

BRYOPHYTAE INDOSINICAE

LIVERWORTS COLLECTED IN THAILAND

by

P. Tixier*

RÉSUMÉ

The collection of about sixty species was made during a collecting trip in Thailand under the auspices of the *South East Asia Treaty Organization*.

The list was prepared in 1966 and not published yet. Since this date HATTORI and other members of his staff made some studies especially on the genus *Bazzania*.

I collected mainly in the North (Chiang Mai), the North East (Phu Mieng), the East (Khao Yai-Khao Khieo) and in the South (Surat Thani). The biogeographical divisions of Thailand by T. SMITINAND are followed here. The greater part of the new species have already been published by Mmes. H. BISCHLER and S. JOVET-AST. Personally I described 3 new species of the sub-genus *Taeniolejeunea* in 1969.

Metzgeria furcata (L.) Dum.

EASTERN: Nakhon Ratchasima (Khao Khieo), humid wood, 1,300 m, 4/4/1965 (N°301).

Pantropical.

Chiloscyphus argutus (Reinw. Blum. Nees) Nees

EASTERN: Nakhon Ratchasima (Khao Khieo), on branches and ground, 1,300 m, 4/4/1965 (N°578).

Tropical and subtropical Asia to Australia and New Zealand.

Chiloscyphus communis St.

EASTERN: Nakhon Ratchasima (Khao Khieo), wet wood, 1,300 m, 21/5/1965 (N°943).

From Assam and Sikkim to Malesia and Queensland.

Schistochila aligera Nees & Blum.

NORTH-EASTERN: Phitsanulok (Phu Mieng), dense forest on ground, 1,300 m, 11/5/1965 (N°1126).

* Faculty of Science, University of Phnom Penh.

Nicobar Islands, Java, Sumatra, Borneo, Philippines, Vietnam, New Hebrides, Samoa Islands.

Bazzania cuspidata (St.) Pocs.

NORTH-EASTERN: Phitsanulok (Phu Mieng), dense forest, 1,300 m, 11/5/1965 (N°1120) det. Pocs.

Himalaya.

Herberta javanica (St.) Mill.

EASTERN: Nakhon Ratchasima (Khao Khieo), on twigs in dense forest, 1,300 m, 21/5/1965 (N°1300).

Java.

Herberta ramosa (St.) Mill.

NORTH-EASTERN: Phitsanulok (Phu Mieng), open forest on *Pieris* tree trunk, 1,300 m, 11/5/1965 (N°1109).

Java.

Mastigophora diclados (Brid.) Nees.

Rather different from Vietnamese samples.

EASTERN: Nakhon Ratchasima (Khao Khieo), in dense forest, on twigs, 1,300 m, 4/4/1965 (N°339).

Tristan da Cunha, Madagascar, Mascarenhas, tropical Asia and subtropical Oceania.

Pleurozia gigantea (Weber) Lindb.

EASTERN: Nakhon Ratchasima (Khao Khieo), on twigs in mossy forest, rather common, 1,300 m, 4/4/1965 (N°350, 392, 395, 442, 448).

San Tome, St. Helena, Mascarenhas, Ceylon, Java, Malaya, Vietnam, Luzon, Ambon, New Caledonia.

Trichocolea pluma Mont.

EASTERN: Nakhon Ratchasima (Khao Khieo), on stump, together with *Leucobryum*, in dense forest, 1,300 m, 4/4/1965 (N°343).

Pantropical.

Radula borneensis St.

EASTERN: Nakhon Ratchasima (Khao Yai), on twigs in gallery forest, 700 m, 20/5/1965 (N°1191).

Southern India, Vietnam, Cambodia, Borneo.

Caudalejeunea stephanii (Spr.) St.

EASTERN: Nakhon Ratchasima (Khao Yai), epiphyllous in forest gallery, 700 m, 20/5/1965 (*N*^o1190).

PENINSULAR: Surat Thani (Thanom Phra), epiphyllous in evergreen forest, 40 m, 18/4/1965 (*N*^o675); idem (Vang Chai), on small twigs in evergreen forest, 40 m, 19/4/1965 (*N*^o802).

Tropical Asia and Oceania.

Cheilelejeunea (Xenolejeunea) ceylanica (St.) Schust. & Kachr.

EASTERN: Nakhon Ratchasima (Khao Khieo), epiphyllous in dense forest, 1,300 m, 4/4/1965 (*N*^o385); idem, 31/5/1965 (*N*^o1201, 1205, 1206).

Tropical Asia, Ceylon, Cambodia, Malay, Vietnam, Ambon.

Cheilelejeunea (Xenolejeunea) meyeniana (Got. Lindb. Nees) Kach. & Schust.

EASTERN: Nakhon Ratchasima (Khao Yai), epiphyllous in forest gallery, 700 m, 20/5/1965 (*N*^o1181, 1197).

South East Asia.

Ceratolejeunea diversifolia St.

EASTERN: Nakhon Ratchasima (Khao Khieo), on twigs in dense forest, 1,300 m, 4/4/1965 (*N*^o319).

Caribbean region, La Dominique, perhaps near to *C. emarginata* known from Ko Chang.

Cololejeunea (Taeniolejeunea) amoena Bx.

EASTERN: Nakhon Ratchasima (Khao Yai), epiphyllous in evergreen forest, 700 m, 20/5/1965 (*N*^o1175, 1194, 1205).

Malaya, Laos, Java, Mindanao.

Cololejeunea (Taeniolejeunea) floccosa (L. & L.) St. var. *aurita* Bx.

EASTERN: Nakhon Ratchasima (Khao Yai), epiphyllous in forest gallery, 700 m, 20/5/1965 (*N*^o1194).

PENINSULAR: Surat Thani (Thanom Phra), epiphyllous in evergreen forest, 40 m, 18/5/1965 (*N*^o678).

Linga Archipelago, Java, Malaya, Cambodia, Vietnam, Tanzania.

Cololejeunea (Taeniolejeunea) gresicola P. Tx.

EASTERN: Nakhon Ratchasima (Khao Khieo), epiphyllous in mossy forest, 1,300 m, 3/4/1965 (*N*^o286).

Endemic.

Cololejeunea (Taeniolejeunea) khiavensis P. Tx.

EASTERN : Nakhon Ratchasima (Khao Khieo), epiphyllous in mossy forest,
1,300 m, 3/4/1965 (N° 288).

Endemic.

Cololejeunea (Taeniolejeunea) koratensis P. Tx.

EASTERN : Nakhon Ratchasima (Khao Khieo), epiphyllous in mossy forest,
1,300 m, 3/4/1965 (N° 281).

Endemic.

Cololejeunea (Taeniolejeunea) oshimensis P. Tx.

NORTH-EASTERN : Phitsanulok (Phu Mieng), epiphyllous in evergreen forest,
1,300 m, 11/5/1965 (N° 1161).

EASTERN : Nakhon Ratchasima (Khao Yai), epiphyllous in evergreen forest
700 m, 4/4/1965 (N° 294, 306, 307); idem. 20/5/1965 (N° 1200).

Japan, Riu Kiu, Formosa, Foukkien, Vietnam, Laos, Cambodia, Malaya,
Sumatra, Celebes.

Cololejeunea (Lasiolejeunea) goebelii (Gott. ex Schiff.) Mizut.

NORTHERN : Chiang Mai (Huay Koon), epiphyllous in wet ravins, 400 m,
3/5/1965 (N° 1036).

EASTERN : Nakhon Ratchasima (Khao Yai), epiphyllous in evergreen
forest, 700 m, 20/5/1965 (N° 1185, 1195).

Java, Riu Kiu, Formosa, Japan, China, Cambodia, Vietnam.

Cololejeunea (Lasiolejeunea) cf. nymanii (St.) Bx.

EASTERN : Nakhon Ratchasima (Khao Yai), epiphyllous in evergreen
forest, 700 m, 20/5/1965 (N° 1180).

West Java, Sumatra, Java, Bali, Borneo, Celebes, New Guinea, Vietnam.

Cololejeunea (Lasiolejeunea) schmidtii (St.) P. Tx.

EASTERN : Nakhon Ratchasima (Khao Khieo), epiphyllous in evergreen
forest, 1,300 m, 21/5/1965 (N° 1206).

Vietnam, Thailand (Ko Chang), Laos, Vietnam.

Cololejeunea (Lasiolejeunea) tenella (St.) Bx.

EASTERN : Nakhon Ratchasima (Khao Khieo), epiphyllous in mossy forest,
1,300 m, 21/5/1965 (N° 1206).

Malaya, West Sumatra, Krakatau, West Java, Vietnam.

Cololejeunea (Lasiolejeunea) wightii (St.) Bonner & Mill.

PENINSULAR: Surat Thani, (Bangbao), Thanom Phra, on decayed wood in evergreen forest, 40 m, 17/4/1965 ($N^{\circ}659$).

Malaya, Cambodia, New Guinea, Micronesia.

Cololejeunea (Pedinolejeunea) desciciens (St.) Mizut.

PENINSULAR: Surat Thani (Bang Bao-Thanom Phra), epiphyllous in evergreen forest, 40 m, 17/4/1965 ($N^{\circ}610$).

Southern China, Northern Vietnam, Chittagong, Cambodia, New Guinea.

Cololejeunea (Pedinolejeunea) aff. lanciloba (St.) Bx.

It is probably several species under this name.

NORTHERN: Chiang Mai (Doi Suthep), valley about 1,000 m, 28/4/1965, ($N^{\circ}881$); idem (Huay Koon), epiphyllous in humid ravin, 250m, 3/4/1965 ($N^{\circ}1,036$); idem (Fang), epiphyllous in the valley of Mae Tchai river.

EASTERN: Nakhon Ratchasima (Khao Yai), epiphyllous in the gallery forest, 700 m, 20/5/1965 ($N^{\circ}1188$).

SOUTH-EASTERN: Chanthaburi (Makham), epiphyllous in secondary forest 3/6/1965, ($N^{\circ}1298$).

PENINSULAR: Surat Thani (Bang Bao-Thanom Phra), epiphyllous in dense forest, 40 m, 8/4/1965 ($N^{\circ}676$).

For the species: Nicobar Islands, Chittagong, Southern India, Southern China, Shikoku, Hawaii.

Cololejeunea (Pedinolejeunea) planissima (Mitt.) Mizut.

NORTH-EASTERN: Phitsanulok (Phu Mieng), epiphyllous in evergreen forest 1,300 m, 11/5/1965 ($N^{\circ}1161$).

EASTERN: Nakhon Ratchasima (Khao Khieo), epiphyllous in mossy forest 1,300 m, 4/4/1965 ($N^{\circ}292$).

Japan, Liu Kiu, Formosa, Vietnam, India, Ceylon, Cambodia.

Cololejeunea (Pedinolejeunea) smitinandii P. Tx.

NORTH-EASTERN: Phitsanulok (Phu Mieng), in evergreen forest on leaf of *Calophyllum*, 1,300 m, 11/5/1965 ($N^{\circ}1152, 1153, 1161$).

Endemic.

Cololejeunea (Pedinolejeunea) thailandensis P. Tx.

EASTERN: Nakhon Ratchasima (Khao Yai), epiphyllous on bank of stream, 700 m, 20/5/1965 ($N^{\circ}1194$).

Endemic.

Colura acroloba (Mont.) S.J.A.

EASTERN : Nakhon Ratchasima (Khao Khieo), epiphyllous in evergreen forest, 1,300 m, 4/4/1965 (*N*^o1201).

SOUTH-EASTERN : Chanthaburi (Makham), epiphyllous in secondary forest, 20 m, 3/5/1965 (*N*^o1298).

Ceylon, Sumatra, Java, Borneo, Philippines, New Caledonia, Cambodia, Vietnam.

Colura acutifolia S.J.A.

PENINSULAR : Surat Thani (Bang Bao-Thanom Phra), epiphyllous in evergreen forest, 40 m, 18/4/1965 (*N*^o674).

Sumatra, Borneo, Cambodia, Vietnam, Chittagong.

Colura siamensis S.J.A.

EASTERN : Nakhon Ratchasima (Khao Yai), epiphyllous on Zingiberaceae leaves, 700 m, 20/5/1965 (*N*^o1170, 1171, 1178).

Cambodia.

Colura superba (Mont.) St.

EASTERN : Nakhon Ratchasima (Khao Khieo), epiphyllous in evergreen forest, 1,300 m, 4/4/1965 (*N*^o290).

Vietnam, Borneo, New Hebrids, Tahiti.

Colura tixierii S.J.A.

EASTERN : Nakhon Ratchasima (Khao Yai), epiphyllous on Zingiberaceae leaves, in gallery forest, 700 m, 20/5/1965 (*N*^o1180).

Chittagong, Vietnam.

Diplasiolejeunea brachyclada Ev.

EASTERN : Nakhon Ratchasima (Khao Yai), epiphyllous in evergreen forest, 700 m, 20/5/1965 (*N*^o1165).

West Indies, Vietnam, Cambodia, Malaya, Java, Luzon.

Diplasiolejeunea incurvata S.J.A. & P. Tx.

PENINSULAR : Surat Thani (Bang Bao-Thanom Phrao), on high branches, 40 m, 17/4/1965 (*N*^o655).

Amphigastres (underleaves) a little longer, ocelles a little more numerous than in the type.

Vietnam.

Drepanolejeunea tenuis (Nees) Schiffn.

EASTERN : Nakhon Ratchasima (Khao Khieo), epiphyllous in dense forest, 1,300 m, 21/5/1965 (*N*^o1197);

Java, Sumatra, Philippines, Vietnam, Cambodia, Malaya.

Drepanolejeunea thwaitesiana (Mitt.) St.

EASTERN: Nakhon Ratchasima (Khao Khieo), epiphyllous in mossy forest
1,300 m, 21/5/1965. (*N*^o1197).

Ceylon, Sumatra, Java, Malaya, Borneo, Philippines, New Guinea,
Cambodia, Laos Vietnam.

Drepanolejeunea teysmanii (Got. *ms.*) St.

EASTERN: Nakhon Ratchasima (Khao Khieo), epiphyllous in dense forest,
1,300 m, 21/5/1965; *s.n.*

Sumatra, Banca, Java, Celebes, Vietnam.

Leptolejeunea epiphyllia L. & L.

PENINSULAR: Surat Thani (Thanom Phra), epiphyllous in dense forest,
40 m, 18/4/1965 (*N*^o676).

From Ceylon to Tahiti.

Leptolejeunea foliicola St.

EASTERN: Nakhon Ratchasima (Khao Yai), epiphyllous on banks of the
stream, 700 m, 20/5/1965, *s.n.*

Malaya, Sumatra, West Java, Philippines.

Leptolejeunea radiata St.

EASTERN: Nakhon Ratchasima (Khao Yai), same station, 700 m, 20/5/
1965 (*N*^o1165, 1173, 1181).

Java, Celebes, Botel Botago, Vietnam.

Lopholejeunea subfusca St.

EASTERN: Nakhon Ratchasima (Khao Yai), same station, 700 m, 20/5/
1965 (*N*^o1183).

Tropical Asia and Australasia.

Mastigolejeunea humilis (Got.) Spruc.

NORTHERN: Chiang Mai (Fang), banks of the Mae Tchai river, 600 m,
30/4/1965 (*N*^o884).

From Ceylan to Tahiti.

Microlejeunea cucullata (Nees) St.

EASTERN: Nakhon Ratchasima (Khao Khieo), epiphyllous in mossy
forest, 1,300 m, 4/4/1965 (*N*^o279, 280).

Tropical Asia and Oceania.

Ptychocoleus cf. cumingianus (Mont.) Trev.

PENINSULAR: Surat Thani (Thanom Phrao), high branches, 40 m, 17/4/
1965 (*N*^o655).

Tropical Asia and Oceania.

Raphidolejeunea siamensis (St.) H. Bischler

NORTH-EASTERN: Phitsanulok (Phu Mieng), epiphyllous in evergreen forest, 1,300 m, 11/5/1965.

EASTERN: Nakhon Ratchasima (Khao Yai), epiphyllous in evergreen forest, 700 m, 20/5/1965 (*N*^o1194, 1198).

Known also from Khao Sa Bap.

Thysananthus convolutus St.

EASTERN: Nakhon Ratchasima (Khao Khieo), corticolous in evergreen forest, 700 m, 20/5/1965 (*N*^o319).

Java.

Thysananthus spathulistipus (Reinw. Blum, Nees) Lindb.

NORTHERN: Chiang Mai (Doi Suthep), on bark, 1,300 m, 27/4/1965 (*N*^o854).

From Madagascar to Oceania.

Frullania hamatilobula St.

PENINSULAR: Surat Thani (Vang Chai), on trunk 19/4/1965, 40 m, (*N*^o701).
Japan, Corea.

Frullania muscicola St. var. *inuena* (St.) Kamim.

PENINSULAR: Surat Thani (Bang Bao-Thanom Trao), high branches in evergreen forest, 40 m, 17/4/1965 (*N*^o649).

Japan, Corea, China, India.

Frullania nodulosa (Reinw. Blume, Nees) Nees

PENINSULAR: Surat Thani (Bang Bao-Thanom Trao), on high branches in evergreen forest, 40 m, 19/4/1965 (*N*^o649, 650, 651, 665).

Tropical and subtropical regions of the world.

Frullania meyeniana Lindb.

NORTH-EASTERN: Nakhon Ratchasima (Khao Khieo), epiphytic in evergreen forest, on twigs, 1,300 m, 4/4/1965 (*N*^o307, 319).

Java, Hawai, Philippines, Vietnam, Cambodia.

Frullania tenuicaulis Mitt.

NORTH-EASTERN: Nakhon Ratchasima (Khao Khieo), epiphytic in evergreen forest, 1,300 m, 4/4/1965 (*N*^o375, 380).

Java, Malaya, Celebes, Philippines, Burma, Ambon, China, Formosa, Vietnam.