

## REFERENCES

- Altermann, W. 1989. Facies development in the Permian Petchabun basin, central Thailand. Berlin : Verlag f. Wiss. u. Bildung.
- Baum, F., Braun, E. von, Hahn, L., Hess, A., Koch, K.E., Kruse, G., Quarch, H., and Siebenhuner, M. 1970. On the geology of northern Thailand. Beih. Geol. Jahrbuch. 102 : 1-23.
- Boardman, R.S., Cheetham, A.H., and Rowell, A.J. 1987. Fossil Invertebrates. Oxford : Blackwell Scientific Publisher : 67-91.
- Borax, E., and Stewart, R.D. 1966. Note on the Paleozoic stratigraphy of northeastern Thailand. A paper prepared for Econ. Comm. Asia and Far East Meeting in Bangkok, Thailand, ECAFE.
- Bronnimann, P. Whittaker, J.E., and Zaninetti, L. 1978. Shanita, a new pillared Miliolacean foraminifer from the late Permian of Burma and Thailand: Riv. Italiana Paleon. Strat. V. 84 : 63-92.
- Boggs, S.A., Jr. 1995. Principles of Sedimentology and Stratigraphy. New Jersey : Prentice Hall.
- Brown, G.F., Buravas, S., Charaljavanaphet, J., Jalichchandra, N., Johnston, W.D., Srethaputra, V. and Taylor, G.C. 1951. Geologic reconnaissance of the mineral deposits of Thailand. U.S. Geol. Surv. Bull. 984.
- Bunopas, S. 1982. Paleogeographic history of western Thailand and adjacent parts of Southeast Asia - a plate tectonics interpretation, Geological Survey Paper No.5 : 79-196. Bangkok : Department of Mineral Resources.

- Bunopas, S., Fontaine, H., Salyapongse, S., and Vachard, D. 1983. Permian paleogeography in southeast Thailand evidences by new discoveries. Journ. Geo. Soc. Thailand 6(1) : 17-21. Bangkok.
- Bunopas, S. 1992. Regional Stratigraphic Correlation in Thailand. In Piancharoen, C. (ed.), Proceedings of a National Conference on Geologic Resources of Thailand : Potential for Future Development : 189-208. Bangkok : Department of Mineral Resources.
- Caridroit, M., Fontaine, H., Jongkanjanasontorn, Y., Suteethorn, V., and Vachard, D. 1990. First results of paleontological study of northwest Thailand. CCOP Technical Publ. 20 : 337-350.
- Charoentitirat, T. 1995. Fusulinacean fauna in Permo-Carboniferous limestone of the eastern part of Changwat Loei. Master ' s Thesis. Department of Geology. Graduate School. Chulalongkorn University.
- Charoentitirat, T., and Ueno, K. 1999. Late Carboniferous-Early Permian fusulinacean fauna from Loei, northeast Thailand. In Ratanasthien, B. and Rieb, S.L. (eds), Proceedings of the International Symposium on Shallow Tethys (ST) 5 : 86-87.
- Chen, S. 1934. Fusulinidae of South China. Part 1. Geological Survey of China : 101-102.
- Chonglakmani, C. and Fontaine, H. 1992. The Lam Narai - Phetchabun Region : A Platform of Early Carboniferous to Late Permian age. In Charusiri et al. (eds), Proceedings of the Technical Conference on Development Geology for Thailand into the year 2000 : 39-55.
- Cushman, J.A. 1950. Foraminifera. Cambridge : Harvard University Press.

- Dawson, O., and Racey, A. 1993. Fusuline-calcareous algal biofacies of the Ratburi Limestone, Saraburi, central Thailand. Journal of Southeast Asian Earth Science 8 (14) : 49-65.
- Department of Mineral Resources. 1992. Lexicon of Stratigraphic Names of Thailand. Bangkok : Department of Mineral Resources.
- Deprat, J. 1912. Etudes des Fusulinides de Chine et d'Indochine et classification des calcaires a fusulines. Mem. Serv. Geol. l'Indochine I (3) : 46-57.
- Deprat, J. 1913. Etudes des Fusulinides de Chine et d'Indochine et classification des calcaires a fusulines. Mem. Serv. Geol. l'Indochine II (2) : 29-54.
- Deprat, J. 1914. Etudes des Fusulinides de Chine et d'Indochine et classification des calcaires a fusulines. Mem. Serv. Geol. l'Indochine III (3) : 29-36.
- Dunbra, C.O., and Skinner, J.W. 1931. New fusulinid genera from the Permian of west Texas. American Journal of Science. ser. 5. 22 : 252-258.
- Fontaine, H., and Suteethorn, V. 1988. Late Paleozoic and Mesozoic fossils of west Thailand and their environments. CCOP Technical Bulletin 20 : 22-53. Tokyo : The Geological Survey of Japan.
- Fontaine, H., Suteethorn, V., and Jongkanjanasontorn, Y. 1991. Carboniferous corals of Thailand. CCOP Technical Bulletin 22. Tokyo : The Geological Survey of Japan.
- Fontaine, H., Suteethorn, V., and Vachard, D. 1993. Carboniferous and Permian Limestone in Sop Pong area : unexpected lithology and fossils. In Thanasuthipitak, T. (ed.), Proceedings of the International Symposium on BIOSEA: Facies & Paleontology : 319-335. Chiang Mai : Chiang Mai University.

- Fontaine, H., Satayarak, N., and Suteethorn, V. 1994. Permian Corals of Thailand. CCOP Technical Bulletin 24. Tokyo : The Geological Survey of Japan.
- Fontaine, H., and Salyapongse, S. 1997. Biostratigraphy of east Thailand. In Dheeradilok, P. et al. (eds.), Proceedings of the International Conferences on Stratigraphy and Tectonic evolution of Southeast Asia and the South Pacific : 73-82 Bangkok : Department of Mineral Resources.
- Fontaine, H., Salyapongse, S., Tunsuwan, V., and Vachard, D. 1997. The Permian of east Thailand: biostratigraphy, corals, discussion about the division of the Permian. Proceedings of the International Conferences on Stratigraphy and Tectonic evolution of Southeast Asia and the South Pacific : 109-127. Bangkok : Department of Mineral Resources.
- Geinitz, H.B., and von der Marck, W. 1876. Zur Geologie von Sumatra. Palaeontographica 22 : 399-400.
- Hagen, D., and Kemper, E. 1976. Geology of Thong Pha Phum area (Kanchanaburi province), western Thailand. Geol. Jb. B21 : 53-91.
- Hahn, L., and Siebenhuner, M. 1982. Explanatory notes (paleontology) on the geological maps of northern and western Thailand 1 : 250,000. Hannover : Bundessanst.f. Geowissenschaften u. Rohstoffe.
- Heim, A., and Hirschi, H. 1939. A section of the mountain of northwestern Siam. Eclogae. Geol.Helv. V.39 : 1-16.
- Hedberg, H.D.(ed.). 1976. International stratigraphic guide. New York : John Wiley and Sons.

- Hinthong, C. 1985. Geological Survey Report Number 4, Geology and Mineral Resources, Map Sheet Changwat Phranakorn Si Ayutthaya (ND47-8) scale 1 : 250,000. Bangkok : Department of Mineral Resources.
- Igo, H. 1972. Fusulinacean fossils from Thailand, part VI. Fusulinacean fossils from north Thailand. Geology and Paleontology of Southeast Asia 10 : 63-116. Tokyo : University of Tokyo Press.
- Igo, H., Ueno, K., and Sashida, K., 1993. Lower Permian fusulinaceans from Ban Phia, Changwat Loei, northeastern Thailand. Trans.Proc. Palaeont. Soc.Japan N.S.169 : 15-43.
- Ingavat, R., 1984. On the correlation of the foraminiferal faunas of western, central and eastern provinces of Thailand. Mem.Soc.Geol.France N.S. 147 : 93-100.
- Ingavat, R., and Douglass, R.C. 1981. Fusulinacean fossils from Thailand, part XIV. The fusulinids genus *Monodiexodina* from northwest Thailand. Geology and Paleontology of Southeast Asia 22 : 23-34. Tokyo : University of Tokyo Press.
- Ingavat, R., and Jumnongthai, J. 1988. Permian foraminifera at Wang Nua, Lampang. Bangkok : Department of Mineral Resources .
- Ingavat, R., Muanlek, S., and Udomratn. C., 1975. On the discoveries of some Permian fusulinids and Ordovician cephalopods at Ban Rai, west Thailand. Journ. Geol. Soc. Thailand 1 : 81-89.
- Ingavat-Helmcke, R. 1993. Review on fossils of Thailand. In Thanasuthipitak, T. (ed.), Proceedings of the International Symposium on BIOSEA : Facies & Paleontology : 1-22. Chiang Mai : Chiang Mai University.

- Ishibashi, T., Nakornsri, N., and Nagai, K. 1994. Permian-Triassic boundary and fauna at Doi Pha Phlung, northern Thailand. The memoirs of the Faculty of Science, Kyushu University, Series D., Earth and Planetary Sciences XXVII 2 : 23-40. Fukuoka : Kyushu University.
- Ishii, K.I., and Nogami, Y. 1961. On the new genus *Metadoliolina*. Transactions and Proceedings of Palaeontological Society of Japan. n.ser.44 : 161-166.
- Javanaphet, C. 1969. Geological map of Thailand scale 1 : 1,000,000. Bangkok : Department of Mineral Resources.
- Kanmera, K., Ishii, K., and Toriyama, R. 1976. The evolution and extinction patterns of Permian fusulinaceans. Geology and Paleontology of Southeast Asia 17 : 129-154. Tokyo: University of Tokyo Press.
- Konishi, K., 1953. New *Boultonia* and other microfossils from north Thailand (Siam). Proceedings of Paleontological Society of Japan N.S. 12 : 103-110.
- Loeblich, A. R., Jr., and Tappan, H. 1964. Sarcodina : Chiefly "Thecamoebians" and Foraminiferida. In Moore, R.C. (ed.). Treatise on invertebrate paleontology. Lawrence : The Geological Society of America and the University of Kansas Press.
- Loeblich, A. R., Jr. and Tappan, H. 1988. Foraminifera genera and their classification. New York : Van Nostrand Reinhold.
- Moore, R.C., Lalicker, C., and Fischer, A.C. 1952. Invertebrate fossils. New York : McGraw-Hill Book.

- Nakinbodee, V., Maranet, S., and Jaturongkavanich, S. 1976. Geological Report on 1:250,000 sheets: Bangkok Metropolitan and Rayong. Unpublished report in Thai with an English abstract.
- Nakornsri, N. 1977. Geologic Map of Amphoe Ban Mi (ND 47-4) scale 1:250,000. Bangkok : Department of Mineral Resources.
- Nakornsri, N. 1981. Geological Survey Report Number 3. geology and mineral resources of Amphoe Ban Mi (ND 47-4) scale 1:250,000. Bangkok : Department of Mineral Resources.
- National Statistical Office. 1969-1998. Statistical Yearbook Thailand. Bangkok : National Statistical Office, Office of the Prime Minister.
- Ozawa, T. 1970a. Notes on the phylogeny and classification of the Superfamily Verbeekinoidea (Studies of the Permian Verbeekinoidean Foraminifera-I). Mem.Fac.Sci., Kyushu Univ. Ser. D, Geol. 20, No.1 : 17-58.
- Ozawa, T. 1970b. Variation and relative growth of *Colania douvillei* (OZAWA) from the Rat Buri Limestone. Geology and Paleontology of Southeast Asia 2 : 19-42. Tokyo: University of Tokyo Press.
- Ozawa, Y. 1922. Preliminary notes on the classification of the family Fusulininae. Jour. Geol. Soc. Tokyo 29(348) : 368-372.
- Ozawa, Y. 1925. Paleontological and stratigraphical studies on the Permo-Carboniferous limestone of Nagato part 2. Paleontology. Jour. Col. Sci., Imperial University of Tokyo 45 (art.6) : 48-51.
- Pitakpaivan, K. 1966. Fusulines of the Rat Buri Limestone of Thailand. Geology and Paleontology of Southeast Asia 2 : 63-155. Tokyo : University of Tokyo Press.

- Pitakpaivan, K., Ingavat, R., and Pariwatvorn, P. 1969. Fossils of Thailand 1. Bangkok : Department of Mineral Resources.
- Pitakpaivan, K., and Ingavat, R. 1980. *Lepidolina multiseptata multiseptata* DEPRAT in Thailand. Geology and Paleontology of Southeast Asia 21 : 37-42. Tokyo : University of Tokyo Press.
- Reeckmann, A. and Friedman, G.M., 1982. Exploration for Carbonate Petroleum Reserviors. New York : John Wiley and Sons.
- Roads Association of Thailand. 2001. Thailand Highway map scale 1 : 1,000,000. Bangkok : Roads Association of Thailand.
- Ross, C. 1979. Evolution of fusulinacea (Protozoa) in late Paleozoic space and time. In Gray, J. and Boucot, A.R. (eds). Historical biogeography, plate tectonics, and the changing environment. Oregon : Oregon State University Press.
- Royal Thai Survey Department. 1992. Topographic map scale 1 : 50,000, sheet 5139 III, series L 7017, edition 2-RSTD. Bangkok : Royal Thai Survey Department.
- Rozovskaya, S.E. 1975. Composition, phylogeny and system of the Order Fusulinida. Academy of Science of the USSR Paleontological Institute. 149. Moscow : Publishing House.
- Sakagami, S. 1969. Fusulinacean fossils from Thailand, Part IV. On some Permian fusulinaceans from Peninsular Thailand. . Geology and Paleontology of Southeast Asia 6 : 265-275. Tokyo : University of Tokyo Press.
- Sakagami, S., and Iwai, J. 1974. Fusulinacean fossils from Thailand. Part VIII. Permian fusulinaceans from the Pha Duk Chik Limestone and its environs, north Thailand.

Geology and Paleontology of Southeast Asia 14 : 49-81. Tokyo : University of Tokyo Press.

Sakagami, S., and Hatta, A. 1982. On The Upper Permian *Paleofusulina-Colaniella* fauna from Khao Doi Pha Phlung, north Thailand. Geology and Paleontology of Southeast Asia 24 : 1-42. Tokyo : University of Tokyo Press.

Sheng, J.C. 1963. Permian fusulinids of Kwangsi, Kueichow and Szechuan. Paleon. Sinica N.S 10 : 201-247.

Sugiyama, T., and Toriyama, R. 1981. Coral and fusuline fauna from the Kabin Buri area, east central Thailand. Geology and Paleontology of Southeast Asia 22 : 1-22. Tokyo: University of Tokyo Press.

Tasch, P. 1973. Paleobiology of the Invertebrates. New York : John Wiley and Sons.

Thompson, M.L. 1964. Fusulinacea. In Moore, R.C. (ed.). Treatise on invertebrate paleontology. Lawrence : The Geological Society of America and the University of Kansas Press.

Tittirananda, O. 1976. Aspects of Stratigraphy and Paleontology of the Permian Rat Buri Limestone of Saraburi, central Thailand. Doctorate thesis. Bedford College. University of London.

Toriyama, R. 1944. On some fusulinids from northern Tai. Japan Journ. Geol. Geogr. 19 : 243-247.

Toriyama, R. 1958. Geology of Akiyoshi part III. Fusulinids Of Akiyoshi. Mem. Fac. Sci., Kyushu Univ. [D] 7 : 200-203.

- Toriyama, R. 1976. Fusuline fossils from Thailand, part IX, Permian fusuline from the Rat Buri Limestone in the Khao Phlong Phrab Area, Sara Buri, central Thailand. Geology and Paleontology of Southeast Asia 17 : 1-116. Tokyo : University of Tokyo Press.
- Toriyama, R. 1978. Fusuline fossils from Thailand, part XI, Shell destruction of Verbeekinids in the fusuline fauna of Khao Khao, Sara Buri, central Thailand. Geology and Paleontology of Southeast Asia 19 : 29-33. Tokyo : University of Tokyo Press.
- Toriyama, R., Hamada, T., Igo, H., Ingavat, R., Kanmera, K., Kobayashi, T., Koike, T., Ozawa, T., Pitakpaivan, K., Piyasin, S., Sakagami, S., Yanagida, J., and Yin, E.H. 1975. The Carboniferous and Permian Systems in Thailand and Malaysia. Geology and Paleontology of Southeast Asia 15 : 39-76. Tokyo : University of Tokyo Press.
- Toriyama, R., and Kanmera, K. 1968. Fusulinacean fossils from Thailand, part II. Two new Permian genera from Thailand. Geology and Paleontology of Southeast Asia 4 : 29-44. Tokyo : University of Tokyo Press.
- Toriyama, R., Kanmera, K., and Ingavat, R. 1969. Fusulinacean fossils from Thailand, part V. *Neofusulinella* from Thailand. Geology and Paleontology of Southeast Asia 7 : 15-32. Tokyo : University of Tokyo Press.
- Toriyama, R., Kanmera, K., Kaewbaidhoon, S., and Hongnusunthi, A. 1974. Biostratigraphic zonation of the Rat Buri Limestone in the Khao Phlong Phrab Area, Sara Buri, central Thailand. Geology and Paleontology of Southeast Asia 14 : 25-47. Tokyo : University of Tokyo Press.
- Toriyama, R., and Kanmera, K. 1977. Fusulinacean fossils from Thailand, part X. The Permian fusulines from the Limestone Conglomerate formation in the Khao

Phlong Phrab Area, Sara Buri, central Thailand Geology and Paleontology of Southeast Asia 18 : 1-27. Tokyo : University of Tokyo Press.

Toriyama, R., and Kanmera, K. 1979. Fusulinacean fossils from Thailand, part XII. The Permian fusulines from the Rat Buri Limestone in the Khao Khao Area, Sara Buri, central Thailand. Geology and Paleontology of Southeast Asia 20 : 23-93. Tokyo : University of Tokyo Press.

Toriyama, R., and Pitakpaivan, K. 1973. Fusulinacean fossils from Thailand, part VII. Middle Permian fusulines from Wat Kirinakratanaram, central Thailand. Geology and Paleontology of Southeast Asia 12 : 43-60. Tokyo : University of Tokyo Press.

Toriyama, R. and Sugi, T. 1959. Permian Fusulinids from Central Thailand. Mem.Fac. Sci.Kyushu Univ., [D], 9, (1) :17-32.

Ueno, K., and Sakagami. S. 1991. Late Permian fusulinacean fauna from Doi Pha Phlung, north Thailand. Paleontological Society of Japan Transactions and Proceedings N.S. 164 : 928-943.

Ueno, K., and Igo, H. 1993. Upper Carboniferous foraminifers from Ban Na Din Dam, Changwat Loei, northern Thailand. Paleontological Society of Japan Transactions and Proceedings N.S. 171 : 213-228.

Ueno, K., and Igo, H. 1997. Late Paleozoic foraminifers from the Chiang Dao area, northern Thailand: geologic age, faunal affinity, and paleobiogeographic implications. Proceedings of the International Congress on the Carboniferous and Permian, 13<sup>th</sup> : 339-358. Krakow, Poland.

Ueno, K., Nagai, K., Nakornsri, N., and Sugiyama, T. 1995. Upper Carboniferous foraminifers from Phu Tham Maholan, southeast of Wang Saphung, Changwat

Loei, northeast Thailand. University of Tsukuba Geoscience Institute Report  
Sec.B.19 : 29-37.

Ueno, K., and Sakagami, S. 1993. Middle Permian foraminifers from Ban Nam Suai Tha Sa-at, Changwat Loei, northern Thailand. Paleontological Society of Japan Transactions and Proceedings N.S. 172 : 277-291.

Vachard, D. 1990. New data on foraminifera, algae and pseudo-algae of the Viséan and Bashkirian (Lower-Middle Carboniferous) from northeast Thailand. Geol. Jahrbuch. V.B73.

Vachard, D., Fontaine, H., and Caridroit, M. 1992. Foraminifera, algae and pseudo-algae from Carboniferous and Permian of northwest Thailand. Revue Paleobiologie 11 : 137-147.

Volz, W., 1904. Zur Geologie von Sumatra; Anhang II-Einige neue Foraminiferen und Korallen sowie Hydrokorallen aus dem Oberkarbon Sumatras. Geologische und Palaontologische Abhandlungen, Jena (1902-1905) n. ser. 6(2) : 93-110.

Wielchowsky, C.C., and Young, J.D. 1985. Regional facies variations in Permian rocks of the Phetchabun fold and thrust belt, Thailand. Proceedings of the Conference on Geology and Mineral Resources development of the northeast Thailand : 41-55.  
Khonkaen : Khonkaen University.

Yavichai, P. 1993. The Preliminary mineral exploration at Lop Buri area. Bangkok : Mineral Resources Development Project, Department of Mineral Resources.

Yugan, J., Wardlaw, B.R., Glenister, B.F., and Kotlyar, G.V. 1997. Permian Chronostratigraphic Subdivisions. Episodes March : 10-15.



PLATES

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## Explanation of Plate 1

Figs. 1-3 *Neofusulinella cf. saraburiensis* Toriyama, Kanmera and Ingavat, 1969.....

.....page 76

1-2. Axial sections, TT0091, TT0098, x 30.

3. Parallel section, TT0078, x 30.

Figs. 4-8 *Neofusulinella lantenoisi* Deprat, 1913.....page 73

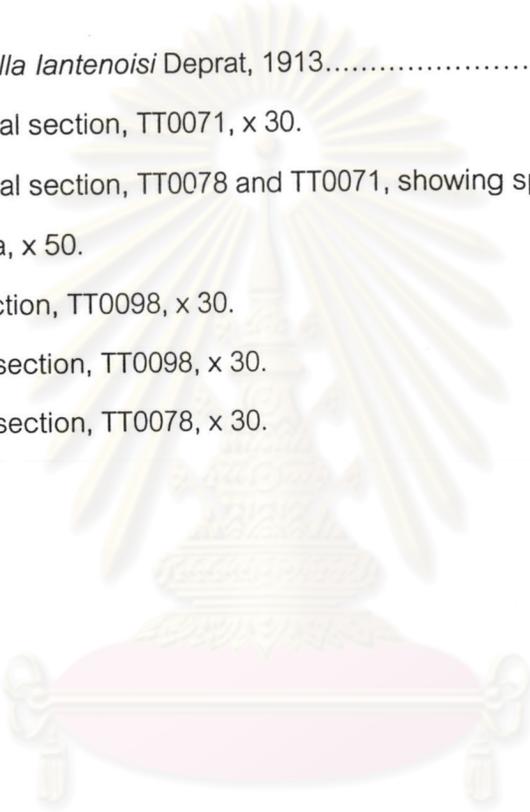
4. Tangential section, TT0071, x 30.

5. Tangential section, TT0078 and TT0071, showing spirotheca and massive chomata, x 50.

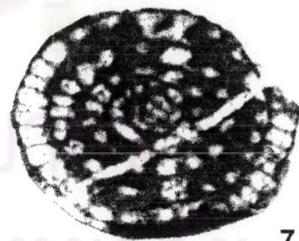
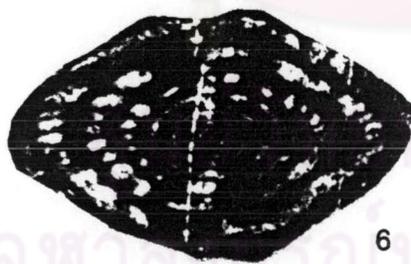
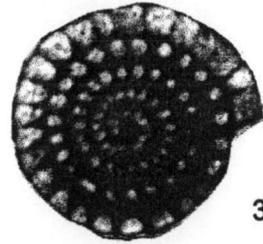
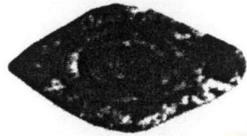
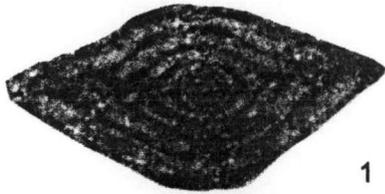
6. Axial section, TT0098, x 30.

7. Sagittal section, TT0098, x 30.

8. Sagittal section, TT0078, x 30.



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จุฬาลงกรณ์มหาวิทยาลัย

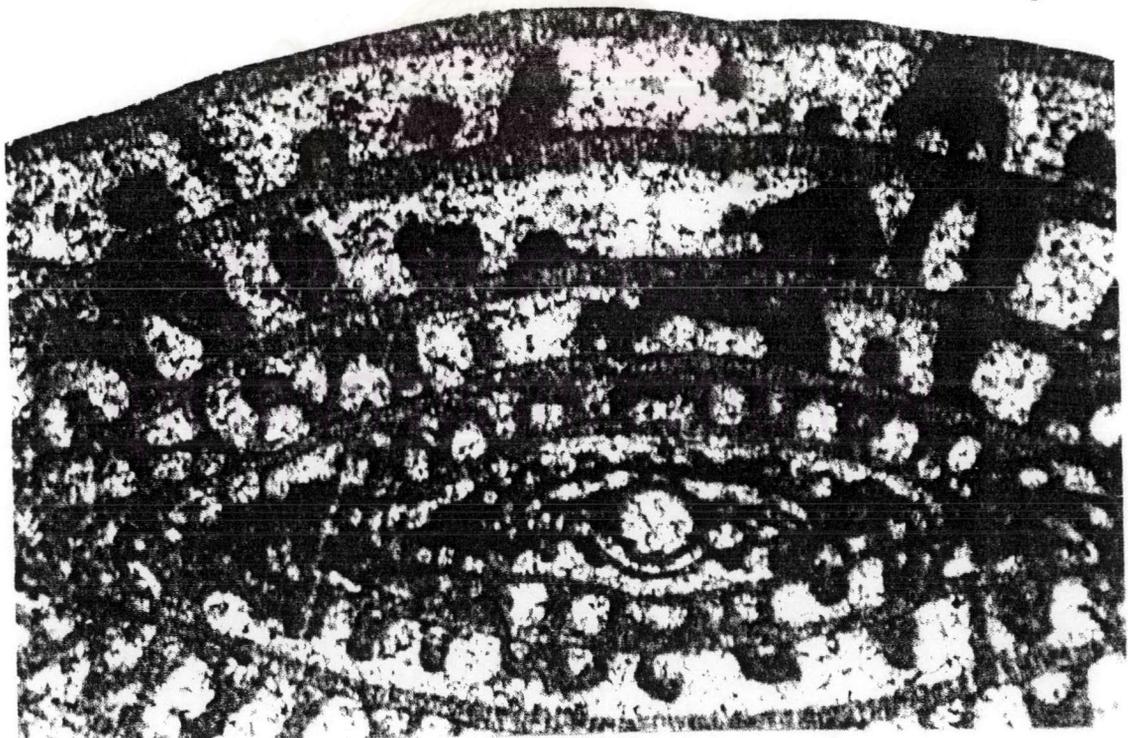
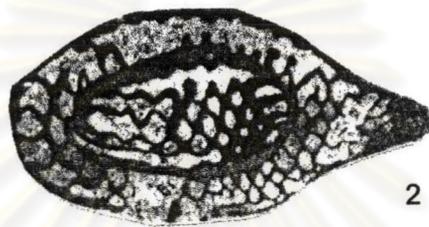
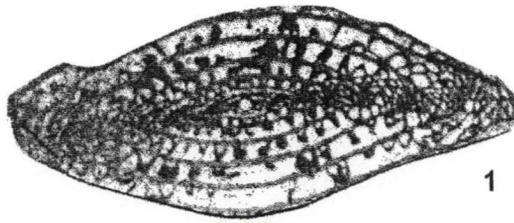
## Explanation of Plate 2

Figs. 1-3 *Chusenella* cf. *schwagerinaeformis* Sheng, 1963.....page 79

1. Axial section, TT0186, x 10.
2. Oblique section, TT0186, showing chamberlets, x 10.
3. Axial section, TT0186, showing spirotheca, x 30.



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## Explanation of Plate 3

Figs. 1-3 *Parafusulina* sp. Dunbar and Skinner, 1931 .....page 89

1,3. Axial sections, both TT0021, x 20.

2. Sagittal section, TT0021, x 20.

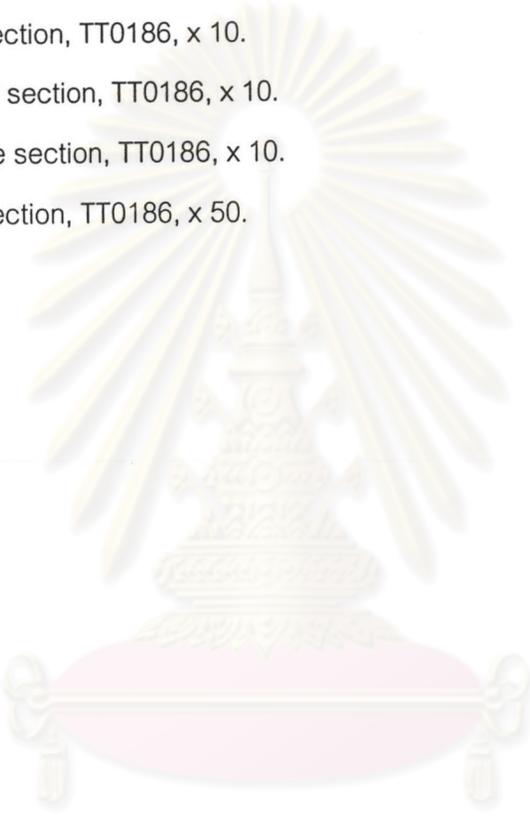
Figs. 4-7 *Pseudofusulina* sp. Dunbar and Skinner, 1931 .....page 92

4. Axial section, TT0186, x 10.

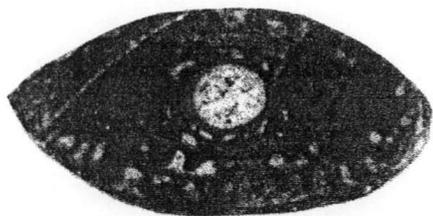
5. Sagittal section, TT0186, x 10.

6. Oblique section, TT0186, x 10.

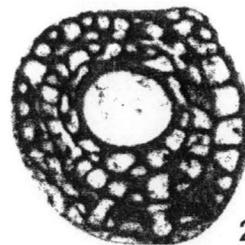
7. Axial section, TT0186, x 50.



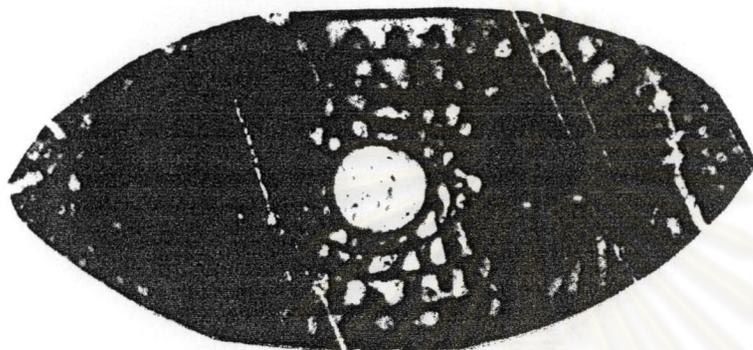
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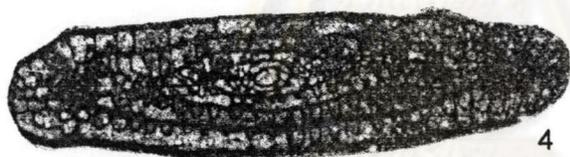
1



2



3



4



5



6



7

## Explanation of Plate 4

Figs. 1-6 *Parafusulina gigantea*, (Deprat), 1913 .....page 81

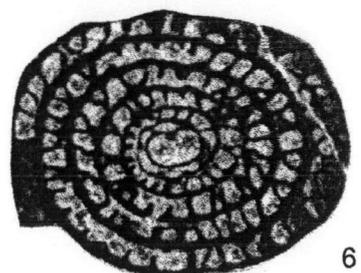
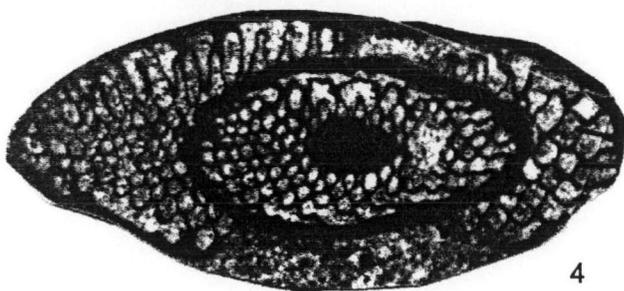
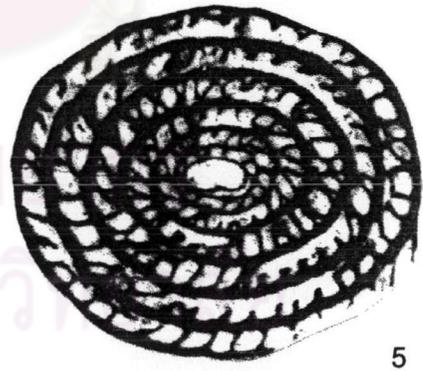
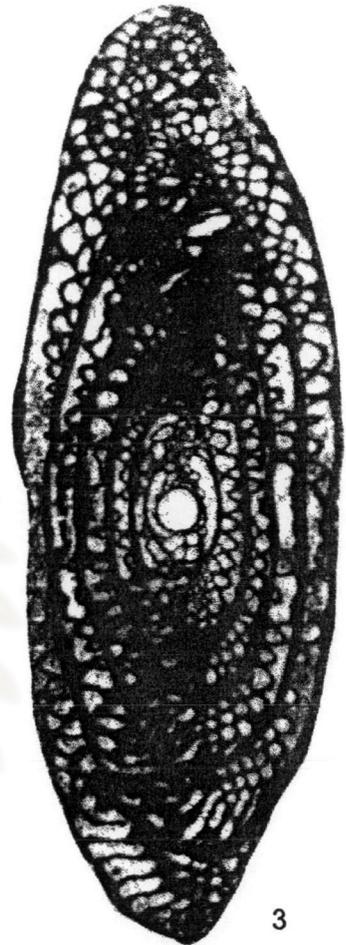
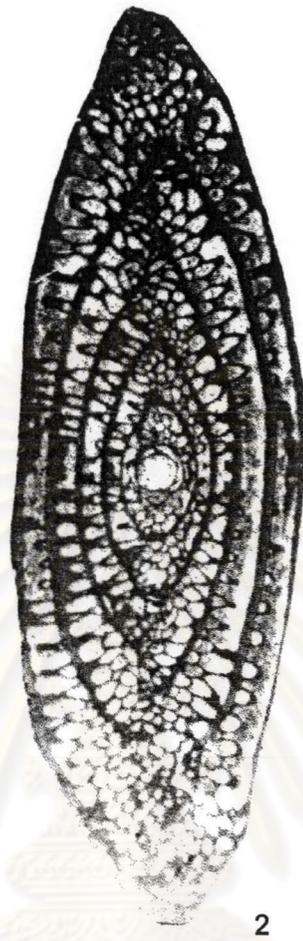
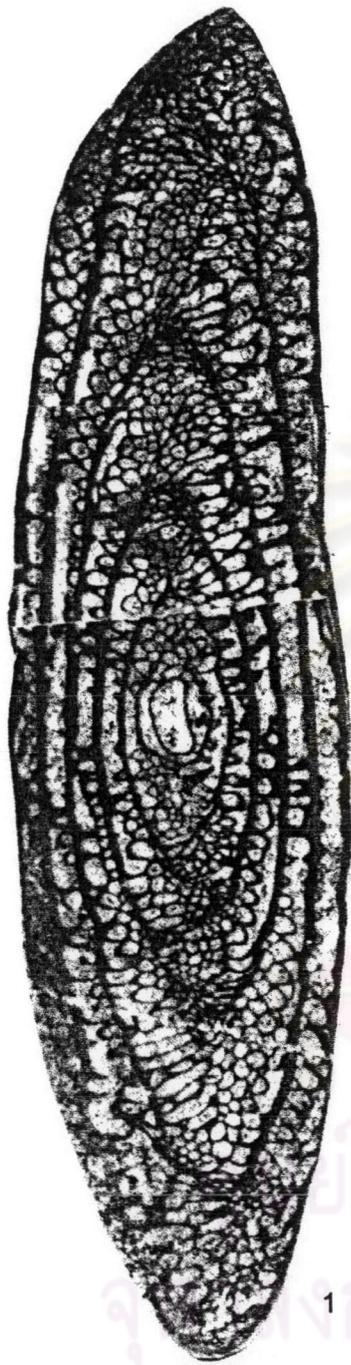
1-3. Axial sections, TT0013, TT0022, TT0053, respectively, x 10.

4. Oblique section, TT0022, showing cuniculi, x 10.

5-6. Sagittal sections, TT0042, TT0052, x 10.



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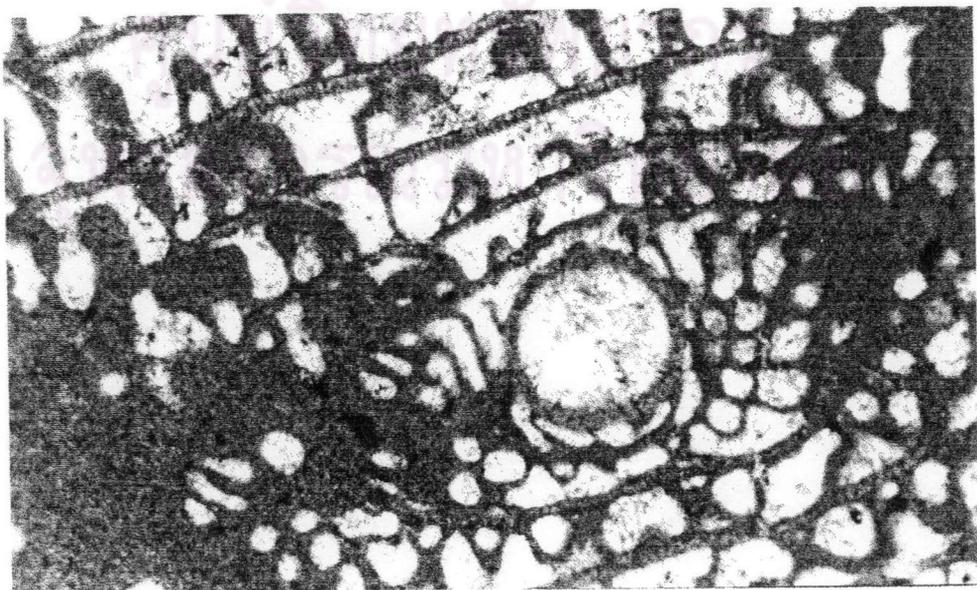
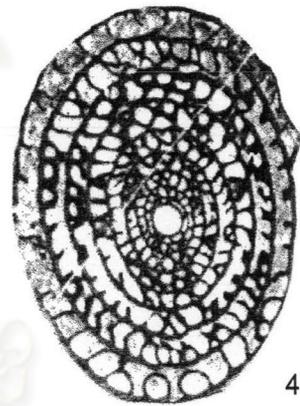
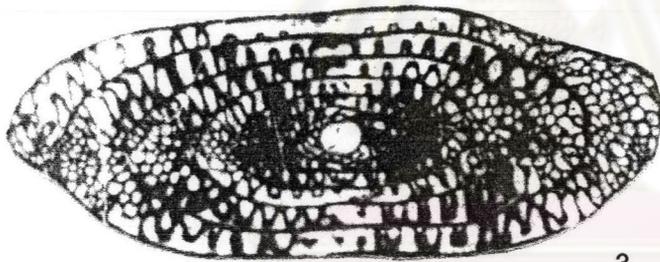
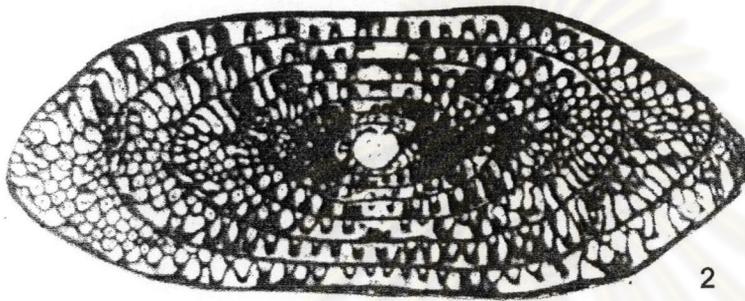
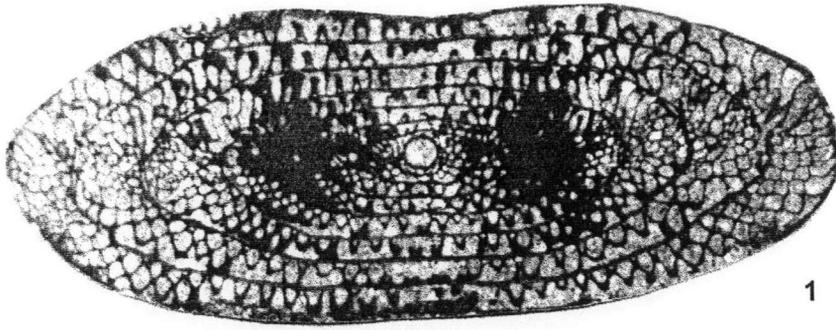
## Explanation of Plate 5

Figs. 1-5 *Parafusulina loeyensis* Pitakpaivan, 1966.....page 85

- 1-3. Axial sections, TT0012, TT0035, and TT0042, respectively, x 10.
4. Sagittal section, TT0013, x 10.
5. Axial section, TT0012, showing the proloculus wall is thicker than first volution spirotheca and secondary deposit, x 50.



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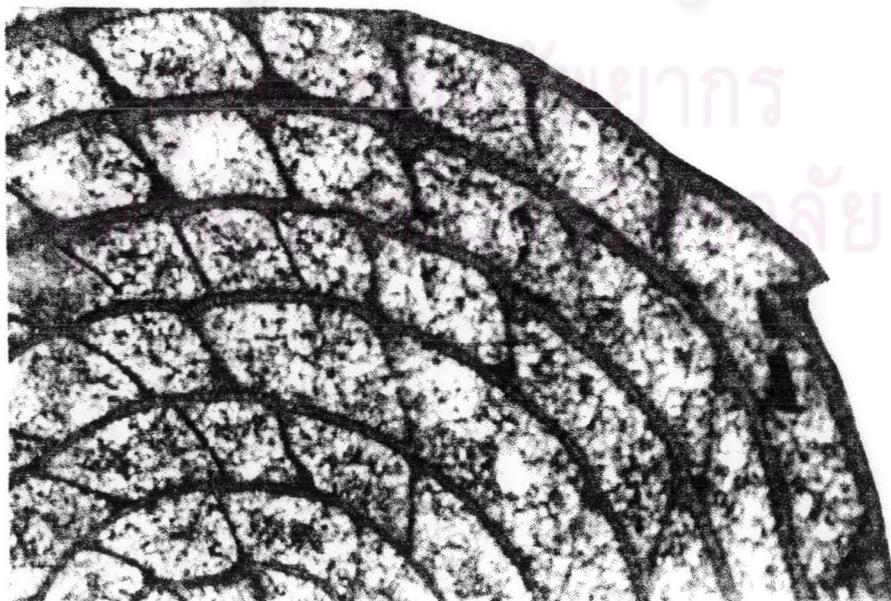
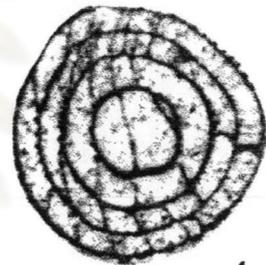
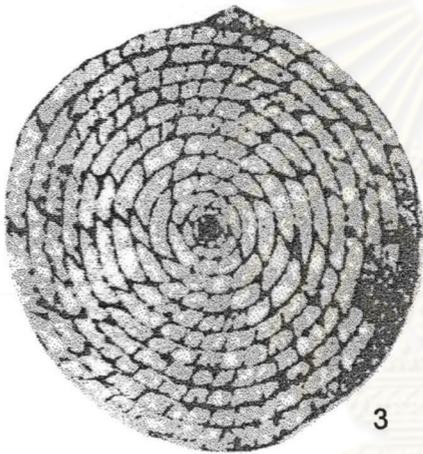
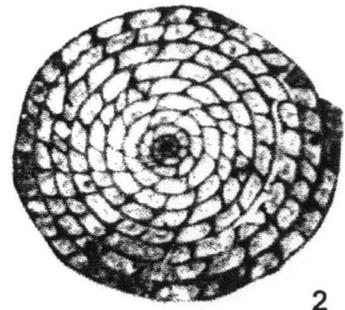
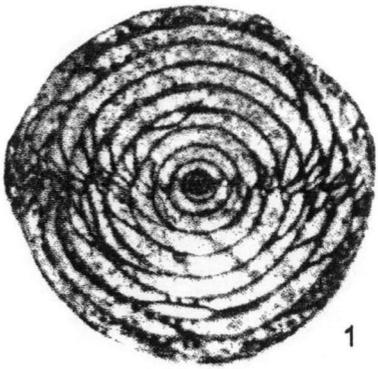
## Explanation of Plate 6

Figs. 1-5 *Verbeekina verbeeki* Geinitz (1876) .....page 94

1. Tangential section, TT0090, x 10.
- 2-4. Parallel sections, all TT0091, x 10.
5. Parallel section, TT0104, showing spirotheca and parachomata, x 50.



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## Explanation of Plate 7

Figs. 1-3 *Metadoliolina nongmuangensis* sp. nov..... page 97

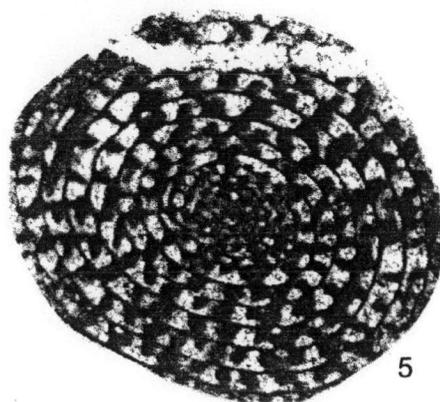
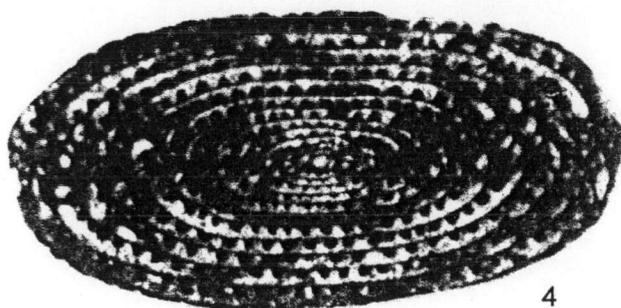
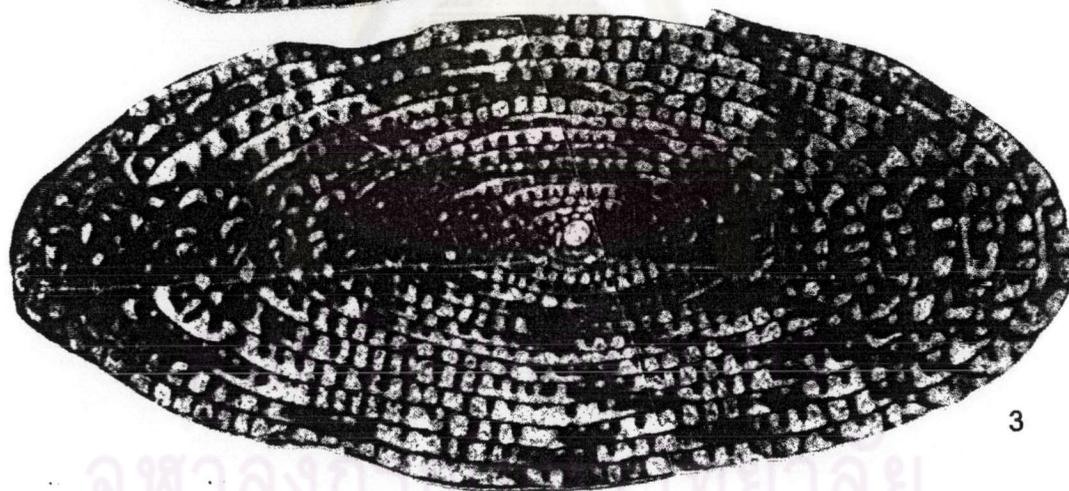
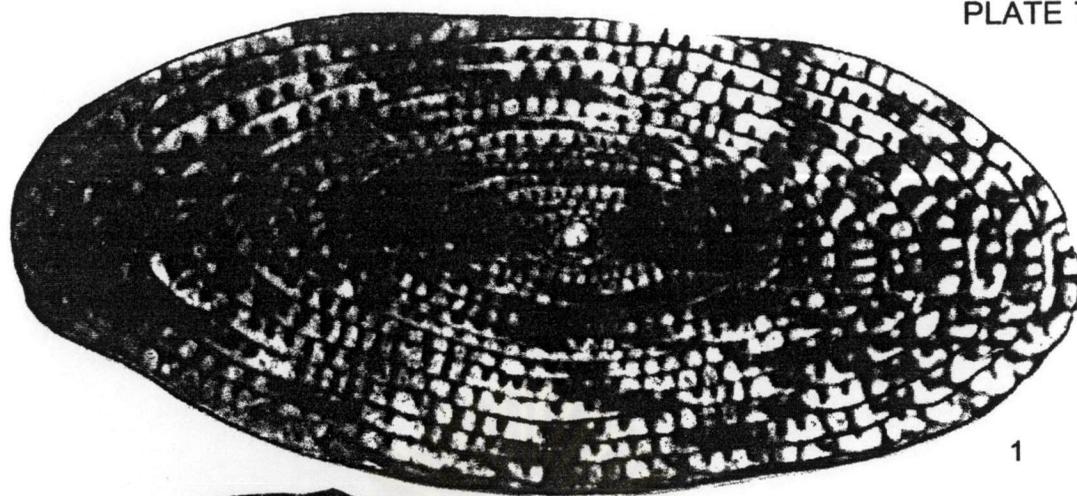
1. Axial section, TT0165, x 20.
2. Sagittal section, TT0181, x 20.
3. Axial section, TT0186, x 20.

Figs. 4-5 *Pseudodoliolina pseudolepida* (Deprat), 1912.....page 102

4. Axial section, TT0098, x 20.
5. Sagittal section, TT0091, x 20.



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## Explanation of Plate 8

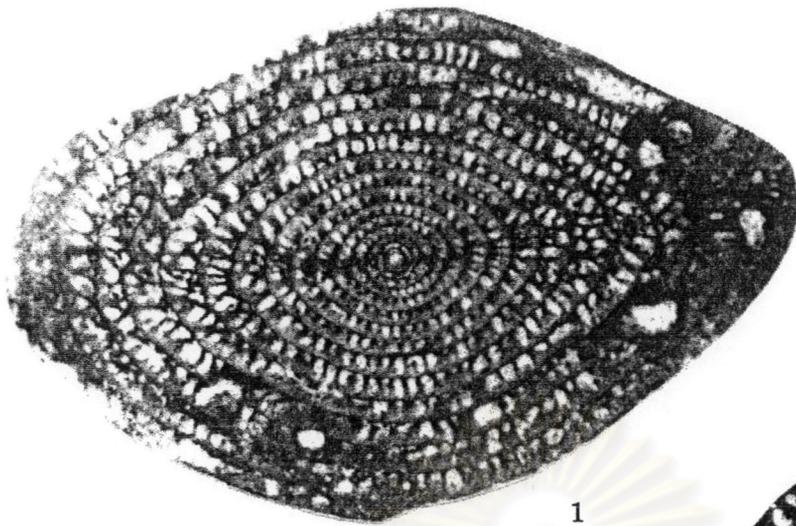
Figs. 1-4 *Colania douvillei* (Ozawa), 1922 .....page 106

1, 3, 4. Axial sections, TT0210, TT0210, TT0208, x 20.

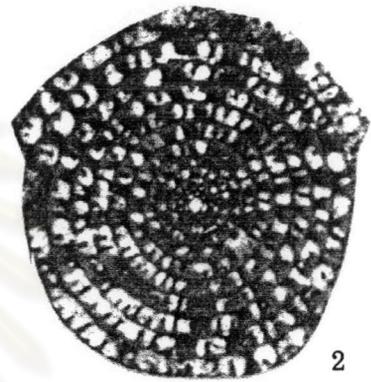
2. Sagittal section, TT0209, x 20.



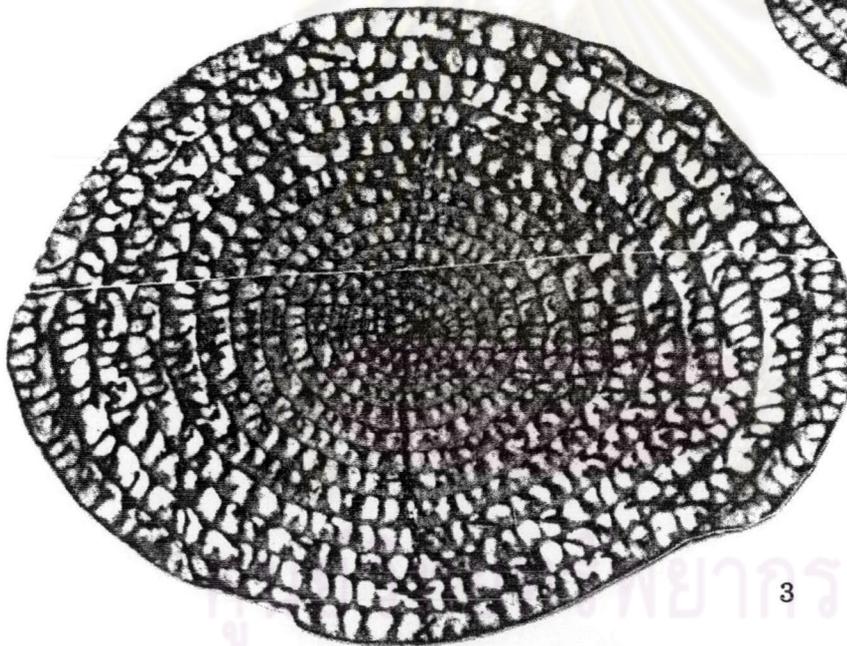
ศูนย์วิทยทรัพยากร  
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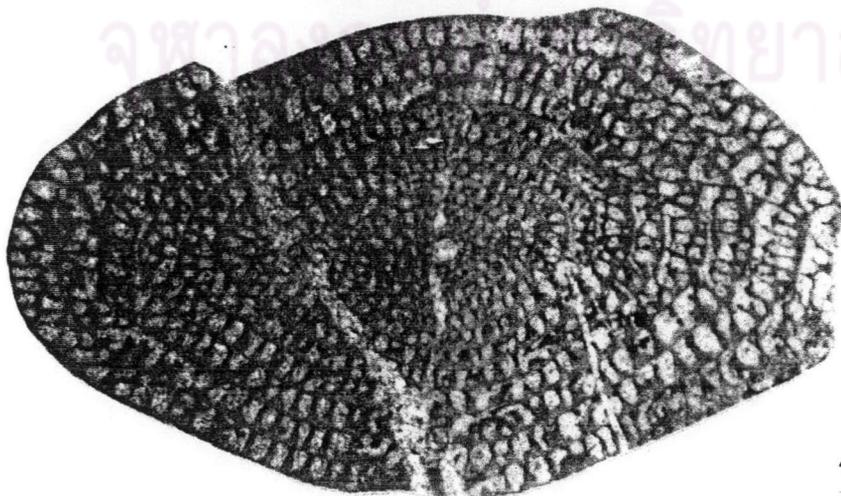
1



2



3



4

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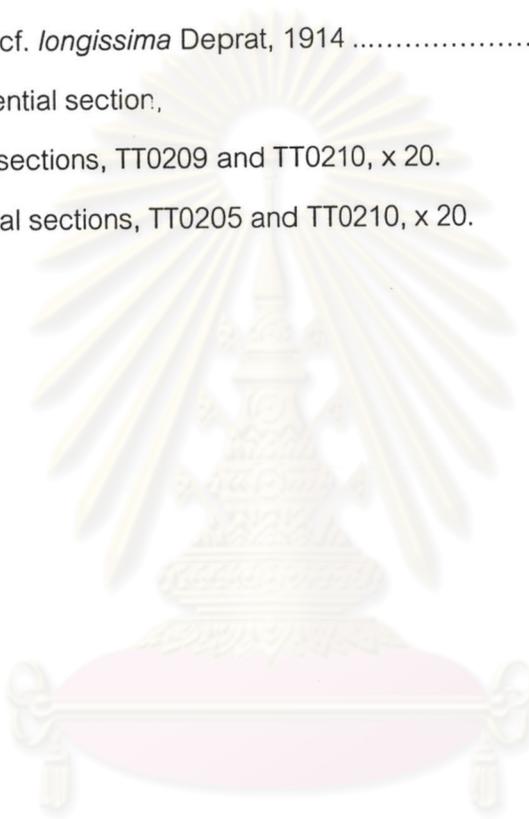
## Explanation of Plate 9

Figs. 1-3 *Sumatrina annae* Volz, 1904 .....page 109

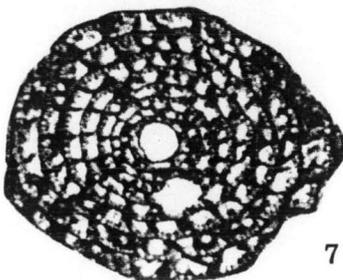
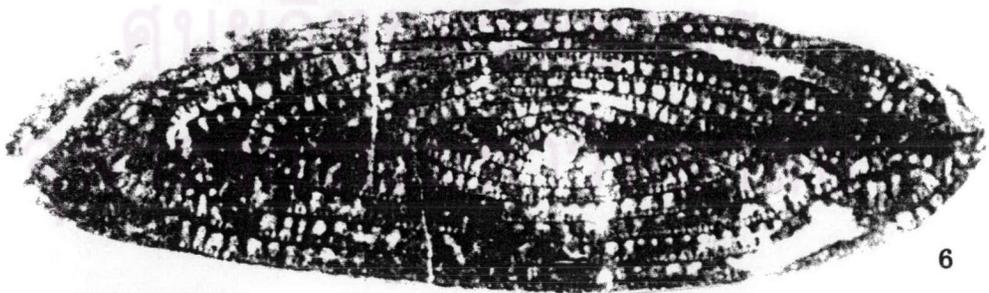
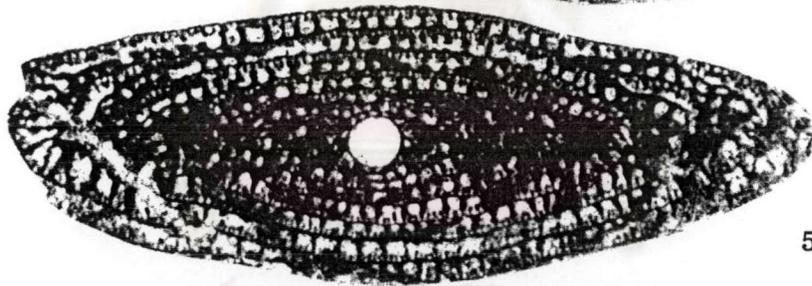
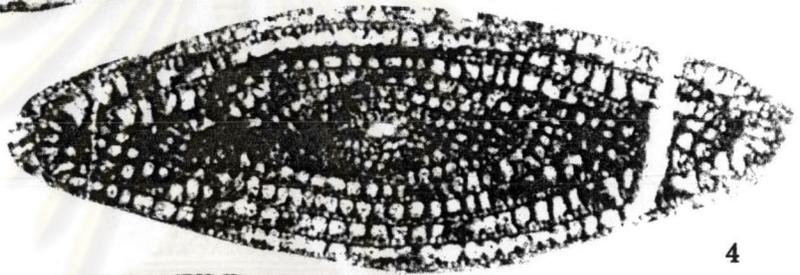
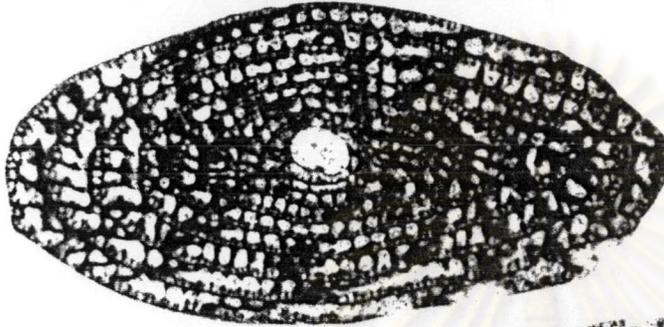
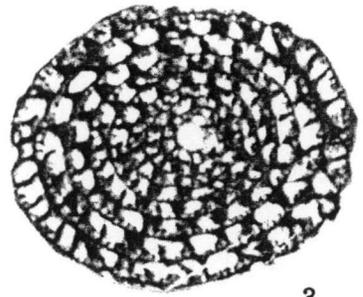
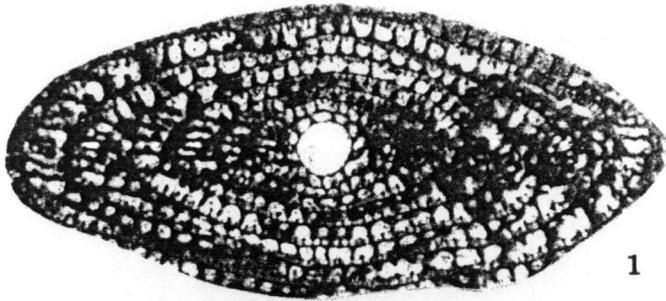
- 1, 2. Axial sections, both TT0098, showing two form of proloculus, x 20.
3. Sagittal section, TT0104, x 20.

Figs. 4-8 *Sumatrina* cf. *longissima* Deprat, 1914 .....page112

4. Tangential section,
- 5, 6. Axial sections, TT0209 and TT0210, x 20.
- 7, 8. Sagittal sections, TT0205 and TT0210, x 20.



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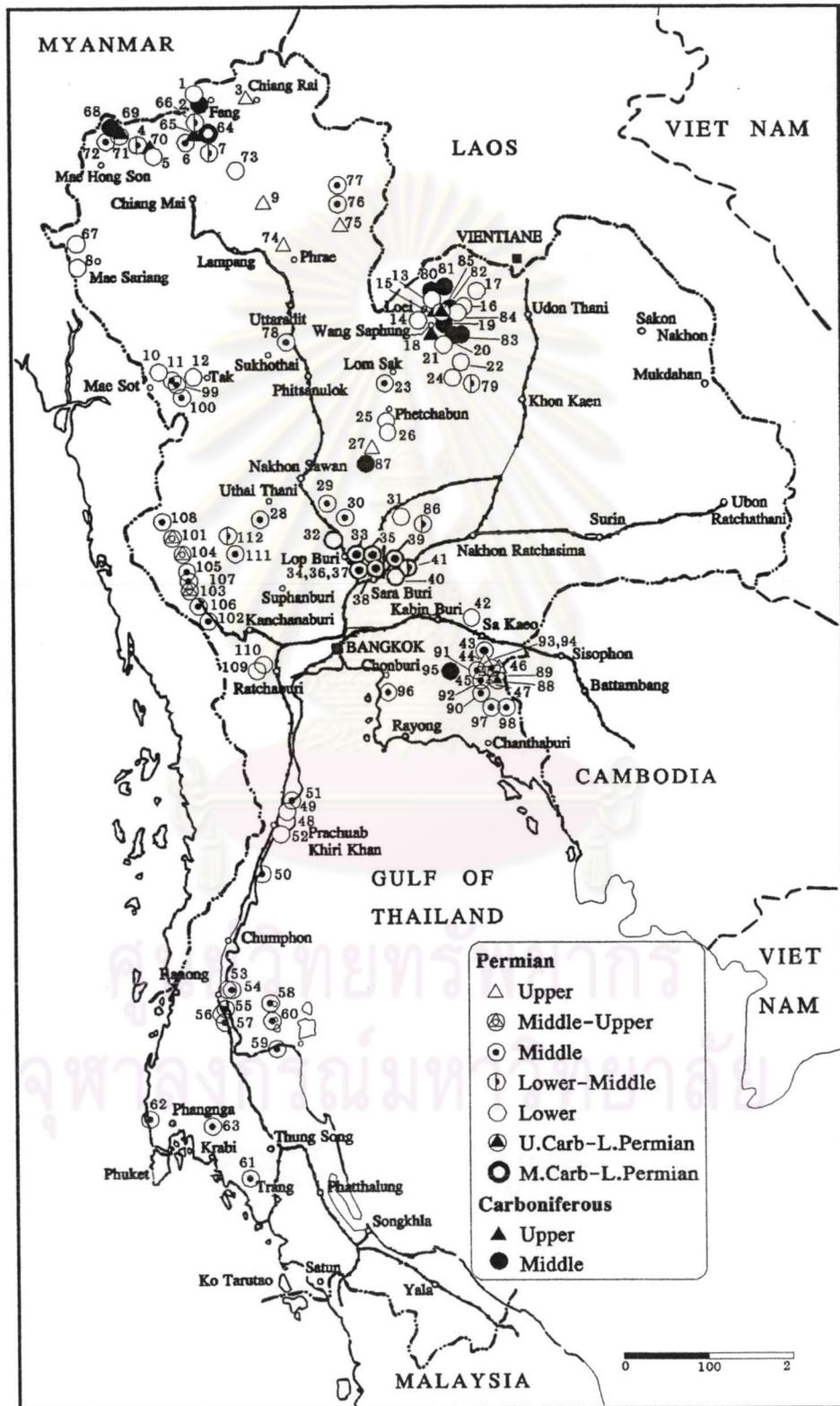




APPENDIX I : Distribution of fusulinids in Thailand

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The map of fusulinids distribution in Thailand which modified from Toriyama (1984) and compiled from further references.



List of fusulinids distribution in Thailand (Note : locality 1-49 from Toriyama, 1984).

1. Kemper, 1969 at Fang (Lower Permian)
2. Kemper, 1969 at Fang (Middle Carboniferous)
3. Kemper, 1969 (Upper Permian)
4. Kemper, 1969 (Lower to Middle Permian)
5. Konishi, 1953 ; Pitakpaivan et al., 1969; Vachard et al., 1992 at Pai (Lower Permian)
6. Kemper, 1969 (Middle Permian)
7. Toriyama, 1944 at Ban Doi Huoto – Ban Ai (Lower to Middle Permian)
8. Ingavat and Douglass, 1981; Baum et al., 1970 at Mae Sariang (Lower Permian)
9. Sakagami and Hatta, 1982 ; Ueno and Sagakami, 1991; Ishibashi et al., 1994 at Khao Doi Pha Phlung (Upper Permian)
10. Ingavat and Douglass, 1981 at Mae Ka Sa Fall, Mae Ramad, Tak (Lower Permian)
11. Dunbar in Heim and Hirschi, 1939 at Pawa, Tak (Middle Permian)
12. Ingavat and Douglass, 1981 at Huai Um Yom, Lan Sang, Tak (Lower Permian)
13. Igo, 1972 at Ban Sup, Loei (Middle Permian)
14. Pitakpaivan, 1966 at Huey Sampod, Loei (Lower Permian)
15. Igo, 1972 at Ban Na Nam Man, Loei (Upper Carboniferous)
16. Borax and Stewart, 1966 at Pong Si Thon (Lower Permian)
17. Borax and Stewart, 1966 at Nong Bua Lamphu (Lower Permian)
18. Igo, 1972 at Ban Pha Noi, Loei (Upper Carboniferous)
19. Igo, 1972 at Huai Bun Nak, Loei (Middle Carboniferous)
20. Igo, 1972 at Huai Luang, Loei (Middle Carboniferous)
21. Igo, 1972 at Tham Nam Maholan, Loei (Lower Permian)
22. Borax and Stewart, 1966 ; Wielchowsky and Young, 1985 at Pha Nok Khao, Loei (Lower Permian)
23. Igo, 1972 at Khao Tham Nam Rusi (Middle Permian)
24. Sakagami and Iwai, 1974 at Pha Duk Chik (Lower Permian)
25. Igo, 1972 at Ban Nam Lum, Phetchabun (Lower Permian)
26. Pitakpaivan, 1965 at Noankowtok, Phetchabun (Lower Permian)
27. Yanagida, 1969 at Khao Hin Kling, Phetchabun (Upper Permian)
28. Ingavat, Muanlek and Udomatrn, 1975 at Khao Nong Khan Chang (Middle Permian)

29. Pitakpaivan, 1965 at Chondhurian, Nakhon Sawan (Middle Permian)
30. Toriyama and Pitakpaivan, 1973 at Wat Kirinakratanaram, Lop Buri (Middle Permian)
31. Borax and Stewart, 1966 at Lam Narai, Lop Buri (Lower Permian)
32. Pitakpaivan, 1965 at Khao Sanamjang, Lop Buri (Lower Permian)
33. Toriyama and Sugi, 1959 ; Pitakpaivan, 1966 at Maoteetang (Middle Permian)
34. Toriyama and Kanmera, 1979 at Khao Khao, Saraburi (Middle Permian)
35. Ozawa, 1970 at Khao Imot (Middle Permian)
36. Ingavat and Campbell, 1972 Ban Khung Khi Sua, Saraburi (Middle Permian)
37. Toriyama et al., 1975 at Khao Ngop, Saraburi (Middle Permian)
38. Toriyama, 1975 at Khao Phlong Prab, Saraburi (Middle Permian)
39. Campbell et al., 1972 at Thap Kwan, Saraburi (Middle Permian)
40. Campbell et al., 1972 at Huai Kua Man, Saraburi (Lower Permian)
41. Borax and Stewart, 1966 at Thavee Ranch, Nakhon Ratchasima (Lower – Middle Permian)
42. Sugiyama and Toriyama, 1981 at Khao Singto, Sa Keao (Lower Permian)
43. Sugiyama and Toriyama, 1981 at Khao Chakan, Sa Keao (Middle Permian)
44. Pitakpaivan and Ingavat, 1980 at Khao Makha, Sa Keao (Upper Permian)
45. Pitakpaivan and Ingavat, 1980 at Khao Ked, Sa Keao (Upper Permian)
46. Pitakpaivan and Ingavat, 1980 at Khao Chong Khab, Sa Keao (Upper Permian)
47. Pitakpaivan and Ingavat, 1980 at Ban Klong Kai Thuen, Sa Keao (Upper Permian)
48. Sakagami, 1969 at Khao Chong Krachok, Prachuab Khiri Khan (Lower Permian)
49. Sakagami, 1969 at Khao Ta Mong Lai, Prachuab Khiri Khan (Lower Permian)
50. Fontaine and Suteethorn, 1988 at Khao Mae Ram Phung, Prachuab Khiri Khan (Middle Permian)
51. Fontaine and Suteethorn, 1988 at Khao Khan Ban Dai, Prachuab Khiri Khan (Middle – Upper Permian)
52. Fontaine and Suteethorn, 1988 at Khao Klong Wan, Prachuab Khiri Khan (Lower Permian)
53. Ingavat-Helmcke, 1993 at Khao Ling Tang, Chumphon (Lower Permian)
54. Ingavat-Helmcke, 1993 at Khao Thong, Chumphon (Middle Permian)
55. Ingavat-Helmcke, 1993 at Khao Nang, Chumphon (Middle Permian)

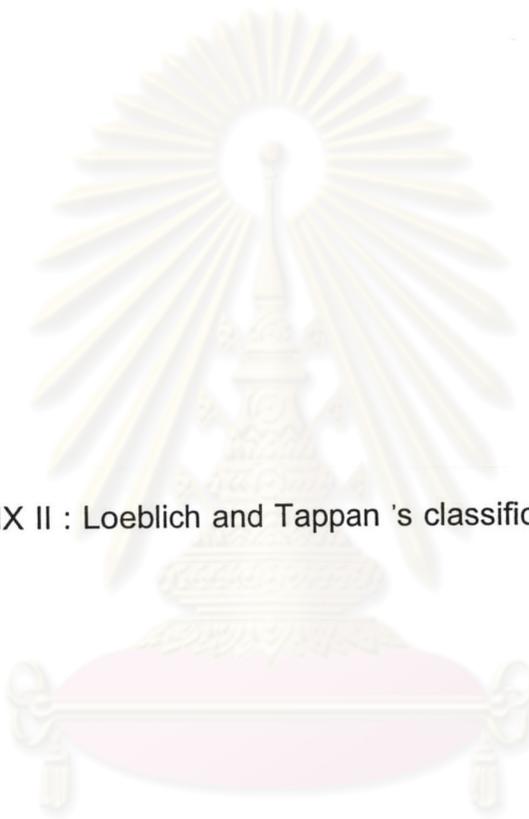
56. Ingavat-Helmcke, 1993 at Khao Toey, Chumphon (Lower Permian)
57. Ingavat-Helmcke, 1993 at Khao Changok, Chumphon (Middle Permian)
58. Ingavat-Helmcke, 1993 at Ko Nai Pud, Surat Thani (Middle Permian)
59. Ingavat-Helmcke, 1993 at Khao Laem Lak So, Surat Thani (Middle Permian)
60. Ingavat-Helmcke, 1993 at Ko Wao Lap, Surat Thani (Middle Permian)
61. Ingavat-Helmcke, 1993 at Huai Yod, Trang (Middle Permian)
62. Ingavat-Helmcke, 1993 at Khao Luk Chang, Trang (Middle Permian)
63. Bronnimann et al., 1978 at Khlong Pha Saeng, Krabi (Middle Permian)
64. Baum et al., 1970 ; Hahn and Seibenhuner, 1982 ; Caridroit et al., 1990 ; Vachard et al., 1992 at north and west of Chiang Dao and Prao (Middle Carboniferous – Lower Permian)
65. Ueno and Igo, 1997 at Khao Tham Pong Quarry (Upper Carboniferous)
66. Ueno and Igo, 1997 at Km.93.1 and Km.99.5 and Km.111.3-113.3 Chiang Mai-Fang Road (Lower- Middle Permian)
67. Hahn and Siebenhuner, 1982 at northwest of Mae Sarieng, Mae Hong Son (Lower Permian)
68. Fontaine et al., 1993 at Ban Pang Khan, Mae Hong Son (Middle Carboniferous)
69. Fontaine et al., 1993 at Ban Mae Lana, Mae Hong Son (Upper Carboniferous)
70. Fontaine et al., 1993 at Km 58.4 Pai-Mae Hong Son Road, Mae Hong Son (Upper Carboniferous)
71. Fontaine et al., 1993 at southwest of Ban Mae Lana, Mae Hong Son (Lower Permian)
72. Fontaine et al., 1993 at south of Ban Mae Suya, Mae Hong Son (Middle Permian)
73. Ingavat and Jamnongthai, 1988 at Wang Nua, Lampang (Lower Permian)
74. Ingavat, 1984 at Northwest of Phrae (Upper Permian)
75. Baum et al., 1970 ; Hahn and Siebenhuner, 1982 at Wiang Sa, Nan (Lower Permian)
76. Ingavat, 1984 at Pha Sing, Nan (Middle Permian)
77. Ingavat, 1984 at Tha Wang Pha, Nan (Middle Permian)
78. Heim and Hirschi, 1939 at Ban Dara, Uttaradit (Middle Permian)
79. Wielchowsky and Young, 1985 at Phu Pha Daeng, Loei (Lower – Middle Permian)
80. Vachard, 1990 at Ban Tat So, Loei (Middle Carboniferous)
81. Vachard, 1990 at Phu Tham Pha Tang, Loei (Middle Carboniferous)

82. Fontaine et al., 1991 at Huai Nam Suai, Loei (Middle Carboniferous)
83. Fontaine et al., 1991 at Ban Na Charoen, Loei (Middle Carboniferous)
84. Charoentitirat and Ueno, 1999 at Phu Khao, Loei (Lower Permian)
85. Charoentitirat, 1995 and Charoentitirat and Ueno, 1999 at Ban Na Din Dam, Loei (Upper Carboniferous -Lower Permian)
86. Wielchowsky and Young, 1985 at Khao Som Phot, Lop Buri (Lower – Middle Permian)
87. Altermann, 1989 at SW of Wichianburi, Phetchabun (Middle Carboniferous)
88. Fontaine et al., 1997 at Khao Bang Prik, Sa Kaeo (Middle Permian)
89. Fontaine and Salyapogse, 1997 at Khao Chan Daeng, Sa Kaeo (Middle Permian)
90. Fontaine et al., 1997 at Khao Laem Nue, Sa Kaeo (Middle Permian)
91. Fontaine et al., 1997 at Khao Phaeng Ma, Sa Kaeo (Middle Permian)
92. Fontaine et al., 1997 at Khao Ka Long, Sa Kaeo (Middle Permian)
93. Fontaine and Salyapogse, 1997 at Khao Phlap Plung Thong, Sa Kaeo (Middle Permian)
94. Fontaine and Salyapogse, 1997 at Ban Sai Thong, Sa Kaeo (Middle Permian)
95. Fontaine and Salyapogse, 1997 ; Fontaine et al., 1997 at Khao Kradat, Sa Kaeo (Middle Carboniferous)
96. Nakinbodee et al., 1976 at Khao Riewadi, Chon Buri (Middle Permian)
97. Bunopas et al., 1983 ; Fontaine et al., 1997 at Khao Klong Pun, Sa Kaeo (Middle Permian)
98. Bunopas et al., 1983 ; Fontaine et al., 1997 at Khao Tham Salika, Sa Kaeo (Middle Permian)
99. Fontaine and Suteethorn, 1988 at km.67 Tak-Maesod road (Middle Permian)
100. Fontaine and Suteethorn, 1988 at Doi Pha Daeng, Tak (Middle Permian)
101. Hagen and Kemper, 1976 at Huai Thong Pha Phum, Kanchanaburi (Middle-Upper Permian)
102. Hahn and Siebenhuner, 1982 at west of Kanchanaburi (Middle Permian)
103. Bunopas, 1982 at Sai Yoke, Kanchanaburi (Middle-Upper Permian)
104. Fontaine and Suteethorn, 1988 at Ban Pu Pru, Kanchanaburi (Middle-Upper Permian)

105. Fontaine and Suteethorn, 1988 at Ban Kaeng Raboet, Kanchanaburi (Middle Permian)
106. Fontaine and Suteethorn, 1988 at Khao Phang, Kanchanaburi (Middle Permian)
107. Fontaine and Suteethorn, 1988 at Sai Yoke Yai, Kanchanaburi (Middle Permian)
108. Fontaine and Suteethorn, 1988 at Khao Laem, Kanchanaburi (Middle Permian)
109. Sakagami, 1969 ; Fontaine and Suteethorn, 1988 at Khao Phrik, Rat Buri (Lower Permian)
110. Fontaine and Suteethorn, 1988 at Khao Raeng, Rat Buri (Middle Permian)
111. Bunopas, 1982 at Khao Plukmu, Suphan Buri (Middle Permian)
112. Bunopas, 1982 at Uthaithani-Ban Rai road (Lower- Middle Permian)



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APPENDIX II : Loeblich and Tappan 's classification (1988)

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The detail of Loeblich and Tappan 's classification (1988) as follows :

Order Foraminiferida Eichwald, 1830

Suborder Fusulinina Wedekind, 1937

Superfamily FUSULINACEA von Moller, 1878

1) Family LOEBLICHIIDAE Cummings, 1955

Subfamily NANICELLINAE Fursenko, 1959

*Nanicella* Henbest, 1935

*Rhenothyra* H.Beckmam, 1950

Subfamily LOEBLICHIIINAE Cummings, 1955

*Loeblichia* Cummings, 1955

*Novella* Grozdilova & Lebedeva, 1950

*Seminovella* Rauzer – Chernousova, 1951

2) Family OZAWAINELLIDAE Thompson & Foster, 1937

Subfamily OZAWAINELLINAE Thompson & Foster, 1937

*Chenella* A.D. Miklukho – Maklay, 1959

*Eostaffelloides* A.D. Miklukho – Maklay, 1959

*Millerella* Thompson, 1942

*Ozawainella* Thompson, 1935

*Parareichelina* K.U.Miklukho – Maklay, 1959

*Pseudokahlerina* Sosnina, 1968

*Pseudonovella* Kireeva, 1949

*Pseudoreichelina* Leven, 1970

*Rectomillerella* Liem, 1974

*Reichelina* Erk, 1942

*Sichotenella* Tumanskaya, 1953

Subfamily PSEUDOSTAFFELLINAE Putrya, 1956

*Chomatomediocris* Vdovenko, 1973

<i>Eostaffella</i>	Rauzer – Chernousova, 1948
<i>Hubeiella</i>	J.K. Lin, 1977
<i>Kangvarella</i>	Saurin, 1962
<i>Mediocris</i>	Rozovskaya, 1961
<i>Neostaffella</i>	A.D. Miklukho – Maklay, 1959
<i>Ninella</i>	Malakhova, 1975
<i>Plectomediocris</i>	Brazhnikova & Vdovenko, 1983
<i>Plectomillerella</i>	Nrazhnikova & Vdovenko, 1983
<i>Primoriina</i>	Sosnina, 1981
<i>Pseudoendothyra</i>	Mikhaylov, 1939
<i>Pseudostaffella</i>	Thompson, 1942
<i>Quydatella</i>	Liem, 1966
<i>Rauserella</i>	Dunbar, 1944
<i>Shouguania</i>	J.k. Lin, 1981
<i>Toriyamaia</i>	Kanmera, 1956

### 3) Family SCHUBERTELLIDAE Skinner 1931

#### Subfamily SCHUBERTELLINAE Skinner, 1931

<i>Eoschubertella</i>	Thompson, 1937
<i>Fusiella</i>	Lee & Chen, 1930
<i>Kwantoella</i>	Sakagami & Omata, 1957
<i>Mesoschubertella</i>	Kanuma & Sakagami, 1957
<i>Neofusulinella</i>	Deprat, 1912
<i>Neoschubertella</i>	Saurin, 1962
<i>Schubertella</i>	Staff & Wedekind, 1910

#### Subfamily BOULTONIINAE Skinner & Wilde, 1954

<i>Boultonia</i>	Lee, 1927
<i>Codonofusiella</i>	Dunbar & Skinner, 1937
<i>Dunbarula</i>	Ciry, 1948
<i>Gallowaiina</i>	Chen, 1934
<i>Lantschichites</i>	Tumanskaya, 1953

<i>Minojapanella</i>	Fujumoto & Kanuma, 1953
<i>Nanlingella</i>	Rui & Sheng, 1981
<i>Palaeofusulina</i>	Deprat, 1912
<i>Paradoxiella</i>	Skinner & Wilde, 1955
<i>Paradunbarula</i>	Skinner, 1969
<i>Parananlingella</i>	Rui & Sheng, 1981
<i>Russiella</i>	A.D. Miklukho – Maklay, 1957
<i>Tewoella</i>	X.F. Sun, 1979
<i>Wutuella</i>	J.C. Sheng, 1963
<i>Ziguiella</i>	J.X. Lin, 1980

#### 4) Family FUSULINIDAE von Moller, 1878

Subfamily FUSULINELLINAE Staff & Wedekind, 1910

<i>Dagmarella</i>	Solor'eva, 1955
<i>Fusulinella</i>	von Moller, 1877
<i>Obsoletes</i>	Kireeva, 1950
<i>Plectofusulina</i>	W.J. Stewart, 1958
<i>Profusulinella</i>	Rauzer - Chernousova & Belyaer, 1930
<i>Protriticites</i>	Putrya, 1948
<i>Pseudofusulinella</i>	Thompson, 1951
<i>Taitzehoella</i>	J.C. Sheng, 1951
<i>Thompsonella</i>	Skinner & Wilde, 1965
<i>Uralofusulinella</i>	Chuvashov, 1980
<i>Waeringella</i>	Thompson, 1942
<i>Yangchienia</i>	J.S. Lee, 1934
<i>Akiyoshiella</i>	Toriyama, 1953
<i>Bartramella</i>	Verville, Thompson & Lolle, 1956
<i>Beedeina</i>	Galloway, 1933
<i>Dutkevichella</i>	Putrya, 1956
<i>Fusulina</i>	Fisher de Waldheim, 1829
<i>Hanostaffella</i>	Cheong, 1984

<i>Hemifusulina</i>	von Moller, 1877
<i>Hemifusulinella</i>	Rumyantseva, 1962
<i>Hidaella</i>	Fujumoto & Igo, 1955
<i>Pseudotriticites</i>	Putrya, 1940
<i>Putrella</i>	Rauzer – Chernousova, 1951
<i>Quasifusulina</i>	Chen, 1934
<i>Quasifusulinoide</i>	Rauzer - Chernousova & Rozovskaya, 1959
<i>Xenostaffella</i>	Cheong, 1973

Subfamily EOFUSULININAE Rauzer - Chernousova & Rozovskaya, 1950

<i>Eofusulina</i>	Rauzer – Chernousova, 1951
<i>Neofusulina</i>	A.D. Miklukho – Maklay, 1963
<i>Paraeofusulina</i>	Putrya, 1956
<i>Verella</i>	Dalmatskaya, 1951

Subfamily WEDEKINDELLININAE F.Kahler & G. Kahler, 1966

<i>Eowaeringella</i>	Skinner & Wilde, 1967
<i>Eowedekindellina</i>	Ektova, 1977
<i>Fru mentella</i>	W.J. Stewart, 1958
<i>Parafusulinella</i>	W.J. Stewart, 1970
<i>Parawedekindellina</i>	Safonova, 1951
<i>Pseudowedekindellina</i>	Sheng, 1958
<i>Wedekindellina</i>	Dunbar & Henbest, 1933

5) Family SCHWAGERINIDAE Dunbar & Henbest, 1930

Subfamily POLYDIEXODININAE A.D. Miklukho-Maklay, 1953

<i>Eopolydiexodina</i>	Wilde, 1975
<i>Polydiexodina</i>	Dunbar & Skinner, 1931
<i>Skinnerina</i>	Ross, 1964

Subfamily CHUSENELLINAE F.Kahler & G. Kahler, 1966

<i>Chusenella</i>	Hsu, 1942
<i>Rugosochusenella</i>	Skinner & Wilde, 1965

## Subfamily SCHWAGERININAE Dunbar &amp; Henbest, 1930

<i>Darvasites</i>	A.D.Miklukho-Maklay, 1959
<i>Dunbarinella</i>	Thompson, 1942
<i>Eoparafusulina</i>	Coogan, 1960
<i>Iowanella</i>	Thompson, 1957
<i>Kansanella</i>	Thompson, 1957
<i>Leptotriticites</i>	Skinner & Wilde, 1965
<i>Mccloudia</i>	Ross, 1967
<i>Monodiexodina</i>	Sosnina, 1956
<i>Montiparus</i>	Rozovskaya, 1948
<i>Nagatoella</i>	Thompson, 1936
<i>Nipponitella</i>	Hanzawa, 1938
<i>Oketaella</i>	Thompson, 1951
<i>Parafusulina</i>	Dunbar & Skinner, 1931
<i>Pravitoschwagerina</i>	Toriyama, 1982
<i>Pseudofusulina</i>	Dunbar & Skinner, 1931
<i>Schwagerina</i>	von Moller, 1877
<i>Triticites</i>	Girty, 1904

## Subfamily BIWAELLINAE Davydov, 1984

<i>Biwaella</i>	Morikawa & Isomi, 1960
<i>Dutkevichites</i>	Davydov, 1984
<i>Sphaeroschwagerina</i>	A.D. Miklukho – Maklay, 1959

## Subfamily PSEUDOSCHWAGERININAE L.H.Chang, 1963

<i>Acervoschwagerina</i>	Hanzawa, 1949
<i>Chalartoschwagerina</i>	Skinner & Wilde, 1965
<i>Cuniculinella</i>	Skinner & Wilde, 1965
<i>Daixina</i>	Rozovskaya, 1949
<i>Dutkevitchia</i>	Leven & Shcherbovich, 1978
<i>Eozellia</i>	Rozovskaya, 1975
<i>Klamathina</i>	Skinner & Wilde, 1965

<i>Occidentoschwagerina</i>	A.D.Miklukho-Maklay, 1959
<i>Paraschwagerina</i>	Dunbar & Skinner, 1936
<i>Praeparafusulina</i>	Tumanskaya, 1962
<i>Praepseudofusulina</i>	Ketat & Zolotukhina, 1984
<i>Pseudoschwagerina</i>	Dunbar & Skinner, 1936
<i>Robustoschwagerina</i>	A.D.Miklukho-Maklay, 1959
<i>Rogososchwagerina</i>	A.D.Miklukho-Maklay, 1959
<i>Zellia</i>	F.Kahler & G. Kahler, 1937

## 6) Family

STAFFELLIDAE	A.D. Miklukho-Maklay, 1949
<i>Caspiella</i>	Gibsham & Sipko, 1985
<i>Chenia</i>	Sheng, 1963
<i>Eoverbeekina</i>	J.S. Lee, 1934
<i>Haoella</i>	F.S. Gung, 1966
<i>Hayasakaina</i>	Fujimoto & Kawada, 1953
<i>Leella</i>	Dunbar & Skinner, 1937
<i>Mufushanella</i>	S. Chen, 1964
<i>Nankinella</i>	J.S. Lee, 1934
<i>Palaeoreichelina</i>	Liem, 1974
<i>Palaeostaffella</i>	Liem, 1966
<i>Pamirina</i>	Leven, 1970
<i>Pisolina</i>	J.S. Lee, 1934
<i>Reitlingerina</i>	Rauzer-Chernousova, 1985
<i>Sphaerulina</i>	J.S. Lee, 1934
<i>Staffella</i>	Ozawa, 1925
<i>Zarodella</i>	Sosnina, 1981

## 7) Family VERBEEKINIDAE Staff &amp; Wedekind, 1910

## Subfamily VERBEEKININAE Staff &amp; Wedekind, 1910

<i>Armenina</i>	A.D. Miklukho-Maklay, 1955
<i>Quasiverbeekina</i>	Y.J. Wang, Sheng & Zhang, 1981
<i>Verbeekina</i>	Staff, 1909

Subfamily MISELLININAE A.D. Miklukho-Maklay, 1958

<i>Brevaxina</i>	Schenck & Thompson, 1940
<i>Metadoliolina</i>	Ishii and Nogami, 1961
<i>Misellina</i>	Schenck & Thompson, 1940
<i>Neomisellina</i>	Sheng, 1962

Subfamily PSEUDODOLIOLININAE Leven, 1963

<i>Pseudodoliolina</i>	Yabe & Hanzawa 1932
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Subfamily KAHLERININAE Leven, 1963

<i>Kahlerina</i>	Kochansky-Devide' & Ramovs, 1955
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8) Family NEOSCHWAGERINIDAE Dunbar & Condra, 1927

Subfamily NEOSCHWAGERININAE Dunbar & Condra, 1927

<i>Cancellina</i>	Hayden, 1909
<i>Colania</i>	Lee, 1934
<i>Maklaya</i>	Kanmera & Toriyama, 1968
<i>Neoschwagerina</i>	Yabe, 1903
<i>Shengella</i>	Yang, 1985
<i>Yabeina</i>	Deprat, 1914

Subfamily SUMATRININAE Silvestri, 1933

<i>Afghanella</i>	Thompson, 1946
<i>Presumatrina</i>	Tumanskaya, 1950
<i>Sumatrina</i>	Volz, 1904

Subfamily THAILANDININAE Toriyama & Kanmera, 1968

<i>Neothailandina</i>	Toriyama & Kanmera, 1968
<i>Thailandina</i>	Toriyama & Kanmera, 1968

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Mrs. Tatiya Jaiboon was born on June 22, 1961, at Amphoe Muang, Changwat Uttaradit. She has got Bachelor Degree of Science from Department of Geological Science, Faculty of Science, Chiang Mai University, in 1983. She carried out further study on Master program on geology at Faculty of Science, Chulalongkorn University, in 1997. Now, she works as a senior educator on geology at Science Center for Education, Department of Non-Formal Education, Ministry of Education, Bangkok.



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