

DAFTAR PUSTAKA

- Abaas I S., A Jasim and A J Ali. 2013. Variation of essential oil quantity of geranium leaves (*Pelargonium graveolens* L.) at different growth stages with preliminary evaluation of antibacterial activity. *International Journal of Pharmacy and Pharmaceutical Science*. Vol 5 (4).
- Abagli, A.Z., T.B.C Alavo, F Avelssi and M. Moudachirou. 2012. Potential of the bush mint, *Hyptis suaveolens* oil for personal protection against mosquito biting. *Journal of the American Mosquito Control Association*. Vol. 28 (1): 15-19.
- Abdulrahman, A.A and F.A Oladele. 2005. Stomata, trichomes and epidermal cells as diagnostic feature in six of genus *Ocimum* L. (Lamiaceae). *Nigerian Journal of Botany*, Volume 18: 214-223.
- Adedeji, O., O.Y Ajuwon and O.O Babawale. 2007. Foliar Epidermal Studies, Organographic Distribution and Taxonomic Importance of Trichomes in the Family Solanaceae. *International Journal of Botany* 3 (3): 276-282.
- Afriyanto. 2008. Kajian Keracunan Pestisida pada Petani Penyemprot Cabe di Desa Candi Kecamatan Bandungan Kabupaten Semarang. *Thesis*. Program Pasca Sarjana. Universitas Diponegoro. Semarang.
<http://eprints.undip.ac.id/16405/1/AFRIYANTO.pdf>.
- Ahmed, M., R.W Scora and I.P Ting. 1994. Composition of leaves of *Hyptis suaveolens* (L.) Poit. *J.Essent.Oil.Res.*, 9 (6): 571-575.
- Aluri and Reddi. 1996. The explosive floral-mechinisme and pollination in the genus *Hyptis* (Lamiaceae). *Proc. Indian natn. Sci.Acad.* No. 2: 117-124.
- Amini, M., N. Safaie, M.J Salmani and M. Shams-Bakhsh. 2012. Antifungal activity of three medicinal plant essential oil against some phytopathogenic fungi. *Trakia Journal of Sciences*, Vol.10, No. 1: 1-8.
- Amri, I., L. Hamrouni, S. Gargouri, M. Hanana and B. Jamoussi. 2013. Chemical composition and antifungal activity of essential oils isolated from *Junoferus oxycedrus* L. *International Journal of Applied Biology and Pharmaceutical Technology*. Vol. 4 (1): 227-233.

- Anonim. 2014. Penyakit Patek atau Antraknosa pada Tanaman Cabe. Pusat Penyuluhan Pertanian, Badan Penyuluhan dan Pengembangan SDM Pertanian.
<http://backup.cyber.kamarasta.web.id/materilokalita/detail/11341/penyakit-patek-atau-antraknosa-pada-tanaman-cabe>. Diakses tanggal 12 Januari 2015.
- Arraiza M P., C Arrabal and J V Lopez. 2012. Seasonal variation of essential oil yield and composition sage (*Salvia officinalis* L.) grown in Castilla – La Mancha (Central Spain).
- Arivoli, S and S Tennyson. 2011. Mosquitocidal Activity of *Hyptis suaveolens* (L.) Pot (Lamiaceae) Extracts against *Aedes aegypti*, *Anopheles stephensi* and *Culex quinquefasciatus* (Diptera:Culicidae). International Journal of Recent Scientific Research. 2 (5): 143-149.
- Ascensao, L., N Marques and M.S Pais. 1995. Glandular Trichomes on Vegetatif and Reproductive Organs of *Leonotis leonurus* (Lamiaceae). Annals of Botany 75: 619-626.
- Ascensao, L and M.S Pais.1987. The Leaf Capitulate Trichomes of *Leonotis leonurus*: Histochemistry, Ultrastructure and Secretion. Annals of Botany 81:263-271.
- Ascensao, L and M.S Pais.1998. The Leaf Capitulate Trichomes of *Leonotis leonurus*: Histochemistry, Ultrastructure and Secretion. Annals of Botany 81: 263–27.
- Asekun O.T and O Ekundayo. 2000. Essential Oil Constituent of *Hyptis suaveolens* (L.) Poit. (bush tea) leaves from Nigeria. Journal of Essential Oil Research, 12 (2): 227-230.
- Ashour M., M Wink and J Gershenzon. 2010, Biochemistry of Terpenoid; Monoterpenes, Sesquiterpenes and Diterpenes. Annual Plant Reviews (Chapter 5). 40,258-3033.
- Avato, P., I.M Fortunato, C Ruta and R. D’Elia. 2005. Glandular hairs and essential oils in micropropagated plants of *Salvia officinalis* L. Plant Science 169: 29-36.
- Azevedo, N.R., I.F.P Campos, H.D Ferreira and T.A Portes. 2001. Chemical Variability in the Essential Oil of *Hyptis suaveolens*. Phytochemistry. Volume 57(5). 733-736.

- AVCRD. 1999. AVCRD Report 1998. J. Stares (Ed.). Asian Vegetable Research and Development Center, Shanhua, Tainan, Taiwan. <http://www.avrdc.org.tw>. 148 pp.
- Backer, C.A and R.C.B Van de Brink. 1965. *Flora of Java*. Vol. II. N.V.P Noordhoff-Graningen. Netherlands.
- Bajpai, V.K., S. Kang, H. Xu, S-G Lee, K-H Back and S.C Kang. 2011. Potential roles of essential oils on controlling plant pathogenic bacteria *Xanthomonas* species: A Review. *Plant Pathol. J.* 27 (3); 207-224.
- Bakkali, F., S.Averbeck, D Averbeck and M Idaomar. 2008. Biological Effects of Essential Oil- A review. *Food Chem Toxicol* 46 (2); 446-75.
- Balandrin, M. F., J. A. Klocke, E. S. Wurtele, and W. H. Bollinger. 1985. Natural plant chemicals: Sources of industrial and medicinal materials. *Science* 228: 1154-60.
- Baran, P., C. Ozdemir and K. Aktas. 2008. Glandular and glandular hairs on the aerial organs of *Salvia viridis* L. (Lamiaceae). *Pak. J. Pl. Sci.*, 14 (1): 1-8.
- Baran, P., C Ozdemir and K Aktas. 2010. Structural Investigation of the Glandular Trichomes of *Salvia argentea*. *Biologia* 65/1 : 33-38.
- Barbosa, L.C.A., F.T Martins, R.R Teixeira, M Polo and R.M Montanari. 2013. Chemical Variability and Biological Activities of Volatile Oils from *Hyptis suaveolens* (L.) Poit (Review Article). *Agriculturae Conspectus Scientificus*. Vol. 78, No.1: 1-10.
- Bassole, I.H.N and H.R Juliani. 2012. Essential oil in combination and their antimicrobial properties. *Molecules*, 17: 3989-4006.
- Bazaid, S.A., M.S El-Amoudi, E.F Ali and E.S Abdel-Hameed. 2013. Volatile oil studies of some aromatic plants in Taif region. *Journal of Medicinal Plant Studies*. Vol. 1 (5): 119 – 128.
- Behdani, M., M. Pooyan and S. Abbasi. 20120. Evaluation of antifungal activity of some medicinal plants essential oils against *Botrytis cinerea*, causal agent of postharvest apple rot, in vitro. *International Journal of Agricultural and Crop Sciences*: 1012-1016. www.ijagcs.com
- Bernath, J. 2014. Cultivated plants primarily as food source. Vol II. Encyclopedia in Support Systems (EOLSS). <http://www.eolss.net/Eolss-sampleAllChapter.aspx>.

- Bhargava, V.V., S C Patel and K.D Desai. 2013. Importance of terpenoid and essential oils in chemotaxonomic approach. *International Journal of Herbal Medicine*, Vol. 1 (2), 14-21.
- Benelli, G., G Flamini, A Canale, I Molfetta, P L Cioni and B Conti. 2012. Repellence of *Hyptis suaveolens* whole essential oil and major constituents against adult of the granary weevil *Sitophilus granaries*. *Bulletin of Insectology*, 65 (2): 177-183.
- Baser, K H C and F Demirci. 2007. *Chemistry of Essential Oils in Flavours and Fragrances, Chemistry, Bioprocessing and Sustainability*. R. G. Berger (Ed.). Springer. Berlin Heidelberg New York.
- Bernath, J. 2014. Aromatic Plants in Cultivated Plants, Primarily as Food Source. Vol II. *Encyclopedia of Life Support System (EOLSS)*. <http://www.eolss.net>
- Bohlmann, J. and C.I Keeling. 2008. Terpenoid Biomaterial (Harnessing Plant Biomass for Biofuels and Biomaterial). *The Plant Journal* 54: 656-669.
- Bulow, N and W.A Konig. 2000. The role of germacrene D as a precursor in sesquiterpene biosynthesis: investigations of acid catalyzed, photochemically and thermally induced rearrangements. *Phytochemistry*. 55(2):141-68.
- Can Baser, K. H and F. Demirci. 2007. *Chemistry of Essential Oils in Flavours and Fragrances, Chemistry, Bioprocessing and Sustainability* (Ed.). Springer. Berlin, Heidelberg, New York.
- Caisard J C., C Joli, V Bergougnoux, P Hugueney, M Mauriat and S Baudino. 2004. Secretin mechanisms of volatile organic compound in specialized cells of aromatic plants. *Recent Research Development in Cell Biology* 2: 1-15.
- Carmo, E.S., E. de Oliveira Lima and E.L de Souza. 2008. The potential of *Origanum vulgare* L. (Lamiaceae) essential oil inhibiting the growth of some food-related *Aspergillus* species. *Brazilian Journal of Microbiology*, 39: 362-367.
- Carson, C.F and K A Hammer. 2011. *Chemistry and Bioactivity of Essential Oils in Lipids and Essential Oils as Antimicrobial Agents* (Thormar H., Eds). John Wiley & Sons. Ltd. New Delhi.
- Chakrapani, P., K, Venkatesh, S.S Chandra, B. Arun Jyothi, P. Kumar, P. Amareshwari, A.R Rani. 2013. Phytochemical, Pharmacological importance of Patchouli (*Pogostemon cablin* (Blanco) Benth.9y an aromatic medicinal plant. *Int. J. Pharm. Sci. Rev. Res.*, 21(2): 7-15.

- Celep, F., A. Kahraman, Z. Atalay and M. Dogan. 2011. Morphology, anatomy and trichomes properties of *Lamium truncatum* Boiss. (Lamiaceae) and their systematic implications. *Australian Journal of Crop Science* 5 (2), 147-153.
- Cerkauskas, R. 2004. Pepper Diseases, Anthracnose. AVRDC-The World Vegetable Centre. Agriculture and Agri-Food. Canada.
- Chamorro, E.R., S.N Zambon and W.G Morales. 2012. Study of chemical composition of essential oils by gas chromatography (Gas Chromatography in Plants Science, Wine Technology, Toxicology and Some Specific Application). (Salih B and O. Celikbicak, Eds.) In Tech, 358 pp.
- Chang, H.T., Y.H Cheng, C.L Wu, S.T Chang, T.T Chang and Y.C Su. 2008. Antifungal activity of essential oil and its constituents from *Calocedrus macrolepis* var. *formosana* Florin leaf against plant pathogenic fungi. *Bioresourche Technology*, 99: 6266-6270.
- Choochoat, D., N Sriubolmas. W. De-Eknamkul, N. Ruangrungsi. 1998. Chemical composition and antimicrobial activity of leaf of *Hyptis suaveolens*. Proceeding of the Twenty-four Congress on Science and Technology of Thailand. Chulalongkorn Univ., Bangkok (Thailand). ISBN 974-86505-5-3. 1048 pp.
- Cheewawiriyakul, S., K.Conn., B. Gabor, J. Kao and R. Salati. 2006. Pepper & Eggplant, Disease Guide (K. Conn, ed.). Seminis Vegetable Seeds. Inc's Plant Health Departmen.
- Chien, S-C., J-H Xiao, Y-H Tseng, Y-H Kuo and S-Y Wang. 2015. Composition and antifungal activity of balsam *Liquidambar formosana* Hance. *Planta Medica*; 81(1): 39-45.
- Conti B., A Canale, P.L Cioni and G Flamini. 2010. Repellence of essential oils from tropical and Mediterranean Lamiaceae against *Sitophilus zeamais*. *Bulletin of Insectology* 63 (2): 197-202.
- _____, A.Canale, P.L Cioni, G Flamini and A. Rifici. 2011. *Hyptis suaveolens* and *Hyptis spicigera* (Lamiaceae) essential oils: qualitative analysis, contact toxicity and repellent activity against *Sitophilus granaries* (L.) (Coleoptera: Dryophthoridae). *Jurnal of Pest Science*. Vol. 84 (2): 219-228.
- Constantin, M.B., P. Sartorelli, R. Limberger, A.T Hendriques, M. Steppe, M.J.P Ferreira, M.T Ohara, V.P Emerenciano and M.J Kato. 2001. Essential oil from *Piper cernum* and *Piper regnellii*: Antimicrobial activities and analysis by GC/MS and 13C-NMR. *Planta Med.* 67: 771-773.

- Corsi, G and Bottega S. 1999. Glandular Hairs of *Salvia officinalis* : New Data on Morphology and Histochemistry in Relation to Function. *Annals of Botany* 84 : 657-664.
- Cronquist, A. 1981. *An Intregated System Classification of Flowering Plants*. Columbia University Press. New York. 1262 pp.
- Croteau, R., 1986. Biochemistry of monoterpenes and sesquiterpenes of the essential oils. In: Cracker, L.E., Simon, J.E. (Eds.), *Herbs, Spices and Medicinal Plants. Recent Advances in Botany, Horticulture and Pharmacology*, Vol. 1. Food Products Press, New York. 81–133.
- Cutler D.F. 1978. *Applied Plant Anatomy*. Longman Inc. New York. 103 pp.
- Damalas, C.A and I. G. Eleftherohorinos. 2011. Pesticide Exposure, Safety Issues, and Risk Assessment Indicators (Review). *Int. J. Environ. Res. Public Health*, 8: 1402-1419.
- Da Silva, A.C., P.E de Souza, J da C Machado, B.M da Silva and J.E.B Pereira Pinto. 2012. Effectiveness of essential oils in the treatment of *Colletotrichum truncatum*-infected soybean seeds. *Tropical Plant Pathology*. Vol. 37 (5): 305-313.
- Dahiya, N. 2010. Chitin metabolism in fungi *in Progrss in Mycology*. (M.Rai and G. Kovics, Eds). Springer. Scientific Publisher. India. 461 pp.
- Daferera D. J, B. N Ziogas, M.G Polissiou. 2003. The effectiveness of plant essential oils on the growth of *Botrytis cinerea*, *Fusarium* sp. and *Clavibacter michiganensis* subsp. *Michiganensis*. *Crop Protection*, Volume 22 (1): 39–44.
- Damjanovic-Vratnica, B., T. Dakov, D. Sukovic and J. Dajanovic. 2011. Antimicrobial effect of essential oil isolated from *Eucalytus globules* Labill. From Montenegro. *Gzech J. Food Sci*. Vol.29, No. 3; 277-284.
- Dayan, F.E and S.O Duke. 2003. *Trichomes and Root Hairs: Natural Pesticide Factories*. The Royal Society of Chemistry: 175-178.
- Dey and Choudhuri. 1983. Effect of leaf development stage on change in essential oil of *Ocimum sanctum* L. *Biochem.Physiol.Pflanzen* 178, 331-336.
- Degenhardt, J., T G Kollner and J Gershenzon. 2009. Monoterpene and sesquiterpene synthase and the origin of terpene sjleltal diversity in plants. *Phytochemistry*, 70: 1621-1637.

- Dewan Atsiri Indonesia. 2010. <http://www.atsiri-indonesia.com/index.php?page=berita-list>. Diakses tanggal 12 Juni 2012.
- Dharmagadda, V.S., M. Tandond and P. Vasudevan. 2005. Biocidal activity of the essential oils *Lantana camara*, *ocimum sanctum* and *Tagetes patula*. Journal of Scientific & Industrial Research. Vol.64 : 53-56.
- Dickison, W.C. 2000. *Integrative Plant Anatomy*. Academic Press. USA. 533 pp.
- Din, L.B., Z.Zakaria and M.W.Samsudin. 1988. Composition of the Steam Volatil Oil from *Hyptis suaveolens* Poit. Pertanika 11(2) : 239-242.
- Djilani, A and A Dicko, 2012. The therapeutic benefits of essential oils in Nutrition, Well-Being and Health, Jaouad Bouayed (Ed.), : www.intechopen.com. In Tech. Croatia.
- Dreger, M and K Wielgus. 2013. Application of essential oils as natural cosmetics preservatives. Herba Polonica, Vol. 59, No.4 : 142-155.
- Duarte, M.R and J.F. Lopes. 2007. Stem and Leaf Anatomy of *Plectranthus neochilus* Schltr., Lamiaceae. Brazilian Journal of Pharmacognosy. 17(4): 549-556.
- Dubey, N.K., B. Srivastava and A. Kumar. 2008. Current status of plant products as botanical pesticides in storage pest management. Journal of Biopesticides, 1 (2) : 182-186.
- _____, R. Shukla, A. Kumar, P. Singh and B. Prakash. 2010. Prospect of botanical pesticides in sustainable agriculture. Current Science, Vol. 98, no. 4 : 479-480.
- _____, R. Shukla and A. Kumar. 2011. Global scenario on the application of natural products in integrated pest management programmes. In Natural Products in Plant Pest Management, Dubey, N.K (Ed). CAB International. Cambridge. USA.
- Dudareva, N., A. Klempien, J. K. Muhlemann and I. Kaplan. 2013. Biosynthesis, function and metabolic engineering of plant volatile organic compounds. New Phytologist. 198 : 16–32.
- Duke, S.O., A.M. Rimando, F.E. Dayan, C. Canel, D.E. Wedge, M.R. Tellez, K.K. Schrades, L.A. Weston, T.J. Smillie, R.N. Paul and M.V. Duke. 2000. Strategies for the discovery of bioactive phytochemicals in Phytochemical as Bioactive Agents (W.R. Bidlack, S.T. Omaye, M.S. Meskin and D.K.W. Topham, Eds). CRC Press. Washington.

- Edeoga, N., G Omosun and L C Uche. 2006. Chemical composition of *Hyptis suaveolens* and *Ocimum gratissimum* hybrids from Nigeria. African Journal of Biotechnology Vol. 5 (10), 892-895.
- Eggersdorfer, M. 2012. Terpenes. Eyclopedia of Industrial Chemistry. Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim. DOI: 10.1002/14356007.a26_205.
- Elhassan, I A and N M Osman. 2014. New Chemotype *Rosmarinus officinalis* L. (rosemary) “R.officinalis ct.bornyl acetate” American Journal of Research Communication, 2(4); 232-240.
- El-Hawary, S.S., M.E El-Tantawy, M.A Rabeh and W.K Badr. 2013. Chemical composition and biological activities of essential oils of *Azadirachta indica* A. Juss. International Journal of Research in natural Products. VOl 6 (4): 33-42.
- Esau, K. 1977. Anatomy of Seed Plants. 2nd. Wiley Eastern Limited. New Delhi. 550 pp.
- Eshilokun, A.O, A.A Kasali and A.O Giwa-Ajeni.2005. Chemical composition of essential oils of two *Hyptis Suaveolens* (L.) Poit leaves from Nigeria. Flavour and Fragrance Journal, Volume 20 (5), 528-530.
- Evert, R.F . 2006. *Esau's Plant Anatomy. Meristems, Cells and Tissue of the Plant Body : their Structure, Function and Development*. 3rd.ed.John Wiley & Sons, Inc. New Jersay : 447-472
- Fahn, A. 1977. *Plant Anatomy*. Second Edition. Pergamon Press. Oxford, USA, Canada. 611 pp.
- _____ 1988. Secretory Tissue in Vascular Plants. Tansley Review No. 14. New Phytol. 108 : 229-257.
- _____ and C Shimony. 1996. Glandular Trichomes of *Fagonia* L. (Zygophyllaceae) Species : Structure, Development and Secreted Materials. Annal of Botany 77 : 25-34.
- _____ 2000. Structure and Fuction of Secretory Cells. In Plant Trichomes (Hallahan D.L and J.C Gray, Eds.). Advances in Botanical Research. Vol 31. New York. Academic Press.: 36-75.
- Falara, V and E. Pichersky. 2012. Plant Volatile and Other Specialized Metabilites: Synthesis, Storage, Emission and Function in Secretions and Exudates in Biological Systems (J.M Vivanco and F. Baluska, Eds.). Springer Heidelberg Dordrecht, London. New York.

- Fatima, C. and U.Paulino. 2002. Check-list of the Family Lamiaceae in Pernambuco, Brazil. Vol. 45 (3): 343-353.
- Ferdes, M and C. Ungureanu. 2012. Antimicrobial activity of essential oils against four food-borne fungal strains. U.P.B. Sci.Bull., Series B, Vol. 74, Iss 2: 87-98.
- Figueiredo, A C, J G Barroso, L G Pedro and J J C Scheffer. 2008. Factor affecting secondary metabolite production in plants: volatile components and essential oils. Flavour and Fragrance Journal, 23, 213-226.
- Fouad, H.A (2013). Bioactivity of five essential oils against *Bruchidius incarnates* (Boheman, 1933). Not. Sci. Bio., 5(3): 354-359.
- Franco, C.R. P., P. B. Alves, D. M. Andrade, H. C. R. de Jesus, E. J. S. Silva, E. A. B. Santos, Â. R. Antonioli and L. J. Quintans-Júnior. 2011. Essential oil composition and variability in *Hyptis fruticosa*. Revista Brasileira de Farmacognosia. Brazilian Journal of Pharmacognosy, 21(1): 24-32.
- Franz, C and J. Novak. 2010. Source of Essential Oils. (in handbook of Essential Oils, Science, Technology and Applications). CRC Press, Taylor & Francis Group. New York.
- Fun, C. E. and A B Svendsen (1990), The essential oil of *Hyptis suaveolens* Poit. Grown on Aruba. Flavour Fragr. J., 5, 161–163.
- Gairola, S., Y. Naidoo, A. Bhatt and A. Nicholas. 2009. An investigation of the foliar of *Tetradenia riparia* (Hochst.) Codd (Lamiaceae): An important medicinal plant of Southern Africa. Flora 204, 325-330.
- Gautam, A.K. 2014. The genera *Colletotrichum*: an incitant of numerous new plant diseases in India. Journal on New Biological Reports 3(1): 09 – 21.
- Gershenzon, J., M.E McConkey and R.B Croteau. 2000. Regulation of monoterpenes accumulation in leaves of peppermint. Plant Physiol 122: 205-213.
- Grassi, P., M.J Nunez, K.Varmuza and C. Franz. 2005. Chemical polymorphisms of essential oils of *Hyptis suaveolens* from El Salvador. Flavour Fragr. J., 20: 131-135.
- Gersbach, P.V. 2002. The Essential Oil Secretory Structures of *Prostanthera ovalifolia* (Lamiaceae). Ann Bot. 89 (3): 255-260.

- Giuliani, C., R. Pellegrino, B. Tirillini and L. Maleci Bini. 2008. Micromorphological and chemical characterization of *Stachys recta* L. subsp. *serpentina* (Fiori) Arrigoni in comparison to *Stachys recta* L. subsp. *recta* (Lamiaceae). *Flora*, 203: 376-385.
- Gulluce M., H Ozer, O Baris, D Daferra, F Sahin and M Polissiou. 2006. Chemical composition of the essential oil of *Salvia aethiopsis* L. *Turk J Biol.* 30, 231-233.
- Guo J, Y. Yuan, Z. Liu Z, J. Zhu. 2013. Development and structure of internal glands and external glandular trichomes in *Pogostemon cablin*. *PLoS ONE* 8(10): e77862. www.plosone.org.
- Handa, S.S. 2008. An Overview of Extraction Techniques for Medicinal and Aromatic Plants. In *Extraction Technologies for Medicinal and Aromatic Plants*. International Centre for Science and High Technology: 21-54.
- Hammer, K.A and C.F Carson. 2011. Antibacterial and Antifungal Activities of essential Oils in *Lipid and Essential Oils as Antimicrobial Agents* (Halldor Thormar, Eds). John Wiley & Sons, Ltd. New Delhi, India. 338 pp.
- Hanlidou E., S Kokkini, A.M Bosabalidis and J.M Bessiere. 1991. Glandular Trichomes and Essential Oil Constituents of *Calamintha menthifolia* (Lamiaceae). *Pl.Syst.Evol.* 177: 17-26.
- Hanson, B. 1999. *Chile Peppers*. Brooklyn Botanic Garden. Inc. Washington. 114 pp.
- Harrewijn P., A M van Oosten and P G M Piron. 2000. *Natural Terpenoids as Messengers : A multidisciplinary study of their production, biological functions and practical applications*. Springer Science+Business Media Dordrecht.
- Harris, L 2013. The Importance of Knowing Chemotypes. <http://www.learningabouteos.com/index.php/2013/08/07/the-importance-of-knowing-chemotypes/>
- Hartati, S.Y. 2012. Prospek pengembangan minyak atsiri sebagai pestisida nabati, *Perspektif*, Vol. 11. No. 1: 45-58.
- Hema, L., A.H Chandra and C. Nirpendra. 2011. Variation in essential oil composition and biological activity of *Hyptis suaveolens* Poit: A high value aromatic plant of the Himalaya. *Medicinal Plants-International Journal of Phytomedicine and related Industries*, Vol 3 (4); 311-314.

- Henderson.1959. *Malayan Wild Flowers* (Dicotyledons). Tien Wah Press ltd., Singapore.
- Heyne, K. 1987. *Tumbuhan Berguna Indonesia*. Jilid 3. Badan Penelitian dan Pengembangan kehutanan. Departemen Kehutanan. Jakarta.pp 1698.
- Hidayat, I. M., I. Sulastrini, Y. Kusandriani dan A. H. Permadi. 2004. Lesio sebagai komponen tanggap buah 20 galur dan atau varietas cabai terhadap inokulasi *Colletotrichum capsici* dan *Colletotrichum gloeosporioides*. J. Hort. 14 (3) : 161-162.
- Ho, C-L., I-C Wang and Y-W Hsu. 2009. Composition and Antimicrobial Activity of the Leaf Essential Oil of *Machilus obovatifolia* from Taiwan. Journal of Essential Oil Research. Vol.21: 87-91.
- Hossain, M.A., Z Ismail, A Rahman and S.C Kang. 2008. Chemical composition and anti-fungal prooerties of the essential oils and crude extract or *Orthosiphon stamineus* Benth. Industrial Crops and Products, 27: 328-334.
- Hunter,M. 2009. Essential Oils; Agriculture, Science, Industry and Entrepreneurship (A Focus on The Asia-Pasifik Region). Nova Science Publishers, Inc. New York. 773 pp.
- Imelouane, B., H Amhamdi, J P Wathelet, M Ankit. K Kheded and A. Elbachiri. 2009. Chemical Composition and Antimicrobial Activity of Essential Oil of Thyme (*Thymus vulgaris*) from Eastern Morocco. International Journal of Agriculture and Biology.11, 205 - 208.
- Indrayanti, R. 1992. Jenis-jenis *Hyptis* yang didapatkan di Beberapa Daerah Sumatera Barat. *Skripsi*. Universitas Andalas. Padang (tidak dipublikasikan).
- Inan, M., M. Kirpik, D. A Kaya and S. Kirici. 2011. Effect of harvest time on essential oil composition of *Thymbra spicata* L. growing in flora of Adiyaman. Advance in Environmental Biology, 5 (2): 356-358.
- Isman, M.B. 2000. Plant essential oils for pest and diseases management. Crop Protection, 19: 603 – 608.
- Iwalokun B.A., A Oluwadun, A Otunba and O.A Oyenuga. 2012. Chemical Composition and Antimicrobial Activity of a New Chemotype of *Hyptis suaveolens* (Poit) from Nigeria. Current Research Journal of Biological Science, 4 (3), 265-272.

- Iwu, M.M., C.O Ezeugwu., C.O Okunji, D.R Sanson and M.S Tempesta. 1990. Antimicrobial activity and terpenoid of the essential oil of *Hyptis suaveolens*. International Journal of Crude Drug Research. Vol. 28 (1): 73-76.
- Janssen, A.M., J.J.C Scheffer and A.B Svendsen. 1987. Antimicrobial Activities of Essential Oils (Review Articles). Pharmaceutisch Weekblad Scientific Edition. Vol.9:193-197.
- Jarikasem, S., S. Thubthimthed, K. Chawanoraseth and T. Suntornanasat. 2005. Essential Oils from Three Curcuma Species Collected in Thailand. Proc. WOCMAP III, Vol. 1: Bioprospecting & Ethnopharmacology Eds. J. Bernath, Nemeth, L.E. Craker and Z.E. Gardner Acta Hort 675, ISHS: 37-40.
- Kalemba D and A. Kunicka. 2003. Antibacterial and antifungal properties of essential oils. Current Medicinal Chemistry. 10: 813-829.
- Karimi, A. 2014. Characterization and Antimicrobial Activity of Patchouli Essential Oil Extracted From *Pogostemon cablin* [Blanco] Benth. [Lamiaceae]. Advances in Environmental Biology, 8(7) : 2301-2309
- Kasim, L.S., K.O Olaleye, A.B Fagbohun, S.F Ibitoye and O.E Adejumo. 2014. Chemical composition and antibacterial activity of essential oils from *Struchium sparganophora* Linn. Ktze. Asteraceae. Advance in Biological Chemistry, 4: 246-252.
- Kazemi, M., E Mousavi and N Bandrez. 2012. Chemical composition and antibacterial activity of the essential oils of *Thymus vulgaris* and *Tanacetum parthenium*. Research Journal of Soil Biology. ISSN 1819-3498. Academic Journal Inc.
- Keng, H. 1969. *Orders and Families of Malayan Seed Plants*. University of Malaya Press. Kuala Lumpur. 429 pp.
- Koul, O., S. Walia and G.S Dhaliwal. 2008. Essential oils as pesticides: Potential and Constraints. Biopestic. Int. 4(1): 63-84.
- Kim, K-H., J-B Yoon, H-G Park, E-W Park and Y-H Kim. 2004. Structural Modification and Programmed Cell Death of Chili Pepper Fruit to Resistance Responses to *Colletotrichum gloeosporioides* Infection. The American Phytopathological Society. Vol.94, No. 12: 1295-1304.

- Kim, W.G., S. K Hong, H. W Choi and Y. K Lee. 2009. Occurrence of Anthracnose on Highbush Blueberry Caused by *Colletotrichum* Species in Korea. *Mycobiology*. 37(4): 310-312.
- Kumar, A., P Singh and N.K Dubey. 2010. Botanicals in Agricultural Pest Management in Management of Fungal Plant Pathogens (Arun Arya and Analia E. Perello, Eds). CAB International. Cambridge. USA. www.cabi.org. 403 pp.
- Langeveld, W.T, E.J Veldhuizen and S.A Burt. 2014. Synergy between essential oil component and antibiotics : review. *Crit.Rev.Microbiol*, 40 (1): 76-94.
- Llusia J., M Estiarte and J.Penuelas. 1996. Terpenoids and Plant Communication. *Butll.Inst.Cat.Hist.Nat.*, 64:125-133.
- Lin, J., J Dou, J Xu and H.A Aisa. 2012. Chemical composition, antimicrobial and anti tumor activities of essential oils and cride extract of *Euphorbia macrorhiza*. *Molecules*, 17; 5030-5039.
- Liu, M-q., Z-w Liu and J. Zhou. 2012. Morphology and histochemistry of the glandular trichomes of *Isodon rubescens* (Hemsley) H. Hara (Lamiaceae): a promising medicinal plant of China. *Journal of Medicinal Plants Research*, Vol. 6 (8): 1455-1460.
- Lacusic B S., M S Ristic, V N Slavkkovskka, D L Stojanovic and D V Lakusic. 2013. Variation in essential oil yields and composition of *Salvia officinalis* (Lamiaceae) at different developmental stage. *Botanica Serbic*, 37 (2): 127-139.
- Lawrence. G.H.M. 1955. *Taxonomy of Vascular Plant of The World*. Oxford Univercity Press. London, 516 pp.
- Levin, D.A. 1973. *The Role of Trichomes in Plant Defense*. The University of Chicago Press.
- Luo, S.H., Q. Luo, X.M Niu, M.J Xie, X. Zhao, B. Schneider, J. Gerhenzon and S.H Li. 2010. Glandular trichomes of *Leucosceptrum canum* harbordefensive sesquiterpenoids. *Angew. Chem. Int. Ed.* 49: 4471-4475.
- Lukens, R.J. 1971. *Chemistry of Fungisidal Action*. Springer-Verlag Berlin Heidelberg. New York.
- Maffei, M., F Chialva and T Sacco. 1989. Glandular Trichomes and Essential Oils in Developing Peppermint Leaves. *New Phytol.* (III) 707-716.

- Mahandhar, J.B., G.LHartman and T.C Wang. 1995. Antarcnose Development on Pepper Fruit Inoculated with *Colletotrichum gloeosporiodes*. Plant Disease. Vol 9, No. 4: 380-383.
- Maleci, L.B and O Servettaz. 1991. Morphology and Distribution of Trichomes in Italian species of *Teucrium* sect. *Chamaedrys* (Labiatae) - a Taxonomical Evaluation. Pl.Syst.Evol.174 : 83 – 91.
- Malele, R.S., C.K Mutayabarya, J.W Mwangi, G.N Thoithi, A.G Lopez, F.I Lucini and J.A Zigadlo.2003. Essential Oil of *Hyptis suaveolens* (L.) Poit. From Tanzania: Composition and Antifungal Actifity. Journal of Essential Oil Research 15:438-440.
- Mandal, S.M., K.C Mondal, S.Dey and B.R Pati. 2007. Antimicrobial Activity of The Leaf Extracts of *Hyptis suaveolens* (L.) Poit. Short Communication. 69 (4): 568-569.
- Marin, M., S. Budimir, D. Janosevic, P. D. Marin , S. D Lausevic , and M. L-Grbic. 2008. Morpgology, distribution and histochemistry of trichomes of *Thymus lykae* Degen & Jav. (Lamiaceae). Arch. Biol. Sci., Belgrade, 60 (4), 667-672.
- Margni, M., D. Rossier, P. Crettaz and O. Jolliet. 2002. Life cycle impact assessment of pesticides on human health and ecosystems. Agriculture, Ecosystems and Environment 93: 379–392.
- Marzouki H., A Elaissi, A Khaldi, D Falconieri, B Marongiu, A Piras and S Porcedda. 2009. Seasonal and geographical variation of *Laurus nobilis* L. essential oil from Tunisia. The Open Natural Products Journal, 2: 86-91.
- Mauseth, J.D. 1988. *Plant Anatomy*. The Benjamin/Cummings Publishing Company. Inc. 2727 Sand Hill Road, Menlo Park, California. 560 pp.
- Mazid, M., T.A Khan and F. Mohammad. 2011. Role of secondary metabolites in defence mechanism of plants. Biology and Medicine, 3 (2), Special Issue: 232-249.
- Mbatchou, V.C., S Abdullatif and R Glover. 2010. Phytochemical Screening of Solvent Extracts from *Hyptis suaveolens* LAM for Fungal Growth Inhibition. Pakistan Journal of Nutrition 9 (4): 358-361.
- Mendes, M.D., A.C Figueredo, M.M Oliveira and H Trindade. 2013. Essential oil production in shoot cultures versus field-grown plants of *Thymus caespititius*. Plant Cell Tiss Organ Cult, 113: 341-351.

- Moghaddam, M., M Pourbaige, H.K Tabar, N Farhadi and S.M A Hosseini. 2013. Composition and antifungal activity of peppermint (*Mentha piperita*) essential oil. Journal of Essential Oil Bearing Plants. Vol. 16 (4): 506-512.
- Mohammadreza V., 2008. Variation in the essential oil composition of *Artemisia annua* L. of different growth stages cultivated in Iran. African Journal of Plant Science Vol 2 (2): 016-018.
- Mondal, S., S.C Mahapatra, B.R Mirdha and S.N Naik. Antimicrobial activities of essential oil obtained from fresh and dried leaves of *Ocimum sanctum* (L.) against enteric bacteria and yeast. Acta Hort. (ISHS) 756: 267-270.
- Morcia, C., G.Tumino and V. Terzi. 2013. Plant Bioactive Metabolites for Cereal Protection Against Fungal Pathogens. In Antifungal Metabolites from Plants (M.Razzaghi-Abyaneh and M.Rai, Eds.). Springer Heidelberg, New York.
- Moro, A., A. Zalacain, J.H Mendoza and M Carmona. 2011. Effects of agronomic practices on volatile composition of *Hyssopus officinalis* L. essential oils. Molecules, 16: 4131-4139.
- Moreira, A.C.P., E. de Oliveira Lima, P.A., Wanderley, E.S Carmo, and E.L de Souza. 2010. Chemical composition and antifungal activity of *Hyptis suaveolens* (L.) Poit leaves oil against *Aspergillus* species. Brazilian J. Microbiol. 41: 28-33.
- _____, E.S Carmo., P.A., Wanderley., E.L de Souza and E. de Oliveira Lima. 2013. Inhibitory effect of the essential oil from *Hyptis suaveolens* (L.) Poit on the growth and aflatoxin synthesis of *Aspergillus flavus*, Journal of life Science. Vol. 7 (3): 276-281.
- Mirjalili, M H., P Salehi, A Sonboli, J Hadian, S N Ebrahim and M Yousefzadi. 2010. The composition and antibacterial activity of the essential oil of *Levisticum officinale* Koch flowers and fruits at different developmental stages. J. Serb. Chem.Soc.75 (12): 1661-1669.
- Mishra, S.R. 2009. *Understanding Plant Anatomy*. Discovery Publishing House PVT. Ltd. New Delhi. India.
- Mraz, P. 1998. The Structure and Development of the Glandular Trichomes of *Teucrium montanum* (Lamiaceae). Biologia, Bratislava, 53/1:65-72.

- Mustafa, M., M. Ali, and H. Kuswanti. 2006. Chili (*Capsicum* spp.) Food Chain Analysis: Setting Research Priorities in Asia (Ali, M. ed.). Shanhua, Taiwan: AVRDC – The World Vegetable Center, Technical Bulletin No. 38, AVRDC Publication 06-678. 253 pp.
- Naghibi, F., M. Mosaddegh, S. Mohammadi and A. Ghorbani. 2005. Labiateae Family in folk Medicine in Iran: from Ethnobotany to Pharmacology. Iranian Journal of Pharmaceutical Research 2: 63-79.
- Ngassoum, M.B., L. Jirovetz and G. Buchbauer. 1999. Essential Oil and Headspace from *Hyptis suaveolens* (L.) Poit. Leaves and Flowers from Cameroon. Journal of Essential Oil Research. 11 (3): 283-288.
- Nantitanon, W., S Chowwanapoonpohn and S Okonogi. 2007. Antioxidant and antimicrobial activities of *Hyptis suaveolens* essential oil. Scientia Pharmaceutica, 75: 35-46.
- Nayaka, S.C., A.C Udaya Shankar., S.R Niranjana, H.S Prakash and C.N Mortensen. 2009. Anthracnose Disease of Chili Pepper. Technical Bulletin. Asian Seed Health Centre (AsSHC), Department of Studies in Applied Botany & Biotechnology. University of Mysore. India.
- Nemeth, E. 2005. Changes in Essential Oil Quantity and Quality Influenced by Ontogenetic Factors. Proc. WOCMAP III, Vol. 1: Bioprospecting & Ethnopharmacology. Eds. J. Bernath, Nemeth, L.E. Craker and Z.E.Gardner. Acta Hort 675, ISHS: 159-165.
- Ngozi, L.U., N Ugochukwu, P U Ifeoma, E A Charity and I E Chinyelu. 2014. The efficacy of *Hyptis suaveolens*: A review of its nutritional and medicinal applications. European Journal of Medicinal Plants, 4(6): 661-674.
- Nobloch, K., A Pauli, B Iberl, H Weigand and N Weis. 1989. Antibacterial and antifungal properties of essential oil components. Journal of Essential Oil Research. Volume I (3): 119-128.
- Noudogbessi, J.P., P Agbangnan, B. Yehouenou, E Adjalien, G. Nonviho, M Akibouosseneni, V Wotto, G Figueredo, J.C Chalchat and D. Sohounhloue. 2013. Physico-chemical properties of *Hyptis suaveolens* essential oil. Int. J. Med. Arom.Plants. Vol. 3 (2): 191-199.

- Ogunbinu, A.O., S.O Okeniyi, G. Flamini, P.L Cioni, I.A Ogunwande and E.T Olayinka. 2009. Essential oil-bearing plants from Nigeria: Studies on *Vernonia perrottetti* (leaf and stem bark), young leaves from *Eucalyptus decaisneana* and immature leaves of *Hyptis suaveolens*. Journal of Essential Oil Research. Vol. 21 : 154-158.
- Okonogi, S., S. Chansakaow, S. Vejabhikul, P. Tharavichitkul, J. Lerphokanont, A. Nakano and F. Ikegami. 2005. Antimicrobial activity and pharmaceutical development of essential oil from *Hyptis suaveolens*. Proc. WOCMAP III. Vol. 4; Targeted Screening of MAPs, Economics & Law Eds. C. Franz, A. Mathe, L.E Craker and Z.E Gardner. Acta Hort.678, ISHS : 163-169.
- Oliveira, M.J., I F P Campos, C B A Oliveira, M R Santos, P S Souza, S C Santos, J C Seraphin and P H Ferri. 2005. Influence of growth phase on the essential oil composition of *Hyptis suaveolens*. Biochemical Systematics and Ecology. Vol. 33(3): 275-285.
- Osman, A.K. 2012. Trichome micromorphology of *Egyptian ballota* (Lamiaceae) with emphasis on its systematic implication. Pak. J. Bot., 44(1): 33-46.
- Palade, L.M., L. Marin, C. Manole and A. Butu. 2014. Influence of volatile oils on the in vitro growth of *Phytophthora infestans*. Bulletin UASVM Animal Science and Biotechnologies, 71 (2).
- Padman, M and G.R Janardhana. 2011. Inhibitory effect of essential oil on the growth of *Colletotrichum gloeosporioides* (Penz.) Penz. & Sacc. The causal organism of leaf spot disease of *Murraya koeningii* L. New York Science Journal, 4 (7): 80-84.
- Pant, A.K., A.K Singh, C.S Mathela, R. Parihar, V. Dev, A.T Nerio and A.T Bottini. 1992. Essential Oil from *Hyptis suaveolens* Poit. Journal of Essential Oil Research, Vol. 4 (1): 9-13.
- Peerzada, N., 1997. Chemical composition of the essential oil of *Hyptis suaveolens*. Molecules, 2:165-168.
- Philippe, S., F. Souaibou, A. Guy, D.T Sebastien, Boniface, A. Paulin, Y. Issaka and S. Dominique. 2012. Chemical composition and antifungal activity of essential oil of fresh leaves *Occimum gratissimum* from Benin against six Mycotoxigenic Fungi isolated from traditional cheese *wagashi*. International Research Journal of Biological Science. Vol. 1 (4): 22-27.

- Phoulivong, S.; L. Cai, H. Chen, E.H.C. McKenzie, K. Abdelsalam, E. Chukeatirote and K. D. Hyde. 2010. *Colletotrichum gloeosporioides* is not a common pathogen on tropical fruits. *Fungal Diversity*, Vol. 44 (1): 33-43.
- Pina-Vaz C., A.G Rodrigues, E Pinto, C Tavares, L Salgueiro, and C Cavaleiro. 2004. Antifungal activity of *Thymus* oils and their major compounds. *J. Eur. Acad. Dermatol. Venereol.*, 18: 73–78.
- Pirbalouti, G A., M. Barani, B. Hamed, M.A. Kachouei and A. Karimi. 2013. Environment effect on diversity in quality and quantity of essential oil of different wild populations of Kerman Thyme. *Genetika*, Vol 45, No. 2: 441-450.
- Pistelli, L. 2006. Phytochemicals from Lamiaceae : From Nutraceuticals to Hallucinogens. International Symposium The Labiatae: Advances in Production, Biotechnology and Utilization 22-25 February 2006. Sanremo, Italy.
- Polatoglu, K. 2013. “Chemotypes”- A Fact that should not be Ignored in Natural Product Studies. *The Natural Products Journal*. 3:10-14.
- Prabuseenivasan, S., M. Jayakumar and S. Ignacimuthu. 2006. *In vitro* antibacterial activity of some plant essential oils. *BMC Complementary and Alternative Medicine*, 6:39, <http://www.biomedcentral.com>
- Prescott, L.M., J.P Harley and D.A Klein. 1993. *Microbiology* (Second Edition). Wm. C. Brown Communications, Inc. USA. 912 pp.
- Prins, C.L., I.J.V Vieira, S P Freitas. 2010. Growth regulators and essential oil production. *Braz.J.Plant Physiol.*, 22(2): 91-102.
- Rahman, A., M.A Hossain and S.C Kang. 2010. Control of phytopathogenic fungi by the essential oil and methanolic extracts of *Erigeron ramosus* (Walt.) B.S.P. *European Journal of Plant Pathology*. Vol.128 (2): 211-219.
- Raizada, P. 2006. Ecological and vegetative characteristics of a potent invader, *Hyptis suaveolens* Poit. from India. *Lyonia (A Journal of Ecology and Application)*. Vol. 11 (2): 115-120.
- Raj, G., D Mathew, V George and M.G Sethuraman. 2013. Studies on chemical composition of essential oils from leaf and inflorescence of *Hedychium larsenii* M. Dan & Satish. *The Journal of Essential Oil Research*. Vol.25, No.1: 33-38.

- Reichling, J., P. Schnitzler, U. Suschke and R. Saller. 2009. Essential Oils of Aromatic Plants with Antibacterial, Antifungal, Antiviral and Cytotoxic Properties. An Overview. *Forsch Komplementmed* 16(2): 70-90.
- Ring, K K., J D Thompson and Y B Linhart. 2009. Beyond six scents: defining a seventh *Thymus vulgaris* chemotype new to southern France by ethanol extraction. *Flavour Fragr. J.* 24: 117-122.
- Ribera, A.E and G. Zuniga. 2012. Induced plant secondary metabolites for phytopatogenic fungi control: a review. *Journal of Soil Science and Plant Nutrition*, 12 (4): 893-911.
- Roberts, P.D.,K.L Pernezny and T.A Kucharek. 2009. Antrachnose caused by *Colletotrichum* sp. on Pepper. Plant Pathology Department, Florida Cooperative Extension Service. Institute of Food and Agricultural Sciences. University of Florida. Web site : <http://edis.ifal.ufl.edu>.
- Rodrigues, L., O Povoia, G Teixeira, A C Figueiredo, M Moldao and A Monteiro. 2012. Trichomes micromorphology and essential variation at different developmental stages of cultivated and wild growing *Mentha pulegium* L. population from Portugal. *Industrial Crops and Products*, 43: 692-700.
- Romane, A., R. Harrak and F. Bahri. 2012. Use Thyme essential oils for the prevention of Salmonellosis in *Salmonella* - A Dangerous Foodborne Pathogen. Barakat S M Mahmoud (Ed.). <http://www.intechopen.com>. In Tech. Croatia.
- Rudall, P.J. 2007. *Anatomy of Flowering Plants* (An Introduction to Structure and Development).Third Edition. Cambridge University Press. New York
- Rusydi, A., N. Talip, J. Latip, R. A Rahman and I. Sharif. 2013. Morphology of trichomes in *Pogostemon cablin* Benth. (Lamiaceae). *AJCS* 7(6) ; 744-749.
- Sabulal, B. , M. Dan, A. John, R. Kurup, N. S Pradeep, R. K Valsamma, and V. George. 2006. Caryophyllene-rich rhizome oil of *Zingiber nimmonii* from South India: Chemical characterization and antimicrobial activity. *Phytochemistry*. Volume 67 (22): 2469–2473.
- Sacchetti, G., A. Medici, S. Maietti, M. Radice, M. Muzzoli, S. Manfredini, E. Braccioli and R. Bruni. 2004. Composition and functional of the essential oil of Amazon Basil, *Ocimum micranthum* Willd., Labiatae in comparison with commercial essential oils. *J.Agric.Food Chem*, 52 (11): 3486-3491.

- Saeb, K and S. Gholamrezaee. 20120 Variation of essential oil composition of *Mellisa officinalis* L. leaves during different stages of plant growth. Asian Pasific Journal of Tripical Biomedicine: S547 – S549.
- Sahitya, L., S. Deepthi, P. Kasim, P Suneeta and M.S. R Krishna. 2014. Antrachnose, a Prevalent Disease in Capsicum. Research Journal of Pharmaceutical, Biological and Chemical. 5(3): 1583-1604.
- Saidana, D., S. Mahjoub, O. Boussaada, J. Chriaa, M. A Mahjoub, I. Cheraif, M. Daami, Z. Mighri and A.N. Helal. 2008. Antibacterial and Antifungal Activities of the Essential Oils of Two Saltcedar Species from Tunisia. J Am Oil Chem Soc. 85:817–826.
- Schillmiller, A.L., R. L. Last and E Pichersky. 2008. Harnessing plant trichome biochemistry for the production of useful compounds. The Plant Journal: Volume 54, Issue 4, 702–711.
- Schmidt, E. 2010. Production of Essential Oils in Handbook of Essential Oils Science, Technology, and Applications (Husnu Can Baser and Gerhard Buchbauer, Eds). CRC Group Taylor & Francis Group, Boca Raton London New York.
- Seigler, D.S. 1998. Plant Secondary Metabolism. Springer Science Business Media. New York.
- Sell, C. 2003. A Fragrant Introduction to Terpenoid Chemistry. The Royal Society of Chemistry. Cambridge, UK. 432 pp.
- Sellappan, M., D Palanisamy, N Joghee and S Bhojraj. 2007. Chemical composition and antimicrobial activity of the volatile oil of the cones of *Cupressus torulosa* D.Don from Nilgiris, India. Asian Journal of Traditional Medicines, 2 (6); 206-211.
- Semangun, H. 1996. Pengantar Ilmu Penyakit Tumbuhan. Gajah Mada University Press. Yogyakarta. 754 pp.
- Serrato-Valenti, A Bisio, L Cornara dan G. Ciarallo. 1997. Structural and Histochemical Investigation of the Glandular Trichomes of *Salvia aurea* L. Leaves, and Chemical Analysis of the Essential Oil. Annals of Botany 79 (3): 329–336.
- Sharma S, N., S Sangwan and R.S Sangwan. 2003. Development process of essential oil glandular trichome collapsing in menthol mint. Current Science 84: 544-550.

- Sharma, N., U.K Verma and A.Tripathi. 2007. Bioactivity of essential oil from *Hyptis suaveolens* against storage mycoflora. Donahaye, E.J., S. Navarro, C. Bell, D. Jayas, R.Noyes and T.W Philips (Eds.). Proct.Int. Conf. Controlle Atmosphere and Fumigation in Stored Product, Gold-Coast Australia. FTIC Ltd.Publishing, Israel; 99-116.
- Shukla, A.C., R.S Yadav, S.K Shahi and A. Dikshit. 2012. Use of plant metabolites as an effective source for the management of post harvest fungal pests: A Review. *Current Discovery* 1(1): 33-34.
- Siebert, D.J. 2004. Localization of Salvinorin A and Related Compounds in Glandular Trichomes of the Psychoactive Sage, *Salvia divinorum*. *Annals of Botany* 93: 763-771.
- Sikkema, J., J.A. M de Bont and B Poolman. 1995. Mechanisms of membrane toxicity of hydrocarbon. *Microbiological Reviews*. Vol.59, No.2: 201-222.
- Sims, C A., H R Juliani, S R Mentreddy and J E Simon. 2013. Essential oils in holy basil (*Ocimum tenuiflorum* L.) as influenced by planting dates and harvest time in North Alabama. *Journal of Medicinally Active Plants*, Vol. 2 (3): 33-41.
- Simpson, M.G. 2006. *Plant Systematics*. Elsevier Academic Press. USA. 603 pp.
- Singh H.B and A.K Handique. 1997. Antifungal activity of the essential oil of *Hyptis suaveolens* and its efficacy in biocontrol measures in combination with *Trichoderma harzianum*. *Journal of Essential Oil Research*. Vol. 9 (6): 683-687.
- Singh, G. 2010. *Plant Systematics. An Intregated Approach*. Third Edition. Science Publisher. USA. 716 pp.
- Sitara, U., I. Niaz, J. Naseem and N.Sultana. 2008. Antifungal effect of essential oils on *in vitro* growth of pathogenic fungi. *Pak.J. Bot.*, 40 (1): 409-414.
- Soerjani, M., A.J.G.H Kostermans dan G. Tjitrosoepomo. 1987. *Weeds of Rice in Indonesia*. Balai Pustaka.Jakarta. 716 pp.
- Solomon, G., O.A. Ogunseitan and J. Kirsch. 2000. Pesticides and Human Health, A Resource for Health Care Professionals. Physicians for Social Responsibility and Californians for Pesticide Reform. San Fransisco. Web: www.igc.org/cpr.

- Souguir, S., I. Chaieb, Z.B Cheikh and A. Laarif. 2013. Insecticidal activities of essential oils from some cultivated aromatic plants against *Spodoptera littoralis* (Boisd). Journal of Plant Protection Research. Vol. 53 (4).
- Souza, N.A.B., E. de Oliveira Lima, D.N Guedes, F. de Oliveira Pereira, E. L. de Souza, F. B de Sousa. 2010. Efficacy of *Origanum* essential oils for inhibition of potentially pathogenic fungi. Brazilian Journal of Pharmaceutical Sciences. Vol. 46 (3): 499-508.
- Soylu, S., H Yigitbas, E.M Soylu and S. Kurt. 2007. Antifungal effect of essential oils from oregano and fennel on *Sclerotinia sclerotiorum*. Journal of Applied Microbiology, 103: 1021-1030.
- Steenis, 2006. *Flora untuk Sekolah di Indonesia*. PT Pradya Paramita. Jakarta.
- Stentoft, M. 1988. *Flowering Plants in West Africa*. Cambridge University Press. Melbourne, Australia.
- Sultana, S and M. Ali. 2015. Chemical composition of volatile oil of rhizome of *Zingiber officinale* Roscoe and its antimicrobial activity. World Journal of Pharmaceutical Sciences. www.wjpps.com. Volume 4, Issue 04: 741-752.
- Svoboda, K. P and J. B Hampson,. 1999, Bioactivity of essential oils of selected temperature aromatic plants: antibacterial, antioxidant, anti-inflammatory and other related pharmacological activities. Proceedings NAHA, 25-28 september, St. Louis Missouri, USA: 105-127.
- _____, T.G Svoboda and A.D Syred. 2001. *Secretary Structures of Aromatic and Medicinal Plants (A review and atlas of micrographs)*. Microscopix Publications. Middle Travelly, Beguildy. Knighton.
- Syamasundar, K.V., G. Vinodh, S. Srikanth and B. Balakishan. 2012. Variations in volatile oil compositions of different wild collection of *Hyptis suaveolens* (L.) Poit. from Western Ghast of India. Journal of Pharmacognosy, 3 (2): 131-135.
- Tachakittirungrod, S. and S Chowwanapoonpohn. 2007. Comparison of antioksidant and antimicrobial activities of essential oils from *Hyptis suaveolens* and *Alpinia galanga* growing in Northern Thailand. CMU. J. Nat. Sci. Vol. 6 (1), 31-42.
- Takhi, D., M. Ouinten and M. Yousfi. 2012. Study of antimicrobial activity of secondary metabolites extracted fromspontaneous plant from the area of Laghouat, Algeria. Advances in Enviromental Biology, 5 (2): 469 – 476.

- Taziki, S., S Hamedeyazdan and A N Pasandi. 2013. Variations in essential oils of *Vitex agnus castus* fruits growing in Qum, Khorasan and Tehran in Iran. *Annals of Biological Research*, 2013, 4 (2): 308-312. (<http://scholarsresearchlibrary.com/archive.html>).
- Tchoumboungang, F., P. H. Amvam Zollo, F. F. Boyom, M. A Nyegue, J. M Bessièrè and C. Menut. 2005. Aromatic plants of tropical Central Africa. XLVIII. Comparative study of the essential oils of four *Hyptis* species from Cameroon: *H. lanceolata* Poit., *H. pectinata* (L.) Poit., *H. spicigera* Lam. and *H. suaveolens* Poit. *Flavour Fragr. J.*, 20: 340–343.
- Than, P.P; H. Prihastuti, S. Phoulivong, P. W. J. Taylor and K. D. Hyde. 2008. Chilli anthracnose disease caused by *Colletotrichum* species. *Journal of Zhejiang University*. Volume 9 (10): 764-778.
- Toncer, O., S Karaman, S Kizil and E Diraz. 2009. Change in essential oil composition of Oregano (*Origanum onites* L.) due to diurnal variations at different development stage. *N0t.Bot.Hort. Agrobot. Cluj* 37 (2): 177-181.
- Tonzibo, Z.F., A.B Florence, G.Bedi and J.C Chalehat . 2009. Chemical Composition of Essensial Oil of *Hyptis suaveolensis* (L.) Poit. from Cote d’Ivoire. *European Journal of Scientific Research*. Vol 38 No. 4.: 565-571.
- Tripathi, P., N.K Dubey and A.K Shukla. 2008. Use of some essential oils as post-harvest botanical fungicides in the management of grey mould of grapes caused by *Botrytis cinerea*. *World J Microbiol Biotechnol*, 24: 39-46.
- Tripathi, A.K and S. Upadhyay. 2009. Repellant and Insectisidal Activities of *Hyptis suaveolens* (Lamiaceae) Leaf Essential Oil Against Four Stored-Grain Coleopteran Pest. *International Journal of Tropical Insect Science*.29: 219-228
- _____ and A.K Shukla. 2010. Exploitation of botanical in the management of phytopathogenic and storage fungi, in *Management of Fungal Plant Pathogens* (Arya, A sand A.E Perello, Eds). CAB. International.
- Tsiri, D., K. Graikou, L. Poblocka-Olech, M. Krauze-Baranowska, C. Spyropoulos and I. Chinou. 2009. Chemosystematic value of the essential oil composition of *Thuja* species cultivated in Poland-Antimicrobial activity. *Molecules*, 14: 4707-4715.
- Turner, G.W., J Gershenzon and R.B Croteau. 2000. Distribution of Peltata Glandular Trichomes on Developing Leaves of *Peppermint*. *Plant Physiology*. Vol. 124: 655-663.

- Tzenkova, R., Z Kamenarska, A Draganov and A Atanassov. 2010. Composition of *Artemisia annua* essential oil obtained from species growing wild in Bulgaria. *Biotechnol. & Biotechnol. Eq*, 24 (2): 1833-1835.
- Tzortzakis, N.G and C.D Economakis. 2007. Antifungal activity of lemongrass (*Cymbopogon citrates* L.) essential oil against key postharvest pathogen. *Innovative Food Science and Technologies*. Vol. 8: 253-258.
- Valkama, E., J Salminen, J Koricheva and K Pihlaja. 2004. Changes in Leaf Trichomes Epicuticular during Leaf Development in Three Birch Taxa. *Annals of Botany* 94: 233-242.
- Valenti, G.S., A. Bisio, L. Cornara and G Ciarallo. 1997. Structural and Histochemical Investigation of the Glandular Trichomes of *Salvia aurea* L. Leaves and Chemical Analysis of the Essential Oil. *Annals of Botany* 79 : 329-336.
- Van Hac, L., T.T Khoi. N.X Dung, M Mardarowicz and P.A Leclercq. 1996. A New Chemotype of *Hyptis suaveolens* (L.) Poit. from the Ngh an Province. Vietnam. *Journal of Essential Oil Research*. Vol. 8(3) 315-318.
- Varghese T.M. 1987. *An Introduction to The Anatomy of Angiospermae*. Allied Publisher Limited. New Delhi.
- Vasudevan, V., J Mathew and S Baby. 2013. Chemical composition of essential oil of *Bauhinia acuminata* leaves. *Asian Journal of Chemistry*. Vol. 25. No.4: 2329-2330.
- Vijay, R. A J., V Padiyarajan and K Petchimuthu. 2011. Comparison of chemical composition of essential oil of *Hyptis suaveolens* (L.) Poit leaves from different regions of Tamil Nadu. *International Journal of Pharmaceutical Science and Research*. Vol.2 (11): 2822-2824.
- Viljoen, A.M., S. Subramoney, S.F van Vuuren, K.H.C Baser and B. Demirci. 2005. The composition, geographical variation and antimicrobial activity of *Lippia javanica* (Verbenaceae) leaf essential oils. *Journal of Ethnopharmacology*, 96 : 271-277.
- Wagner, G.J. 1991. Secreting Glandular Trichomes: More than Just Hairs. *Plant Physiol*. 96: 675-679.
- _____ 2004. New Approaches for Studying Exploiting an Old Protuberance, The Plant Trichomes. *Annals of Botany* 93 : 3-11.

- Walsh, S.E., J.Y Maillard, A.D Russell, C.E Catrenich, D.L Charbonneau, R.G Bartolo . 2003. Development of bacterial resistance to several biocides and effects on antibiotic susceptibility. *J. Hosp. Infect.*, 55, 98–107.
- Waldrum, J.D., P.L Brady and J.P Spradley. 1996. Pesticide Residues in Food: The Safety Issue. Department of Agriculture Extension Service National Agricultural Pesticide Impact Assessment Program Special Project 93-EPIX-1-145.
- Wang, S-Y., C-L Wu, F-H Chu, S-C Chien, Y-H Kuo, L-F Shyur and S-T Chang. 2005. Chemical composition and antifungal activity of essential oil isolated from *Chamaecyparis formosensis* Matsum. wood. *Holzforchung*, Vol.59: 295-299.
- Wen, H.I., N. Aoki and R. Ohsugi. 2012. Variation in essential oil content and composition during leaf development and growth of lemongrass. *Trop.Agr. Develop.* 56(1) : 14-24.
- Werker, E. 1993. Function of essential oil-secreting glandular hairs in aromatic plants of the Lamiaceae – a review. *Flavour Fragrance J.* 8: 249-255.
- _____, E. Putievsky, U. Ravid, N Duda and I. Katziri. 1993. Glandular Hairs and Essential Oil in Developing Leaves of *Ocimum basilicum* L. (Lamiaceae). *Annals of Botany* 71: 43-50.
- _____. 2000. Trichome Diversity and Development. In *Plant Trichomes* (Hallahan D.L and J.C Gray, eds.). *Advances in Botanical Research*. Vol 31. New York. Academic Press.: 1-35.
- _____. 2005. Trichome Diversity and Development. In *Plant Trichomes* (Hallahan D.L and J.C Gray, eds.). *Advances in Botanical Research*. Vol 31. New York. Academic Press.: 1-35.
- Wierdak, R.N. 2013. Essential oil composition of the coriander (*Coriandrum sativum* L.) herb depending on the development stage. *Acta Agrobotanica*, Vol. 66 (1): 53-60.
- Wink, M. 2010. *Biochemistry of Plant Secondary Metabolism*. Annual Plant Reviews Vol.40. Second Edition. Blackwell Publishing Ltd. 481 pp.
- Xiang, C-L., Z-H Dong, , H-Peng and Z-W Liu. 2010. Trichome micromorphology of the East Asiatic genus *Chelonopsis* (Lamiaceae) and its systematic implications. *Flora* 205: 434–44. www.elsevier.de/flora.

Zambonelli, A and A.Z D'Aulerio. 2004. Chemical composition and fungicidal activity of commercial essential oils of *Thymus vulgaris* L. Journal of Esstial Oil Research, 16: 69-74.

Zhiri, A and D. Baudoux. 2005. Chemotyped Essential Oils and Their Synergies. Edition Inspir Development – rue Goethe, 1-L-1637. Luxembourg.

Zouari, N., I Ayadi, N. Fakhfakh, A. Rebai and S. Zouari. 2012. *Variation of chemical composition of essential oils in wild populations of Thymus algeriensis* Boiss. Et reut., a North African endemic species. Lipids in Healts and Disease, 11:28. <http://www.lipidworld.com/content/11/1/28>.

Zouari, N . 2013 Essential Oils Chemotypes: A Less Known Side. Med. Aromat. Plants , Vol. 2 (2). e145. doi:10.4172/2167-0412.1000e145.

