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ABSTRACT

A brief account of the scientific activities of the Association of the Palynologists of French Language, and list of atlases and monographs devoted to the morphology of spores and pollen grains as well as some papers of fundamental palynology in French have been given.

INTRODUCTION

Palynology has attracted the attention of scientists all over the world. The three International Palynological Conferences held in Tucson, Utrecht and Novosibirsk as well as the efforts to hold the fourth at Lucknow in 1976 stand testimony to their sustained and active interest in this field. The productivity of the palynologists is appalling. "The average worker in pure palynology produces more papers than the average researcher in the majority of other scientific disciplines" (A. A. MANTEN; *Rev. Palaeobot. Palynol.* 6: 5-7). "Thanks to the works of first ERDTMAN and later MADAM VAN CAMPO and also MANTEN the bibliography of palynology is exceptionally well looked after" (K. FAEGRI; *Taxon*, 23: 396). HANS TRALAU has recently published a most welcome and highly useful desk top ready reckoner for the use of palynologists. His bibliography (\pm 25000 titles) and Index (\pm 59000 items) to Palaeobotany and Palynology 1950-1970 will be followed by another work covering the world literature from late medieval times up to 1940 (\pm 45000 references.) "At the current rate the proposed publication of a bibliography and index for the period 1970-1980 will include about 30000 titles" (J. R. ROWLEY; *Taxon*, 24: 386).

LANGUAGE BARRIERS: MANTEN'S STATISTICAL ANALYSIS

In 1968, MANTEN reported some very important results based on his survey of the palynological literature published between 1916 and 1965 (*Rev. Palaeobot. Palynol.*, 6: 105-109, 177-188; 7: 5-10, 73-80, 145-148, 241-247). According to him, the language distribution of the palynological publications that appeared during 1916-1965 is as follows: English 34%, Russian 22%, German 16½% and French 9½%. There is a change in the percentage if we consider only the period 1961-1965: English 42%, Russian 21%, French 12%. Whereas from 1916 to 1940 not less than 35% of palynological papers appeared in German, this was not more than 9% in 1961-1965.

The bulk of the palynological results of the researchers in China, Japan and Russia remains locked up in their vernacular and are not available in English, French or German. A survey of the articles published in the three leading international journals, *Grana* (I—XIII), *Pollen et Spores* (I—XVI) and *Review Palaeobotany and Palynology* (I—XVIII) shows that English occupies the premier position (68%) and French the second place (25%).

Although the English speaking palynologists are in an advantageous position and even if "English strengthens its position still further as the leading scientific language" (MANTEN, *loc.cit.*) one cannot afford to ignore (ignorance is *not* bliss!) the important results already published and available only in other languages. "One of the reasons for an imperfect knowledge of published information is the existence of language barrier". If one masters English, French, German and Russian, "not less than 82% of the literature lies open for the researcher" (MANTEN, *loc.cit.*). It would be very useful if some regular English reviews of non-English publications are made available for the benefit of the English speaking palynologists.

This paper draws attention to some of the major works in French. It gives a brief account of the laudable scientific activities of the Association of the Palynologists of French Language, followed by a list of atlases and monographs devoted to the morphology of spores and pollen grains of plant taxa as well as some papers of fundamental palynology published in French. The immense palaeopalynological and other contributions made in French, not being available to us, could not be dealt here. The titles of the publications are translated into English. We hope that this introduction to French palynological literature will be instrumental to create an interest to learn French, the knowledge of which the author and his Indian colleagues find rewarding.

ASSOCIATION OF THE PALYNOLOGISTS OF FRENCH LANGUAGE (APLF)

In May 1968, MANTEN (*loc.cit.*) expressed the fear that "the future decades will presumably show also a gradual decline of French as a scientific language". Just a few months earlier, in October 1967, an important event had taken place. The Association of the Palynologists of the French Language was started. In less than a decade of its existence, this association, with over 200 members hailing from several countries has made many outstanding contributions in French. The latest research themes of APLF are given in its "annuaire" 1976. The activities of this association are organised by six working groups each with an animator :

- (1) Spore-pollen morphology and codification (B. LUGARDON).
- (2) Botanical markers in pollen analysis and ecological value (A. PONS).
- (3) Quaternary palynology (J. RENAULT-MISKOVSKY).
- (4) Neogene palynology (H. MEON-VILAIN).
- (5) Upper Cretaceous palynology (S. DURAND).
- (6) Mellissopalynology (J. LOUVEAUX).

The progress report of these working groups are periodically announced in the APLF circulars which in addition diffuse the news of the International Commission for Palynology and the various palynological associations around the world.

The activities of the working group of *Spore-pollen morphology and codification* deserve a special mention. In 1969, PH. GUINET issued a French translation of the book "Pollen-morphologiske Definitioner og Typer" by IVERSEN AND TROELS SMITH (1950). The same year M. REILLE presented an article entitled "Proposals for the analytical descriptions of the exine of spores and pollen grains". In 1972, J. GERMERAAD has presented in Paris his "Computer based numerical coding system". PH. GUINET is now preparing a code to the pollen. Four IBM cards are used for the codification. In one card, the following information is recorded: taxonomy, nomenclature, author, biological type, geographical

distribution and important botanical characters for the actual pollen grains; morphological features, age and author for the fossil pollen grains; preparation methods, mounting medium and variations due to them. The three other cards are used to record the morphological characters (indicating standard deviation of all the quantitative characters), the number of pollen grains observed and measured.

Twenty eight members of APLF have jointly prepared a pollen atlas entitled "Pollen and spores of tropical Africa". Welcoming this collective effort VAN CAMPO, in her introduction to this atlas, suggested that other scientific organisations should also follow this commendable venture of APLF.

The following are the symposia organised by the APLF. It is noteworthy that APLF takes into consideration the suggestions from its members regarding the topics and the place of the symposia:

- (1) *Pollen Dispersal*—The titles of the papers presented at this symposium, held in 1971, are given below:
 - The relations between the recent pollen spectra and the vegetation in Western Europe, by HEIM, J. (181 p; published by *Lab. Palynologie & Phytosociologie, Univ. Louvain*).
 - Some elements of mycological aerosporology, by M. MALLEA (*Thesis Fac. Marseille; 1968*).
 - Some problems of pollen dispersal in Mediterranean region, by TRIART, H. & BERNARD, J. (*Ann. Fac. Sci. Marseille, XLIV (B) 1971*).
 - Palynological representation of the montane plant associations in Ethiopia. Examples of altitudinal variations, by R. BONNEFILLE (*Thesis, Univ. Paris, 1972*).
 - Comparison between the pollen rain and the pollen released into the atmosphere at N. W. Sahara, by COUR, P., COHEN, J. & DUZER, D. (*Palynology in Medicine, Proc. 3rd IPC: 41-58*).
- (2) *Palynology and Continental Drift*—This symposium was held at Strasbourg in October 1973 and the papers presented are published in one volume of *Sci. Geol. Bull. Strasbourg (27: 1-193)*. The contents of this publication are as follows:
 - SITTLER, C.—Palynology and continental drift. Introduction (p. 3-7).
 - ROCHE, E.—Palaeobotany, palaeoclimatology and continental drift (p. 9-24).
 - STREEL, M.—Similarities among the spore assemblages of Europe, N. Africa and N. America in the Upper Devonian (p. 25-38).
 - BAR, P. & RIEGEL, W.—Palaeozoic microfloras of Ghana and their palaeofloristic relations (p. 39-58).
 - TAUGOURDEAU-LANTZ, J.—Palynology and continental drift in the Triassic (p. 59-67).
 - JARDINE, S., KIESER, G. & REYRE, Y.—Progressive individualisation of the African continent seen through the palynological data from the Secondary Period (p. 69-85).
 - JARDINE, S., BIENS P. & DOERENKAMP, A.—*Dicheiropollis etruscus*, a characteristic pollen of the Lower Cretaceous Africa and South America; consequences for the evaluation of climatic unity and implications in the continental drift. (p. 87-100).

- HERNGREEN, G. F. W.—Middle Cretaceous palynomorphs from North Eastern Brazil: Results of a palynological study of some boreholes and comparison with Africa and the Middle East (p. 101-116)—in English.
- CERGEAU-LARRIVAL, M. TH.—Palynology and distribution of present day austral Umbelliferae. Relationships with the Tertiary geofloras (p. 117-134).
- ROSSIGNOL-STRICK, M.—Plate tectonic and marine palynological sedimentation on the Mediterranean ridge (p. 135-145).
- LOBREAU-CALLEN, D.—Palynological problems linked with the continental drift. Study of some tropical taxa (p. 147-168).
- GUINET, PH.—Pluricontinental areas in Mimosaceae (p. 169-184).
- HUYNH, K. L.—Use of data from the morphology of present day pollen to support the continental drift theory (p. 185-193).

All those who have read the recent works on the continental drift and the discontinuous distribution by RAVEN AND AXELROD (*Ann. Miss. Bot. Gard.*, 61: 531-673), AUBREVILLE (*Adansonia*, 14: 5-27; 145-198) and the book 'Forest Ecosystems in Africa and South America: A comparative review (Smithsonian Institution Press, Washington), will find the papers presented at the APLF symposium equally interesting.

- (3) *Taxa Guides in Palynology*—A symposium on this subject was held in October 1975, to focus attention on the taxa that guide to recognize a particular stratum or climate or ecology or step in the evolution of Plant Kingdom, etc. On the same occasion, there were two meetings to discuss the structure and nomenclature of spore-pollen wall (President: S. NILSSON) and Plio-Pleistocene palynology of Tropical Africa: Identification of periporate pollen grains; African Acacia and E. African Amaranthaceae (Convenor: R. BONNEFILLE). Some papers presented at the above symposium are given in the following publication: Structure and terminology of the sporepollen wall. (Ed.—C. CARATINI & C. TISSOT.—APLF, Talence, 1975; 53 p.).

The latest APLF circular (April 1976) announced that the following papers presented at the Taxa Guides symposium will be published in *Rev. Micropaléont.*

- MULLER, J. & CARATINI, C.—Palynological study of the genus *Rhizophora*.
- COQUEL, R., DOUBINGER, J. & LOBOZIAK, S.—The guide microspores from Westphalien to Autunien of West Europe.
- MORZADÉC-KERFOURN, M. T.—The ecological significance of Dinoflagellates and their value in the study of the changes of the marine medium.
- YBERT, J. P.—Actual pollen discharges at the zone of contact between forest and savanna in Ivory Coast.
- SALARD-CHEBOLDAEFF, M.—The probable presence of Oligocene in the coastal sedimentary basin of Cameroun.
- MORAND, F. & BARTHELEMY, L.—The relations between forest clearings and three guide taxa: Beech, Ericaceae, Alnus.
- BOLTENHAGEN, E.—Senonian microflora of Gabon.
- STRAKA, H.—Pollen of *Cornus suecica*, indicator of Tundra—Park of the Late Glacial of Central Europe.
- TAUGOURDEAU, PH.—Could the "Scolecodontes" furnish guide taxa?
- SUC, J. P.—Some taxa indicating a climatic change in the Middle Pliocene of Languedoc.

- CARO, Y.—Stratigraphic use of Dinoflagellates in the Paleogene of North Sea.
- LOBREAU CALLEN, D.—Ecological significance of pollen variations in the genus *Ilex* (Aquifoliaceae).
- ANTONESCU, E.—Some characteristic associations of Lower Trias and passage to the "Anisien" in Rumania.
- GRUAS-CAVAGNETTO, C.—The Eocene stratigraphic markers (Dinoflagellates) of Paris basin and eastern Manche.
- REYNAUD, C.—*Hippophae rhamnoides*, guide taxon in the history of Finland vegetation.
- FOUCHER, J. C.—The Dinoflagellates of the silex and the stratigraphy of the Upper Cretaceous of France.
- SCHULER, M., SITTLER, C. *et al.*—(Paleogene working group). Stratigraphic extension and geographical distribution of two Paleogene pollen genera observed in W. Europe: *Aglaoreidia* and *Boehlensipollis*.

SPORE-POLLEN ATLASES IN FRENCH

Twelve spore-pollen atlases published in French are listed below. Put together, they provide detailed illustrated descriptions for 1758 species.

- (1) African palynology, I-XI. (*ed.*) M. VAN CAMPO (1957-1971) in *Bull. I.F.A.N.*, XIX—XXII, XXVI, XXVII, XXIX—XXXIII (266 species; 238 plates).
- (2) Pollen and spores of tropical Africa. (*ed.*) C. GARATINI & PH. GUINET.—*A.P.L.F. & G.E.G.T., Talence*, 283 p. (195 species).
- (3) Pollen atlas of Tchad, by J. MALEY (1970)—*Bull. Nat. Belg.* 40: 29-48; Pl. 1-25 (120 species).
- (4) Pollen atlas of Ethiopia, by R. BONNEFILLE (1971). *Adansonia*, 11: 463-518; *Pollen et Spores*, XIII: 15-72 (112 species).
- (5) Palynological studies of lowly hydrophilous plants of Ivory Coast, by GOUDET DUCELLIER, M. (1967)—*D.E.S. Univ. Dijon*. 59 p. (38 species).
- (6) Some pollen of Liban flora, by M. HADDAD (1969). *Pollen Spores*, XI: 39-63. (34 species).
- (7) Palynology of Madagascar and Mascarenes. (*Ed.*) H. STRAKA (1964-1969). *Ibid* VI—IX, XI (493 species).
- (8) Mediterranean and western palynology. (*Ed.*) M. VAN CAMPO. (1962-1969) in *Ibid* IV—VII, XI (197 species).
- (9) Pollen of honey plants of Europe. by A. MAURIZIO & J. LOUVEAUX (1960-1964). *Ibid* II—VI (62 species).
- (10) Pollen Atlas of Istanbul region, by B. AYTUG *et al.* (1971); Istanbul Univ. (117 species).
- (11) Pollen of tropical Asia, by PH. GUINET (1962) *Inst. Fr. Pondicherry, Trav. Sec. Sci. Tech. Tome V. Fasc. 1* (52 species).
- (12) Pollen Atlas of trees of some indigenous bushes of Quebec, by P. RICHARD (1970). *Naturaliste Canad.* 97: 1-34, 97-161, 241-306 (72 species).

SPORE-POLLEN MORPHOLOGICAL MONOGRAPHS IN FRENCH

BRYOPHYTES

- DENIZOT, J. 1971. Morphology and anatomy of the spores and elaters in some Sphaerocarpaceae and Marchantiales—*Naturalia Monspeliensia*, 22: 51-128. See also *Pollen et Spores*, XVI: 303-371.

PTERIDOPHYTES

- LUGARDON, B. 1963.—The spores of Pteridaceae of France. *Pollen Spores*, 5: 325-336.
 ————1971. Contribution to the knowledge of the morphogenesis and structure of the spore wall of the isosporous Filicales.—*Thesis Univ. Paul Sabatier, Toulouse*, 257 p. see also *Pollen Spores*, 14: 227-261 (1972); 16: 161-226 (1974).
 PAQUEREAU, M. M. 1960—Sporiferous apparatus of Pteridophytes.—*Imprimeries Delmas, Bordeaux*. 215 p.
 TARDIEU-BLOT, M. L. 1963. On the spores of Lindsaeaceae and Dennstadiaceae of Madagascar and Mascarenes.—*Pollen Spores*, 5: 69-86.
 ————1963. On the spores of Pteridaceae of Madagascar. *Ibid.*, 5: 337-353.
 ————1964. On the spores of Davalliaceae, Vittariaceae of Madagascar. *Ibid.* 6: 537-544.
 ————1965. On the spores of Adiantaceae, Aspleniaceae, Thelypteraceae and Athyriaceae of Madagascar. *Ibid.* 7: 319-338.
 ————1966. On the spores of ferns of Madagascar. Filicales, Marattiales, Ophioglossales.—*Ibid.* 8: 75-122.

GYMNOSPERMS

- AUDRAN, J. C. & MASSURE, E. 1975. Ginkgoales, Cycadales.—*in. Structure et terminologie de la paroi sporopollinique. A.P.L.F. Talence*. p. 6-10.
 REYRE, Y. 1968. The sculpture of the pollen of gymnosperms and chlamydosperms and their use in the identification of fossil pollen.—*Ibid.*, 10: 197-220.
 SIVAK, J. 1973. New observations on the pollen grains of *Tsuga*.—*Ibid.*, 15: 397-457.
 VAN CAMPO, M. 1950. Researches on the phylogeny of the Abietaceae based on their pollen grains.—*Trav. Lab. Forest Toulouse*, II:IV(1): 1-183.
 ————1951. Researches on the phylogeny of the Taxodiaceae based on their pollen grains.—*Ibid.* II:IV (2): 1-11.
 ————1953. Researches on the phylogeny of the Cupressaceae based on their pollen grains.—*Ibid.* II:IV (3): 1-20.
 ————& SIVAK, J. 1972. Alveolar structure of the ectexine of saccate pollen grains of Abietaceae.—*Ibid.* 14: 115-141. See also *Naturalia Monspeliensia*, 22: 165-176.

ANGIOSPERMS

Amaryllidaceae:

- RADULESEU, D. 1973. Pollen morphological researches on some species of Amaryllidaceae.—*Acta Bot. Horti Bucuresti*. 1970-1971: 245-273.

Annonaceae:

- LE THOMAS, A. & LUGARDON, B. 1972. On the fine structure of the tetrads of Annonaceae.—*C. r. Acad. Sci. Paris*, 275 (D): 1749-1752.
 ————1974. Some types of granular structure in the ectexine of simple pollen of Annonaceae.—*Ibid.* 278 (D): 1187-1190. see also *Ibid.* 279 (D): 255-258.

Apiaceae:

- CERCEAU, M. TH. 1962. Seedlings and pollen of Umbelliferae, their systematic and phylogenetic interests.—*Thesis*. Edited by Museum, Paris. 166 p.

———1968. Palynological and biogeographical contributions to the biological study of S. America.—*Biologie Amerique Austral.* Vol. 4. C.N.R.S., Paris. 109-197.

———1971. Pollen morphology and phylogenetic correlations in Umbelliferae. *Bot. J. Linn. Soc.*, 64: Suppl. 1: 109-156.

Araceae:

THANIKAIMONI, G. 1969. Outlines of palynology of Araceae.—*Inst. Fr. Pondicherry. Trav. Sect. Sci. Tech.*, 5(5): 1-31.

Arecaceae:

THANIKAIMONI, G. 1966 & 1970. Palms: palynology and systematic.—*Ibid.* 5(2): 1-92; 11: 1-286. See also *Adansonia*, 10: 347-365.

Asteraceae:

DIMON, M. TH. 1971. General problems raised by the pollen study of mediterranean Compositae.—*Naturalia Monspeliensia*, 22: 129-144.

VASANTHY, G. 1975. Structure and nomenclature of spore-pollen wall: Asteraceae. *in. Structure & Nomenclature de la paroi sporopollinique. A.P.L.F. Talence.* p. 44-48.

VISSET, L. 1974. Pollen of Compositae-Asteroideae observed in SEM.—*Beitr. Biol. Pflanzen.* 50: 137-161.

Bombacaceae:

ROBYNS, A. 1963. Contribution to the monographic study of the genus *Bombax* s.l. III. Palynology. *Grana Palynologica*, 4: 73-77. See also *Bull. Jard. Bot. Etat. Brux.* 33: 145-311; *Bull. Jard. Bot. Nat. Belg.* 41: 451-456.

Boraginaceae:

BOU, G. 1968. Pollen characters of some mediterranean and Saharo-sindien Boraginaceae.—D E A. Montpellier. 74 p.

Caesalpinaceae:

SCHMITZ, A. 1973. Palynological contribution to the taxonomy of the Bauhinieae.—*Bull. Jard. Bot. Nat. Belg.*, 43: 369-423.

Celastrales:

LOBREAU-CALLEN, D. 1975. The pollen of Celastrales and related groups. *Thesis. Univ. Sci. Tech. Languedoc. France.* See also *Pollen et Spores*, 11: 499-555; 15: 47-89; *C. R. Acad. Sc. Paris*, 280(D): 2547-2550; *Naturalia Monspeliensia*, 23-24: 205-210.

VAN CAMPO, M. & HALLE, N. 1959. The pollen of the Hippocrateaceae of W. Africa. *Ibid.* 1: 192-272.

Centrospermales:

ROLAND, F. 1970. Contribution to the knowledge of the ultrastructure of the apertures of the pollen belonging to the group Ranales-Centrospermales.—*Thesis. Univ. Paris.* See also *Rev. Gen. Bot.* 78 (1971): 329-338.

Cistaceae:

JEAN, M. T. & PONS, A. 1963. Contribution to the palynological study of the Cistaceae of the flora of France.—*Ann. Sci. Nat. Bot. & Biol. Veg.*, 12(4): 159-204.

Cucurbitaceae:

KERAUDREN, M. 1968. Researches on the Cucurbitaceae of Madagascar.—*Mem. Mus. Nat. Hist. Nat. B.* 16(2): 126-330. (*Pollen*, 146-162; 272-273; 302-303).

Didiereaceae:

STRAKA, H. 1975. Palynology and systematic differentiation of an endemic family of Madagascar: Didiereaceae.—*Boissiera*, 24: 245-248.

Dioscoreaceae:

MIEGE, J. 1965. Palynological support in the distinction of African species of *Dioscorea*.—*Webbia*, 19(2): 841-845.

Dipterocarpaceae:

MAURY, G., MULLER, J. & LUGARDON, B. 1975. Dipterocarpaceae *Structure & Nomenclature de la paroi Sporopollinique*, A.P.L.F., Talence. p. 32-33.

Ericaceae:

PAQUEREAU, M. M. 1959. Generic and specific identification of the pollen of some Ericaceae. *Proc. Soc. Linn. Bordeaux*, 97: 1-9.

VISSET, L. 1971. The pollen of Ericaceae.—*C. r. Acad. Sci. Paris*, 273 (D): 193-204.

Fabaceae:

BRONCKERS, F. & DE KEYSER, 1966. Contribution to the study of Papilionaceae. I. *Bull. Jard. Bot. Brux.*, 36: 57-63.

———, ——— & STAINIER, F. 1972. *Ibid.* II-*Ibid.*, 42: 251-267.

STAINIER, F. 1974. *Ibid.* III-*Ibid.*, 44:1-15.

Geraniales:

HUYNH, K. L. 1967-1969. Pollen morphology of the Tropaeolaceae and Balsamina-ceae. I-III. *Grana Palynologica*, 8: 88-184, 277-516; 9: 34-49.

———1969. Pollen studies in Oxalidaceae. I-III.—*Bot. Jb.* 89: 272-334; 90: 524-526.

RADULESCU, M. N. & RADULESCU, D. 1974. Pollen morphology in some members of the family Oxalidaceae, Geraniaceae and Zygophyllaceae.—*Rev. Roum. Biol.*, 19: 7-27.

Iridaceae:

RADULESCU, D. 1970. Pollen morphological researches on the species of Iridaceae.—*Lucr. Grad. Bot. Bucuresti*, 1968: 311-350.

Irvingiaceae:

SATABIE, B. 1974.—Contribution of palynology to the study of Irvingiaceae of tropical Africa.—*Adansonia*, 14: 277-289.

Lamiaceae:

NABLI, A. 1970. Contribution to the pollen study on the genus *Teucrium*.—*C. r. Acad. Sci. Paris*, (270D): 3033-3036.

———1971. Ultrastructure of the endexine and the triphyne in some species of the genus *Teucrium*.—*Ibid.*, 273(8): 2075-2078.

———1972. Ultrastructure of the ectexine in some species of the genus *Teucrium*. *Ibid.*, 274(D): 198-201.

———1972. Pollen wall of *Ajuga chamaepitys* in T. E. M. and S. E. M. *Ibid.*, 274(D): 3210-3213. See also *Ibid.* 278 (B): 2921-2924.

Lentibulariaceae:

- HUYNH, K. L. 1968. Studies on the morphology of the pollen of *Utricularia*.—*Pollen Spores* X: 11-55.

Liliflorae:

- RADULESCU, D. 1973. Pollen morphological contributions on some Liliflorae.—*Acta Bot. Horti. Bucuresti.*, 1972-1973: 87-104.
———1973. The morphology of the pollen in some Haemadoraceae.—*Ibid.*, 123-132.
———1973. Pollen morphological researches on the family Liliaceae.—*Ibid.*, 133-248.

Lythraceae:

- COZ CAMPOS, D. 1964. Studies on the pollen grains of Lythraceae of Peru.—*Pollen Spores*, 6: 303-345.

Menispermaceae:

- THANIKAIMONI, G. 1968. Pollen morphology of Menispermaceae.—*Inst. Fr. Pondichery. Trav. Sect. Sci. Tech.*, 5(4): 1-57.

Mesembryanthemaceae:

- DUPONT, S. 1970. Pollen of Mesembryanthemaceae in S.E.M.—*C. r. Acad. Sci.* 271(D): 832-834.
———1973. Pollen studies in very succulent Mesembryanthemaceae.—*Ibid.*, 277(D): 2373-2376.

Mimosaceae:

- GUINET, PH. 1969. Mimosaceae: Study of fundamental palynology, correlation, evolution.—*Inst. Fr. Pondichery, Trav. Sect. Sci. Tech.* 11: 1-283.

Papaveraceae:

- LAYKA, S. 1973. The pollen characters in Papaveraceae, their variations compared to those of floral characters.—*D. E. S. Univ. Sci. Tech. Languedoc, Montpellier.* 90 p.

Passifloraceae:

- SPIRLET, M. L. 1965. Taxonomic use of pollen grain of Passifloraceae.—*Pollen Spores*, VII: 249-301.

Phytolaccaceae:

- BORTENSCHLAGER, S. 1973. Pollen morphology of Phytolaccaceae.—*Ibid.*, XV: 227-253.

Polycarpicae & Helobiae:

- MITROIU, N. 1970. Pollen morphological and embryological studies on the Polycarpicae and Helobiae with phylogenetic considerations.—*Lucr. Grad. Bot. Bucuresti.*, 1969: 3-243.

Primulaceae:

- HUYNH, K. L. 1970-1971. Pollen and systematic in the genus *Lysimachia*.—*Candollea*, 25: 267-296; 26: 279-295.

Rubiaceae:

MALPLANCHE, M. 1971. Pollen study on three genera of Rubiaceae.—Gardinieae of Africa.—*Adansonia*, 11: 343-355.

Sapindaceae:

MERVILLE, M. 1965. The pollen of Sapindaceae of W. Africa.—*Pollen Spores*, VII: 465-489.

Saxifragaceae:

HIDEAUX, M. 1972. Contribution of the S.E.M. to the study of the [structure of the aperture of some woody Saxifragaceae.—*Ibid.*, XIV: 25-50.

PASTRE, A. & PONS, A. 1973. Some aspects of the systematic of Saxifragaceae in the light of palynological data.—*Ibid.*, XV: 117-133.

Stylidiaceae:

BRONCKERS, F. & STAINIER, F. 1972. Contribution to the pollen morphological study of the family Stylidiaceae.—*Grana*, 12: 1-22.

Vitaceae:

REILLE, M. 1967. Contribution to the palynological study of the family Vitaceae.—*Pollen Spores*, 9(2): 279-303.

SOME PAPERS OF FUNDAMENTAL PALYNOLOGY IN FRENCH

HORVAT, F. 1966. Contribution to the knowledge of the ultrastructure of the wall of pollen of *Tradescantia paludosa*.—*Grana*, 6: 416-434.

—1969. Electron microscopic localization of the acid phosphatase in the intine of microspores.—*Ibid.* 9: 16-33.

HUYNH, K. L. 1968-1972. Studies on the arrangement of pollen in the tetrad of angiosperms on the basis of cytological data. I-VII.—*Bull. Soc. Bot. Suisse*, 78: 151-191; 79: 354-364; *Beitr. Biol. Pflanzen. Dtsch.* 47: 277-286; *Pollen et Spores*, 14: 51-60; *Bull. Soc. Neuchatel Sci. Nat.* 95: 5-10; *Bol. Soc. Brot.* XLVI: 171-181; *Beitr. Biol. Pflanzen. Dtsch.* 48: 321-337.

—1975. The problem of polarity of Ephedra pollen.—*Pollen Spores*, 16: 469-474.

LEPOUSÉ, J. & ROMAIN, M. F. 1967. Study on the ultrastructure of the pollen envelope in *Oenothera biennis*—*Ibid.*, IX: 404-413.

ROLAND, F. 1966-1968. Studies on the ultrastructure of apertures.—*Ibid.* VIII 409-419; X: 479-519; XI: 475-498.

—& ROLAND, J. C. 1968. Test of selective staining of the sporoderm layers in electron microscopy.—*Ibid.*, X: 5-10.

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