

Program Book

The
3rd

**INTERNATIONAL SYMPOSIUM of
INDONESIAN WOOD RESEARCH SOCIETY (IWoRS)**

**“Enhancing Research-Based Education on
Smart Processing of Inferior Timber”**

**Yogyakarta, INDONESIA
November 3 - 4, 2011**

Organized by:

Supported by:



FACULTY OF FORESTRY
UNIVERSITAS GADJAH MADA



I-MHERE PROJECT UGM



Turpentin components of *Pinus merkusii* Jungh et de Vriese of Aceh Infusion and of Local Jember

By:

Agus Sukarno¹, Sri Nugroho Marsoem², Eko Bhakti Hardiyanto² and Moch. Na'iem²

¹Post Graduate Student Faculty of Forestry Universitas Gadjah Mada

²Lecturer Post Graduate Faculty of Forestry Universitas Gadjah Mada

ABSTRACT

The purpose of this study was to determine the components of turpentine of oleoresin tapped from Aceh infusion (Takengon, Blangkejeren, Jantho) pines growing ex-situ in Jember and whether they differ with those of Jember local pine. Oleoresin taping was done by using the drilling method. Oleoresin was distilled at 160-170°C for two hours to produce turpentine. The chemical components of turpentine was analysed by using GC-MS.

The analysis showed that the most abundance component and occupied the top peak on the chromatogram were alpha-pinene and delta-3 carene. The chemical components of turpentine of Takengon: 73.98 % alpha pinene, delta-3 carene 19.10 %; Blangkejeren: 81.66 % alpha pinene, delta-3 carene 11.99 %; Jantho: alpha pinene 73.34 %, delta-3 carene 19.31 %; Local Jember: alpha pinene 87.23 %, delta-3 carene 7.34 %. Other components found in amounts of less than 3 % are beta pinene, camphene, myrcene, sabinene and limonene, but sabinene was not found in Blangkejeren and Local Jember, while limonene was not found in Takengon.

Keywords: turpentine, chemical components, alpha pinene, Aceh infusion pine

Physicochemical Properties of the Essential Oil of Cemara Kipas (*Thuja orientalis* Linn) Leaves from East Kalimantan, Indonesia

By:

Edi Sukaton, Budi Suryanto, Yuliansyah and Irawan Wijaya Kusuma

Faculty of Forestry, Mulawarman University, Jl. Ki Hajar Dewantara, Samarinda 75123,

Email: woodchem_unmul@yahoo.com

ABSTRACT

Analysis of physicochemical properties of Cemara kipas (*Thuja orientalis*) was conducted. Cemara kipas is an evergreen trees originated from China and easily found in Indonesia. The leaves has been reported to have antiasthmatic, antibacterial, antipyretic and antitussive activities. The leaves were collected from Samarinda, East Kalimantan, Indonesia. Essential oil from the leaves of the tree was obtained by a water steam distillation. The results showed that distillation of cemara kipas leaves yielded 0.14% essential oil with specific density 0.8705, refractive index 1.4726, optical rotation 13°85', solubility in ethanol 1:1, ester number 14.53. Large amount of sesquiterpenes such as *b*-caryophyllene, *a*-humulene and *a*-cedrol have been detected in the essential oil by using GC-MS apparatus. Our results also confirmed that handling treatment and distillation method of the plant sample caused a significant difference to the quality of the essential oil.

Keywords : Cemara kipas, essential oil, *Thuja orientalis*, GC-MS, Kalimantan Timur.

CONTENTS IWORS

WELCOME ADDRESS	iii
CONTENTS IWORS	iv
THE COMMITTEE	v
MAP OF YOGYAKARTA	xiii
MAP OF UNIVERSITAS GADJAH MADA (UGM)	vii
UNIVERCITY CLUB (UC) UGM	viii
AGENDA	ix
PAPER LIST	xi
POSTER LIST	xxiv
PAPERS	1-98
POSTERS	99-144
ATTACHMENT	145
Author Index	147
List of Participant	151
Brief History of UGM	156
The History of Forestry Faculty UGM	157
Heritages of Yogyakarta	158
Merapi Volcano	161
Gadri Resto	162

Author Index

A Santoso	25	Deddy Triyono Nugroho Adi	114
A. Heru Prianto	30	Dede Hermawan	29,34,36
Abdul Latib Senin	93	Deded S. Nawawi	50
Achmad	59,85	Deni Zulfiana	133
Aditya Chandra Maulana	91	Devi Ardiansyah	73
Afifi Fauzy	32	Devi Nurmala	47
Agus Sukarno	41	Dewi Arna Natalia	81
Agus Sulistyio Budi	49	Dewi Safta Anggriani	123
Ahmad Ainuddin Nuruddin	93	Didi Tarmadi	87,113
Ahmad Ainudin Nuruddin	92	Dimas Andrianto	48,57
Akhiruddin Maddu	32	Dodi Nandika	85
Akihisa Kitamori	64,66,68,69,71	Dwi Joko Priyono	66
Akira Kagawa	15	Dyah Ayu Satiti	23
Ali Awaludin	9	Dyah Styarini	122
Alpian	113	E. S. Baker	5,11
Amir Affan A.A	17	E. Tangke Arung	49
Amrullah	86,136	Edi Sukaton	41
Andi Detti Yuniarti	11,17	Ediansjah Zulkifli	73
Andi Ismail	52	Effendi Tri Bahtiar	91
Anis S. Lestari	30	Efrida Basri	107
Anis Sri Lestari	133	Eka Mulya Alamsyah	37
Anita Firmanti	29,75	Eko Bhakti Hardiyanto	41
Anne Carolina	91	Eko Teguh Prasetyo	80
Anthonius	116	Elis Nina Herliyana	81
Apri Heri Iswanto	30,33	Enos Tangke Arung	44
Arief Heru Prianto	113	Esi Fajriani	36
Arif Budiwitarto	85	Euis Hermiati	54,114,134,135
Arif Nuryawan	26,27	Farah Diba	82,84
Arifin Abdu	93	Farida Aryani	45,116,143
Arinana	81,85,91,103	Fauzi Febrianto	7,27,33
Asrianny	98	Ferry Hadary	82
Asrianty	98	Firda Aulya Syamani	27
Atmawi Darwis	38	Fitria	54,115,118,121
Bakri	35	Fumihiro Noda	66
Bambang Subyanto	47	Futoshi Ishiguri	5,10,12
Bambang Suryoatmono	74	Ganis Lukmandaru	50,123
Bostang Radjagukguk	13	Gu-Joong Kwon	58,116,119
Budiadi	113	Gunawan Pasaribu	45
Chikara Watanabe	75	Gustan Pari	7,11,14,17,23,31,107
Chunhua Zhang	15	H. A. Oramahi	84
Clemens Altaner	17	H. R. Naji	5,11
Danang Sudarwoko Adi	115,118,121	H. Yamamoto	87
Deddy Cahyadi Sutarman	95	Han Chien Lin	33

**The Committee of The 3rd International Symposium
of Indonesian Wood Research Society (IWoRS)**

Steering Committee:

Dean of Faculty of Forestry
Dr. Sri Nugroho Marsoem – UGM
Prof. Dr. T.A. Prayitno – UGM
Ir. Kasmudjo, MS - UGM
Prof. Dr. Yusuf Sudo Hadi – IPB
Prof. Dr. M. Yusram Massijaya – IPB
Dr. Subyakto – LIPI
Dr. Anita Firmanti – Puslitkim PU

Organizing Committee:

Chairman:

Dr. Joko Sulistyو – UGM

Secretary:

Dr. Ganis Lukmandaru – UGM
Fanny Hidayati, M.Sc – UGM
Titis Widowati, M.Sc – UGM
Yus Andhini BP, S.Hut – UGM
Dwi Sukma Rini, S.Hut – UGM

Treasurer:

Dr. Ragil Widyorini, S.T, M.T – UGM

Agenda:

Dr. J.P Gentur Sutapa - UGM
Ali Awaludin, Ph.D- UGM
Sigit Sunarta, M.Sc – UGM

Publication:

Oka Karyanto, M.Sc – UGM
Dr. Sasa Sofyan M. – LIPI
Syam Irianto A.Md – LIPI

Documentation:

Harry Praptoyo, MP – UGM

Equipment and Transportation:

Vendy Eko Prasetyo, M.Sc – UGM
M. Navis Rofi'i, M. Sc – UGM