abundant, spaced by about two diameters of a puncture; vestiture an almost equal mixture of fine hair and slender scales.

Elytra 1.8 times as long as wide, 2.1 times as long as pronotum; sides almost straight and parallel on basal three-fourths, broadly rounded behind; surface finely rugose, punctures small, obscure, confused; most interstriae marked by a row of fine granules at least near declivity. Declivity steep, convex; sculpture as on disc, fine granules on at least interstriae 1–3. Vestiture of a ground cover of small, suberect, short, interstrial scales, each scale about two to three times as long as wide, and rows of erect, interstrial scales, each scale about twice as long as ground cover and four times as long as wide.

MALE.—Similar to female except rows of interstrial setae usually extend to base, granules slightly larger.

TYPE MATERIAL.—The female holotype is labeled Kirwatti, E. Kanara, Bombay, India, 19-I–1930, R.R.D. 42, R.C.R. 178, Cage 654, ex *Bassia latifolia*, B. M. Bhatia; the male allotype bears the same data except it was taken on 27-VI–1930; 3 paratypes bear the same data except the date was 18-XII–1929 and the host was *Odina wodier*; 1 paratype is labeled Okkan Res., Insein, Burma, 11-II–1927, *Anogeissus acuminata*. The holotype and allotype are in the Forest Research Institute, Dehra Dun; the paratypes are in my collection. More than 90 additional specimens are in the FRI collection.

Polygraphus difficilis, n. sp.

This species is allied to *querci* Wood in having the eye emarginate, but it differs in having the protibia as in other members of the genus. The elytral scales are also smaller and less abundant than in other members of the genus. This name was used as a nomen nudum by Beeson.

FEMALE.—Length 2.0 mm (paratypes 2.0–2.2 mm), 2.2 times as long as wide; color reddish brown, vestiture pale.

Frons moderately concave on central half from epistoma to above upper level of eyes; surface smooth, shining, rather coarsely, very closely punctured; vestiture of rather abundant hair of moderate length in concave area, much longer on upper and lateral margins, longest setae on vertex could extend two-thirds of distance to epistoma; eye rather large, two-thirds divided by deep

emargination. Antennal funicle 6-segmented; club rather small, ovate, with apex acutely acuminate.

Pronotum about as in *querci*, punctures very slightly larger, vestiture very short, sparse, fine hair (scales not evident).

Elytra 1.55 times as long as wide, outline as in *querci;* striae not impressed, punctures in obscure rows; interstriae four times as wide as striae, punctures slightly smaller than those of striae, close, confused. Declivity steep, convex except shallowly sulcate on interstriae 2; striae not indicated; interstriae 1 weakly elevated, 1 and 3 each armed by a row of small tubercles. Vestiture of small, rather sparse, interstrial scales, each scale about three to four times as long as wide.

MALE.—Similar to female except frons transversely impressed on lower third, convex above, armed by a transverse pair of rather widely spaced tubercles at upper level of eyes, vestiture on frons inconspicuous.

TYPE MATERIAL.—The female holotype and male allotype are labeled Sitoli, C. Almora [India], VIII–1919, H. G. Champion, in plantation [of *Pinus roxburghii*] trees killed by *Peridermium*. Two paratypes are from Pakistan, N. W. Himalayas, Muiree Hills, 11-1951, M.A.H. Qadri, Com. Inst. Ent. Coll. No. 16222. The holotype is in the Forest Research Institute, Dehra Dun; the allotype and paratypes are in my collection.

Polygraphus querci, n. sp.

This species is unique among northern hemisphere members of the genus. The eye is about half divided by an emargination (as in *difficilis*), and the protibia is armed by only one unsocketed spine as in *thitsi* (Beeson). It is obviously very primitive in all characters.

FEMALE.—Length 3.3 mm (paratypes 2.4–3.6 mm), 2.4 times as long as wide; color reddish brown, vestiture pale.

Frons moderately convex, narrow, eyes separated by width of an eye; surface smooth, shining, punctures rather small, moderately abundant; vestiture of fine, short, inconspicuous hair; eye large, about half divided by a broad emargination. Antennal funicle 6-segmented; club ovate, rather small.

Pronotum 0.60 times as long as wide; widest on basal third, strongly arcuate on basal half, a strong constriction just in front of very broadly rounded anterior margin; surface smooth, shining, punctures very small, moderately abundant, interspaces equal in width to one to four diameters of a puncture; vestiture uniformly short, erect, of hair and slender scales, each scale at least six times as long as wide.

Elytra 1.8 times as long as wide, 2.5 times as long as pronotum; sides almost straight and parallel on basal three-fourths, broadly rounded behind; striae feebly impressed, punctures small, shallow, close; interstriae three to four times as wide as striae, minute punctures confused and each interstriae with a uniseriate row of minute tubercles. Declivity convex, steep; sculpture about as on disc except striae slightly more strongly impressed. Vestiture of minute strial hair and small, suberect, interstrial scales, scales arising from tubercles slightly longer, almost twice as long as declivity.

Protibia slender, armed on outer apical angle by one unsocketed denticle, a smaller denticle on apical margin.

TYPE MATERIAL.—The female holotype and eight female paratypes were taken at Mehalkhali (Burma?) from *Quercus incana*. The holotype (uppermost) and four paratypes on one pin are in the Forest Research Institute, Dehra Dun. The four other paratypes are in my collection.