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MESSAGE FROM THE IPPS PRESIDENT

Dear IPPS Members,

Greetings and best wishes for 2008!

A new year brings new opportunities, challenges, and changes. Indeed, IPPS has already experienced one significant change in leadership this year. Danny Joel stepped down as President of IPPS in January and I am moving into this position from my previous role as Vice President. This is actually part of a planned change in how we manage the organization of the Executive Committee, and I will say more on this in a moment.

But let me begin by expressing my appreciation to Danny for his hard work on behalf of the society. Danny was instrumental in formalizing IPPS as an official society in 2001. He provided a large share of the leadership prior to and during the formative years, and then went on to be elected President of IPPS in 2005. Under his leadership we have had successful meetings in Durban (South Africa), Charlottesville (USA), and are already planning the next meeting in Turkey. Of course we still expect to find Danny actively participating in conferences and publishing his research, but he has earned a rest after providing seven years of outstanding leadership to IPPS.

IPPS is a young society and we are still tuning its engine to make it run smoothly. Among our challenges is how to replace officers of the society while maintaining continuity of leadership. Our initial model was to hold reelections for the entire Executive Committee (President, Vice President, Treasurer, Secretary and Members at Large) every four years, which corresponded to the cycle of major conferences. However, wholesale turnover of leadership is not healthy for a society, so we propose to modify this to begin electing half the positions in the Executive Committee every two years such that overlap is maintained. Under this plan the Vice President will ascend to the Presidency to ensure continuity in that key position. This is consistent with the way leadership roles transition in other academic societies. We will soon be holding elections to fill the offices of Vice President, Secretary, and one Member at Large, but more information on this will be sent in a separate mailing. I encourage you to nominate, vote, and be active in your society.

Another change (that was actually initiated last year) is the schedule for the next major Congress on Parasitic Plants. The majority sentiment expressed at the last congress was that we would be better served by decreasing the span of time between major conferences. To this end we have selected Kusadasi, Turkey as a destination for 2009 (see separate announcement in this issue). The local organizing team, led by Yildiz Nemli and Ahmet Uludag, has already been busy planning and the venue looks to be exceptional. This should be a convenient destination for members from Europe, the Middle East, and Africa, so plan now to attend.

Of course, not everything changes. IPPS remains committed to fostering research and education on all aspects of parasitic plant science. We continue to draw our membership from a wide range of disciplines to address the many wonders and problems posed by parasitic plants. IPPS will continue to work to meet the needs of this diverse group, and to create mechanisms to facilitate the exchange of ideas and technologies. I look forward to the challenges and rewards of working with you and invite all members to feel free to contact me with input on all matters related to IPPS.

Jim Westwood
IPPS President

10TH WORLD CONGRESS ON PARASITIC PLANTS

8-12 June 2009, Kusadasi Turkey
Website: http://www.ippsturkey.com/

Dear Colleagues,

It is with great pleasure that I invite you to the 10th World Congress on Parasitic Plants, to be held from 8 to 12 June, 2009 in Kusadasi, Turkey. Preparations are already well underway for a fantastic meeting that will embrace all aspects of parasitic plant research.

You may notice that this conference is occurring sooner than the 3-5 year interval that has traditionally separated major parasitic plant symposia, but there is good reason for this change. The rate of progress in parasitic plant research has been accelerating in recent years, and new approaches and resources have led to breakthroughs in parasite evolution, biology, ecology, host-parasite communication, and host response to parasitism. The future holds even more promise. However, despite these advances in knowledge, parasitic weeds continue to devastate crops in much of the world and farmers have few new tools at their disposal. For these reasons, participants at the 9th World Congress on Parasitic Plants agreed that a two year cycle for major meetings would provide a better timeframe for advancing our work.

Thus, in 2009 we will again assemble the world's foremost experts on parasitic plants with the objective of furthering the state of our science. Please mark your calendars now and plan to join colleagues old and new for the 10th World Congress on Parasitic Plants. This will be an outstanding event, and on behalf of the Organizing Committee and Society, we are looking forward to seeing you in Turkey.

Jim Westwood
IPPS President

EWRS RESEARCH GROUP

Dear Colleague,

Last year the Working Group "Parasitic Weeds" was established within the European Weed Research Society, and I am the Contact Point for this working group. All the information on that can be found at the Official EWRS website at http://www.ewrs.org.

As a further step to keep the community connected, as promised I have created a moderated mailing list. The aim of that is to facilitate the exchange of information and news related to the parasitic weed research. Subscribers could be able to send messages to the list (or to receive them from it) regarding, for example, requests of general information, requests or announcement of publications or conferences, news about new students, projects, activities, etc. If you are interested in joining the list, please click on the following link: http://muffin.area.ba.cnr.it/mailman/listinfo/parasiticweeds and follow the easy instructions to register. It will take only a couple of minutes. In order to avoid any spam message, the list will be a moderated one, so that only people belonging to it will be able to send and receive messages, which will be further filtered by the moderator.

Please consider that being part of the EWRS WG "Parasitic weeds" and/or subscribing the list does not mean that you have to become a member of the EWR Society. Of course, that will be very welcomed. Moreover, the list is not restricted to European scientists.

Should you have any further questions, please do not hesitate to contact me.

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NOTES ON THE AFRICAN *STRIGA ASIATICA* SPECIES COMPLEX

The main objective of this brief note is to shed light on the differences among the species in the *Striga asiatica* cluster in Africa namely *S. asiatica*, *S. hirsuta*, *S. lutea*. The fourth species in this cluster is morphologically unique and will be discussed at the end of this message. It is important to emphasize that the south and Southeast Asian forms of *S. asiatica* are not included in this analysis since its relationship to the African species complex is not known.

The name *S. asiatica* is used to describe the obnoxious red-flowered *Striga* species which overwhelms sorghum, maize, and other cereal crops in Africa. Unlike *S. hirsuta* and *S. lutea*, *S. asiatica* plants are profusely branched with their leaves measuring up to 5 cm long and usually exceeding the length of the plant internodes. The number of the calyx teeth is usually five but in *S. asiatica* it can be up to 8 in which case the teeth are unequal in length.

The number of rows of hairs on the lower surface of the leaves and bracts is a unique and most dependable feature that distinguishes *S. hirsuta* from *S. lutea*. *Striga hirsuta* has a single row of stiff hairs running along the margins and mid rib of its leaves and bracts. *Striga lutea* has 2 rows of hispid hairs along the margin and mid rib of its leaves and bracts. *Striga lutea* plants are characteristically tall (up to 40 cm) and lack branches but when branched there are typically just two branches. *Striga hirsuta* on the other hand is most often branched and the plants are the shortest (10 cm) in this cluster. Flower color can be of various shades of red and yellow and cannot be used alone in identification. *Striga asiatica* flowers are typically red with yellow throat. Flowers of *Striga lutea* are usually yellow and *S. hirsuta* are typically red but any of these species may occasionally have flowers of various shades of red, sometimes on the same plant. This is not unusual as the corolla color is controlled by few genes

There are also distinct differences in the geographical range of these species. Until the late eighties and early nineties *S. asiatica* was very largely confined to south and central Africa, normally south of the equator (it was also responsible for the exotic occurrence in southeastern USA). In these areas *S. asiatica* is commonly restricted to its agronomic hosts in the agro-ecosystems. Then it was reported from Kenya in the late 80's and Togo in West Africa in the early 90's. Our *Striga* surveys in West Africa and Sudan in the 80's and Ethiopia as recent as 2007 revealed that *S. asiatica* is not established as a widespread problem north of the equator, though it does occur sporadically on crops in several countries in West and East Africa. In November of 2007 we traveled for 15 days (October 27 – November 10) surveying *Striga* in Ethiopia. We reached as far south as Caves Omar and Megalo southeast of the Bale Region, North to Mekele just south of the Eritrean boarder, and east to Dire Dawa Region close to the Somali borders. We encountered *Striga asiatica* once (and only two plants) in a demonstration farm. However, in 1985/86 Chris Parker found *S. asiatica* with various corolla colors ranging from brown, red and orange sporadically attacking sorghum and maize, often quite seriously, in Hararghe and Gamo Gofa Regions of Ethiopia. *S. asiatica* had not previously been reported as a problem in Ethiopia (Parker 1988). Forms with little branching and bright scarlet flowers (*S. lutea*?) were also occasionally encountered attacking wild grasses without harming crops (Sherif, Fessehaie, and Parker 1987). *Striga asiatica* is also known from a few collections in the Nile Delta in Egypt. These observations clearly suggest that the presence of *S. asiatica* north of the equator is relatively recent compared to its establishment in southern Africa. As suggested by Berner and his team (1994), contaminated crop grains are the main source of *Striga* spread in Africa.

S. hirsuta and *S. lutea* are present all over Africa but commonest in west and central parts of the continent, especially the savannah grassland from Senegal to Ethiopia. While *S. asiatica* is predominantly confined to crop fields *S. hirsuta* and *S. lutea* are rarely problems on crops and are confined to natural grasslands.

Striga elegans is the fourth species in this cluster however it is rarely confused with any of the other species in this cluster. It has brilliant scarlet flowers with yellow throats and dense compact inflorescence. Its distribution is limited to south and east Africa reaching its northern range in Kenya. *Striga elegans* has not been reported as a threat to crops. Our research showed that it is more closely related to *S. asiatica* than to the other two species in the cluster. No molecular study has yet been done to determine their phylogenetic relationships but it is more likely that *S. elegans* is the wild relative of *S. asiatica*. The two were sympatric in South Africa and definitely native to the region. A group of researchers from Old Dominion University, University of Georgia, and State University of New York-Oswego are studying the systematics of the genus *Striga* and its various cluster groups.

For a fuller account of *Striga* species in Africa refer to Mohamed *et al.* below.

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References:

Berner, D.K., Cardwell, K.F., Faturoti, B.O., Ikee, F.O. and Williams, O. 1994. Relative roles of wind, crop seeds, and cattle in dispersal of *Striga* species. Plant Disease 78: 402-406.

Mohamed, K.I., Musselman, L.J. and Riches, C.R. 2001. The genus *Striga* (Scrophulariaceae) in Africa. Annals of the Missouri Botanical Garden 88: 60-103.

Parker, C. (1988). Parasitic plants in Ethiopia. Walia 11: 21-27.

Sherif, A.M., Rezene Fessehaie and Parker, C. (1987). Parasitic weeds in Ethiopia. In: Michieka, R.W. (Ed.) Proceedings, 11th East African Weed Science Society Conference, Nairobi, 1987. pp. 66-72.

THREE NEW *STRIGA*- RESISTANT COWPEA VARIETIES FROM IITA

A three-year study by the International Institute of Tropical Agriculture (IITA) has resulted in the development of three new cowpea varieties with genetic resistance to *Striga gesnerioides*. These new cowpea varieties should enable Africa-based partners and farm institutions (NARS) to bring technical assistance directly to hard-hit farmers concentrated in Senegal, Mali, Burkina Faso, Niger, Benin and Cameroon. Cowpea production across sub-Saharan Africa (SSA) accounts for over 65 percent of world output, impacting on poverty and nutrition levels among more than 10 million in drought-prone areas.

The latest research was supported by $900,000 in funding provided jointly by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and the Generation Challenge Program (GCP) of The Consultative Group on International Agricultural Research (CGIAR). IITA's longstanding effort to alleviate infestations of *S. gesneroides* has been further augmented through a new GCP initiative aimed at doubling cowpea and other legume production in drought-prone areas in SSA and South Asia, with additional funding provided by the Bill and Melinda Gates Foundation of U.S.A.

In dry areas of Nigeria, *Striga* losses have reduced cowpea productivity from 2-3 tons per hectare to 0.37 tons of annual output. 'There is a huge potential for cowpea crops to contribute to nutrition and income growth in Africa's dry and semi-arid regions,' said Dr. Satoru Muranaka, project leader based at IITA in Kano, Nigeria. 'Because of crop damage still inflicted by cowpea *Striga*, we hope our findings will contribute to greater food security in the dry and arid regions of SSA.'

Comprising over 25 % protein, cowpea provides food, sales income and residual bi-products for use as livestock feed. As a drought-tolerant crop, cowpea is adapted to dry or arid environments where rainfall is low and erratic, soils less fertile and other crops habitually fail. Cowpea also contributes to soil fertility through its ability to fix nitrogen, vital to rotational cropping systems in marginal areas.

From IITA press release 17 January 2008.

NEW UK-FUNDED RESEARCH ON *STRIGA*

The UK Biotechnology and Biological Sciences Research Council (BBSRC) and the UK Department for International Development (DFID) have joined forces to announce £7M of new research to harness the UK's world-class bioscience research base to address the challenges facing agriculture and food security in developing countries. Under this flagship initiative - Sustainable Agriculture Research for International Development (SARID). Twelve grants have been awarded to projects which will utilize cutting edge technologies to develop sustainable agriculture solutions for farmers and communities in the developing world. The newly funded projects are collaborations between UK scientists and scientists from institutions and Universities across Africa, Asia and South America. Two of these 12 projects relate to *Striga*:

Saving staple foods from witchweed attack

Maize is the staple food for half of the population of sub-Saharan Africa, but unfortunately it is also susceptible to damage from pests and parasitic weeds, which can result in total yield loss. Parasitic witchweed is a major culprit. Researchers from the UK and Kenya are looking at new ways of tackling witchweed. Research has shown that when desmodium, a nitrogen-rich legume, is grown amongst maize, it can increase the yield from less than one tonne per hectare to over five tonnes by preventing witchweed from growing. A chemical in desmodium has been identified which interferes with the development of witchweed, the big question is 'how?' In this new study, the international team of researchers will look to identify the enzyme responsible for creating the chemical that disrupts growth of witchweed. With this information they will then be able to breed edible crop legumes, which when intercropped with maize, not only prevents witchweed from attacking the valuable maize but also provide another human food source.
Collaborators: Rothamsted Research, UK; and International Centre of Insect Physiology and Ecology, Kenya
Contact: Dr Tony Hooper Tony.hooper@bbsrc.ac.uk

Defeating the witchweed famine threat

Many important subsistence crops, relied on by billions of people, are at risk of attack from a noxious parasitic plant - witchweed. Over 40% of the cereal-producing areas of sub-Saharan Africa are infested with the parasite and the livelihoods of some of the world's poorest farmers are threatened. Researchers from the UK, India and Senegal are using SARID funding to find ways to produce crops resistant to witchweed. Currently, the most commonly used strategies to reduce the impact of witchweed are hand weeding, improving soil fertility and growing some crops which are not

attacked by the parasite, but these methods are costly and largely ineffective. Producing crops resistant to witchweed would improve the stability of food supply for people who rely on crops such as sorghum, maize, millet and rice. Researchers from the University of Sheffield have already identified some rice varieties that are resistant to attack by witchweed. The next step for the international team of researchers is to identify what makes these varieties resistant and which genes play a role. Once this is known, they will look for similar genes in other cereals and explore the possibility of breeding cereals with increased resistance to witchweed.
Collaborators: University of Sheffield, National Institute of Agricultural Botany, UK; International Crops Research Institute for the Semi Arid Tropics, India; and African Rice Centre, Senegal.
Contact: Professor Julie Scholes j.scholes@sheffield.ac.uk

NATIONAL SCIENCE FOUNDATION FUNDS PARASITIC PLANT GENOME PROJECT

Gene sequence information for some important parasitic plants will become available within the next few years thanks to a recently funded project by the US National Science Foundation's Plant Genome program (http://www.nsf.gov/awardsearch/showAward.do?AwardNumber=0701748). The project was funded to explore the sequences of genes associated with parasitism in the Orobanchaceae family. This "Parasitic Plant Genome Project" (PPGP) will compare three related species that differ distinctly in level of parasitism in order to elucidate the genes responsible for – or resulting from – the evolutionary transition from autotrophism to heterotrophism. The three focal species will include the facultative parasite (*Triphysaria versicolor*), the photosynthetically competent obligate parasite (*Striga hermonthica*), and the obligate holoparasite (*Orobanche ramosa*). The availability of a sequenced genome for the closely related non-parasite *Mimulus guttatus* provides a fully autotrophic out-group to further enhance this approach. We plan to concentrate efforts on sequencing genes that are expressed at key stages of parasite development, centering on haustorium development and establishment in the host. Although the project does not allow full genome sequencing, it should provide sufficient information to propel parasitic plant science into the genomics era.

A major impact of this project will be the public release (project website to be announced shortly) of an extensive set of gene sequences from a group of related plants that encompass an enormous breadth of morphological and physiological diversity. This will relieve a major constraint to research on the molecular biology of parasitic weeds, for which few gene sequences have heretofore been available. Thus, a major goal for the project is to facilitate work on *Striga* and *Orobanche* that will contribute to the development of effective control strategies for these weeds. We intend that the information and bioinformatics tools produced by this project will be accessible to all researchers and we welcome input from the entire parasitic plant research community on how to make the data useful and user-friendly. To this end, we are planning an outreach component of this project that will involve collaboration and international scientific exchange between US and developing country researchers. We specifically invite research groups that have needs for training in genomics and bioinformatics to contact us to discuss potential partnerships.

The PPGP team:
James Westwood, Virginia Tech (westwood@vt.edu)
Claude dePamphilis, Penn State University
Michael Timko, University of Virginia
John Yoder, UC Davis

CONGRATULATIONS

Congratulations to Gebisa Ejeta on his recent appointment as **Distinguished Professor of Agronomy** at Purdue University.

THESIS

Mónica Fernández-Aparicio (PhD**,** University of Córdoba, 18 January 2008) **Perspectives for *Orobanche crenata* control in legumes by genetic resistance and alternative control practises** (supervised by D. Rubiales & A. Pérez-de-Luque)

The weedy root parasite *Orobanche crenata* constitutes a serious threat to grain and forage legumes in the Mediterranean and Western Asia. Control strategies have centred around agronomic practices and the use of herbicides. Resistance breeding is hampered by scarcity of proper sources of resistance and of a reliable and practical screening procedure. In this PhD we identified sources of resistance and studied the defence reactions involved both in the field, in pot, and in mini-rhyzotron experiments and studied the possibility of control by intercropping.

A wide range of responses to crenate broomrape were identified both in cultivated lentil (Fernández- Aparicio, *et al.* 2008a) and in wild *Lens* relatives (Fernández-Aparicio, *et al.* 2008b), although complete resistance was not detected. Low infection seemed to be based on a combination of various escape and resistance mechanisms from lower root density, lower induction of *Orobanche* seed germination, and reduced establishment of broomrape radicles. In order to identify alternative systems for ulterior genetic and genomic analysis, we studied early stages of the interaction between *M. truncatula* accessions and a range of *Orobanche* species. We found significant differences in the induction of germination and in the number of attachments supported (Fernández-Aparicio, *et al.* 2008c).

Root exudate of 22 plant species was applied separately to seeds of 9 broomrape species, finding various levels of specialisation in the *Orobanche* species. A wide range of species are described as potential trap crops due to their ability to induce germination on several *Orobanche* species to which they are resistant. Many of the species that stimulate the germination of these last two groups of broomrapes are not infected, being resistant in a later stage of the infection process, representing interesting examples of trap crops. The crude root exudate of fenugreek stimulated both *O. ramosa* and *O. crenata* seed germination. Active fractions of root exudate stimulated germination of broomrape species in a differential pattern (Fernández- Aparicio, *et al.* 2008d).

Our field experiments showed that *O. crenata* infection on faba bean and pea is reduced when these host crops are intercropped with oat (Fernández-Aparicio, *et al.* 2007) and with fenugreek (*Trigonella foenum-graecum*) (Fernández- Aparicio, *et al.* 2008e), the mechanism for reduction of *O. crenata* infection apparently being inhibition of *O. crenata* seed germination by allelochemicals released by oat and fenugreek roots. Fenugreek root exudates were extracted with organic solvent and fractionated giving several fractions, two of which showed moderate and strong inhibition of *O. crenata* seed germination. The most active metabolite is a new monosubstituted trioxazonane, named by us trigoxazonane (Evidente *et al.* 2007).

References:

Fernández- Aparicio, *et al.* 2008a (see Literature item below)

Fernández- Aparicio, *et al.* 2008b. Resistance to broomrape in wild lentils (*Lens* spp.) Plant Breeding (in press)

Fernández- Aparicio, *et al.* 2008c. Infection of barrel medic (*Medicago trunculata*) by Orobanche species. Annals of Biology (accepted)

Fernández- Aparicio, et al. 2008d. Fenugreek root exudates with *Orobanche* species specific seed germination stimulatory activity. Weed Research, 48: 1-6 (in press)

Fernández- Aparicio, et al. 2007. (see Literature item below)

Fernández- Aparicio, et al. 2008e. Control of *Orobanche crenata* in legumes intercropped with fenugreek (*Trigonella foenum-graecum*). Crop Protection (in press)

Evidente et al. 2007. (see Literature item below)

BOOK REVIEWS

Integrating New Technologies for *Striga* Control: Toward Ending the Witch-hunt. Edited by Gebisa Ejeta and Jonathan Gressel. 2007, Hackensack, USA: World Scientific Publishing Co. 356 pp.

This recent peer-reviewed volume is a product of the International Symposium 'Integrating New Technologies for *Striga* Control: Towards Ending the Witch-hunt' held November 2006 in Addis Ababa, Ethiopia. Published in 2007 by World Scientific Publishing and edited by the conference chair Gebisa Ejeta and committee member Johnathan Gressel, this represents a significant contribution to the *Striga* literature. It includes 24 chapters by 70 co-authors, many of whom are leaders in the field.

The chapters are well organized by topic and include helpful reviews of the numerous approaches to combating *Striga*. The first sections, including host-parasite chemical signalling, molecular marker assisted crop breeding, and progress in the genetic basis of *Striga* resistance, underscore advances in biotechnology and genomics. Appropriately, the largest section emphasizes agronomic options and reviews integrated *Striga* management and the downstream socio-economic effects of these control programs. The final section includes chapters focused on the soil borne fungus *Fusarium oxysporum* as a bio-herbicide against *Striga* and the process of increasing pathogen virulence.

Due to the proliferation of journals and the increasingly compartmentalized world of modern science, this volume provides a timely synthesis of the state of *Striga* research. The research assembled here reflects the current direction of *Striga* control and as the editors emphasize, each approach to control is unlikely to succeed independently without true integration.

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Biology and management of weedy root parasites. Joel, D.M., Hershenhorn Y., Eizenberg H., Aly R., Ejeta G., Rich P.J., Ransom J.K., Sauerborn J. and Rubiales D. 2007. In: Janick, J. (ed.) Horticultural Reviews 33: 267-349.

Our apologies for the delay in reviewing this most valuable publication. It is in the form of a journal review but with 84 pages and about 350 references it has most of what you would expect of a book, and together with the volume reviewed above, helped persuade the authors of Parker and Riches to forgo the pain involved in updating their volume from 1993. Where the first volume above deals only with *Striga*, this deals slightly more comprehensively with *Orobanche*, though both are dealt with in very considerable detail (the less important genera in the old Scrophulariaceae receive only passing mention). It was completed in 2006 and covers most of the significant literature up to that time, including developments in biotechnology, plant genomics and genetic engineering. One disappointing omission is the lack of reference to the work with *Desmodium* species and their potential role in control of *Striga* spp.

Chris Parker.

GENERAL WEB SITES

For individual web-site papers and reports see LITERATURE

For information on the 10th World Congress on Parasitic Plants in Turkey, 2009, see: http://www.ippsturkey.com/

For abstracts from the 9th World Congress on Parasitic Plants see: http://www.cpe.vt.edu/wcopp/index.html

For information on the International Parasitic Plant Society, past and current issues of Haustorium, etc. see: http://www.ppws.vt.edu/IPPS/

For past and current issues of Haustorium see also: http://www.odu.edu/~lmusselm/haustorium/index.shtml

For the ODU parasite site see: http://www.odu.edu/~lmusselm/plant/parasitic/index.php

For Lytton Musselman's *Hydnora* site see: http://www.odu.edu/webroot/instr/sci/plant.nsf/pages/lecturesandarticles

For Dan Nickrent's 'The Parasitic Plant Connection' see: http://www.parasiticplants.siu.edu/

For The Mistletoe Center (including a comprehensive Annotated Bibliography on mistletoes) see: http://www.rmrs.nau.edu/mistletoe/

For information on, and to subscribe to PpDigest see: http://omnisterra.com/mailman/listinfo/pp_omnisterra.com

For information on the EU COST 849 Project and reports of its meetings see: http://cost849.ba.cnr.it/

For information on the EWRS Working Group 'Parasitic weeds' see: http://www.ewrs.org/

For the Parasitic Plants Database including '4000 entries giving an exhaustive nomenclatural synopsis of all parasitic plants' (last updated 2003), the address is: http://www.omnisterra.com/bot/pp_home.cgi

For a description and other information about the *Desmodium* technique for *Striga* suppression, see: http://www.push-pull.net

For information on EC-funded project 'Improved *Striga* control in maize and sorghum (ISCIMAS) see: http://www.plant.dlo.nl/projects/*Striga*/

For the work of Forest Products Commission (FPC) on sandalwood, see: www.fpc.wa.gov.au

For past and future issues of the Sandalwood Research Newsletter, see: www.jcu.edu.au/school/tropbiol/srn/

For information on the work of the African Agricultural Technology Foundation (AATF) on *Striga* control in Kenya, see: http://africancrops.net/striga/

To view the list of presentations and participants at the *Striga* meeting in Addis Abeba, November 2006, see: http://www.agry.purdue.edu/strigaconference/index.html

For information on the 5th International Weed Science Congress, June, 2008, in Vancouver, Canada see: http://iws.ucdavis.edu/5intlweedcong.htm

LITERATURE

Adewole, S.O. and Ojewole, J.A.O. 2007. Hypoglycaemic and hypotensive effects of *Globimetula cupulata* (DC) Van Tieghem (Loranthaceae) aqueous leaf extract in rats: cardiovascular topics. Cardiovascular Journal of South Africa 18(1): 9-15. (Results indicated that the *G. cupulata* aqueous leaf extract has hypoglycaemic and hypotensive properties.)

Aizen, M.A. and Harder, L.D. 2007. Expanding the limits of the pollen-limitation concept: effects of pollen quantity and quality. Ecology 88: 271-281. (Discussing the distinction between quantity limitation and quality limitation using *Tristerix corymbosus* as the test species.)

Akiyama, K. 2007. Chemical identification and functional analysis of apocarotenoids involved in the development of arbuscular mycorrhizal symbiosis. Bioscience, Biotechnology and Biochemistry 71: 1405-1414. (Referring to strigolactones as signals for AM fungi and reviewing recent research into the chemical identification and role of AM-related apocarotenoids.)

Aksoy, E., Öztemız, S. and Uygur, F.N. 2006. (Determination of natural insect enemies of broomrape species (*Orobanche* spp.) and investigation on using possibilities of *Phytomyza orobanchia* Kalt. (Diptera: Agromyzidae) for biological control.) (in Turkish) Türkiye Herboloji Dergisi 9(1): 10-17. (Insects attacking *Orobanche* spp. in Kilis and Mersin regions of Turkey included *Phytomyza orobanchia, Phytomyza* sp., *Drosophila busckii, D. melanogaster, Liriomyza huidobrensis* and *Napomyza* sp.)

Alali, F.Q., Tawaha, K., El-Elimat, T., Syouf, M., El-Fayad, M., Abulaila, K., Nielsen, S.J., Wheaton, W.D., Falkinham, J.O.,III and Oberlies, N.H. 2007. Antioxidant activity and total phenolic content of aqueous and methanolic extracts of Jordanian plants: an ICBG project. Natural Product Research 21: 1121-1131. (Among 95 species studied, extracts of *Viscum cruciatum* had high antioxidant activity yet "low" phenolic content.)

Aly, R. 2007. Conventional and biotechnological approaches for control of parasitic weeds. In Vitro Cellular & Developmental Biology – Plant 43: 304-317. (Reviewing newer biotechnology-based control measures against the major parasitic weeds; *Striga, Orobanche, Cuscuta*, *Phoradendron* and *Viscum* spp.)

Ameloot, E., Hermy, M. and Verheyen, K. 2006. *Rhinanthus*: an effective tool in reducing biomass of road verges? An experiment along two motorways. Belgian Journal of Botany 139: 173-187. (Demonstrating that *R. minor* and *R. angustifolius* may be effective in reducing above-ground biomass of road verge, but only when high enough populations can be established.)

Amico, G.C. and Aizen, M.A. 2005. (Seed dispersal by birds in a temperate forest of southern South America: who disperses to whom?) (in Spanish) Ecología Austral 15(1): 89-100. (Noting *Tristerix corymbosus* as one of the most important fleshy-fruited species, dispersed by a marsupial; and stressing the importance of the bird *Elaenia albiceps* and *T. falcklandii* as key mutualists throughout the TFSA.)

Andrianjaka, Z., Bally, R., Lepage, M., Thioulouse, J., Comte, G., Kisa, M. and Duponnois, R. 2007. Biological control of *Striga hermonthica* by *Cubitermes* termite mound powder amendment in sorghum culture. Applied Soil Ecology 37(3): 175-183. (Amendment of soil with powder from termite mounds increased arbuscular mycorrhizal fungi and sorghum growth, and reduced *Striga* emergence.)

Andronache, A., Toma, I. and Toma, C. 2006. Histological diversity of haustoria in some hemiparasitic and holoparasitic plant species from the Romanian flora. Contributii Botanice 41(2): 115-121. (Discussing the origin, development and structure of haustoria in 27 parasitic species in Romania.)

Annapurna, D., Rathore, T.S. and Joshi, G. 2007. Effect of potting medium ingredients and sieve size on the growth of seedlings of sandalwood (*Santalum album* L.) in root trainers. Indian Forester 133: 179-188. (Describing the optimum potting medium for rearing *S. album* on *Cajanus cajan*.)

Artanti, N., Ma'arifa, Y. and Muhammad Hanafi 2006. Isolation and identification of active antioxidant compound from star fruit (*Averrhoa carambola*) mistletoe (*Dendrophthoe pentandra* (L.) Miq.) ethanol extract. Journal of Applied Sciences 6: 1659-1663. (An ethanol extract of *D. pentandra* growing on *A. carambola* showed antioxidant activity apparently attributable to a flavonol glycoside, quercetin-3-O-rhamnoside.)

Ashok Yadav, Banga, R.S., Balyan, R.S., Malik, R.K. and Punia, S.S. 2007. Evaluation of herbicides against dodder (*Cuscuta reflexa*) infesting the hedges of bougainvillea (*Bougainvillaea purpurea*) and cleridendron (*Cleridendron splendena*). Indian Journal of Agricultural Sciences 77: 462-463. (Glyphosate 5% was safe and effective on both shrubs, while higher doses were damaging. Glufosinate and 2,4-D ester were ineffective. 'Cleridendron' presumably = *Clerodendrum splendens*)

Askew, S., Shamoun, S.F. and van der Kamp, B.J. 2006. Development of a biological control strategy to mitigate hemlock dwarf mistletoe in retention silviculture systems: *Colletotrichum gloeosporioides* - western hemlock dwarf mistletoe pathosystem. BC Journal of Ecosystems and Management 7(1): 23-29. (Trials with a potential inundative biocontrol organisim, *C. gloeosporioides* (= *Glomerella cingulata*) for control of *Arceuthobium tsugense* in western hemlock resulted in decreased numbers of shoots and berries but no kill of the parasite.)

Åström, S. 2006. (*Epipogium aphyllum* in Sweden - results of an inventory.) (in Swedish) Svensk Botanisk Tidskrift 100: 433-435. (Describing the status in 2005 of the 'saprophytic' ghost orchid, *E. aphyllum*.)

Ayandele, A.A. and Adebiyi, A.O. 2007. The phytochemical analysis and antimicrobial screening of extracts of *Olax subscorpioidea*. African Journal of Biotechnology 6: 868-870. (Alkaloids, steroids, and flavonoids were detected in ethanoic extracts from the stems of *O. subscorpioidea* which inhibited a range of bacteria and fungi at 5-45 mg/ml. Aqueous extracts were less active.)

Babalola, O.O., Sanni, A.I., Odhiambo, G.D. and Torto, B. 2007. Plant growth-promoting rhizobacteria do not pose any deleterious effect on cowpea and detectable amounts of ethylene are produced. World Journal of Microbiology & Biotechnology 23: 747-752. (In work with cowpea as a trap crop to reduce *Striga hermonthica*, *Enterobacter sakazakii* 8MR5 and two strains of *Pseudomonas* significantly increased biomass and pod weight of cowpea.)

Bach, C.E. and Kelly, D. 2007. Mistletoe fruit-colour polymorphism and differential success in a habitat mosaic. Austral Ecology 32: 509-514. (Both red- and orange-fruited forms of *Alepis flavida* thrive on forest edges, but the orange form is much more successful in the forest interior.)

Badu-Apraku, B. 2007. Genetic variances and correlations in an early tropical white maize population after three cycles of recurrent selection for *Striga* resistance. Maydica 52: 205-217. (Detailed genetic testing suggests that the early maturing population, TZE-W Pop DT STR has sufficient genetic variability to warrant further selection for *Striga* resistance.)

Badu-Apraku, B., Menkir, A. and Lum, A.F. 2007. Genetic variability for grain yield and its components in an early tropical yellow maize population under *Striga hermonthica* infestation. Journal of Crop Improvement 20(1/2): 107-122. (Concluding that there was adequate variation in *Striga* resistance in an early maturing yellow maize population, TZE-Y Pop DT STR, for further selection to be worthwhile.)

*Balachandran, N. and Kichenamourthy, S. 2007. Profile of natural stands of *Santalum album* L. in the Pondicherry region, India. Sandalwood Research Newsletter 22: 4-9. (http://www.jcu.edu.au/school/tropbiol/srn/) (A detailed survey suggested association with limestone and sandy soils rather than red earth soils. Commonly associated tree species are also listed.)

Barea, L.P. and Watson, D.M. 2007. Temporal variation in food resources determines onset of breeding in an Australian mistletoe specialist. Emu – Austral Ornithology107: 203-209. (Confirming that the time of breeding of the bird *Grantiella picta* is influenced by the time of fruiting of *Amyema quandang*.)

Beuth, J., Ko, H.L., Schneider, H., Tawadros, S., Kasper, H.U., Zimst, H. and Schierholz, J.M. 2006. Intratumoral application of standardized mistletoe extracts down regulates tumor weight *via* decreased cell proliferation, increased apoptosis and necrosis in a murine model. Anticancer Research 26: 4451-4456. (Extracts of *Viscum album* showed significant activity against a human ductal breast carcinoma cell line and decreased tumour weight in mice.)

Biggs, P. 2007. Sustainable Australian sandalwood: the six components necessary to develop sustainable F&F materials. Perfumer & Flavorist 32(4): 28-29. (Making 6 recommendations for the sustainable exploitation of *Santalum spicatum* in Western Australia.)

Billings, S.A., Schaeffer, S.M. and Evans, R.D. 2004. Soil microbial activity and N availability with elevated CO_2 in Mojave Desert soils. Global Biogeochemical Cycles 18(1): GB1011. (Results with *Larrea tridentata* and *Krameria erecta* indicate that elevated CO_2 may alter soil microbial activity and hence lead to increases in plant-available N when soil moisture is available.)

Blostin, R. 2007. (News of fermented *Viscum album*) (in French) Pratique Vét de l'Animal de Compagnie 34: 13-15. (Reporting successful use of fermented *V. album* in the treatment of fibrosarcoma in cats, teat tumours in dogs, and sarcoid in horses.)

Bottin, L., Isnard, C., Lagrange, A. and Bouvet, J.M. 2007. Comparative molecular and phytochemical study of the tree species *Santalum austrocaledonicum* (Santalaceae) distributed in the New-Caledonian archipelago. Chemistry & Biodiversity 4: 1541-1556. (Most of the chemical variation across eight scattered populations was observed within populations and it is concluded that genetic drift and migration are not the main evolutionary forces acting on chemical differentiation.)

Braby, M.F. 2006. Evolution of larval food plant associations in *Delias* Hübner butterflies (Lepidoptera: Pieridae). Entomological Science 9: 383-398. (A phylogenetic study of *Delias* spp. considers that their original host plants were Loranthaceae. Currently 77% of hosts are in Loranthaceae, 14% in Santalaceae and 8% in Viscaceae with only 1% on non-parasitic hosts in Euphorbiaceae.)

Breteler, F.J. 2007. Notes on tropical African plants: Novitates Gabonenses 66 *Strombosia fleuryana* (Olacaceae) new from Gabon. Systematics and Geography of Plants 77(1): 119-127. (Describing the new species *S. fleuryana* and providing a key to the genus in Lower Guinea.)

Brunet, J. 2006. (*Orobanche reticulata* found at a new site in Skåne, S Sweden.) (in Swedish) Svensk Botanisk Tidskrift 100: 301. (*O. reticulata* is reported parasitizing *Cirsium oleraceum* under shade of *Fraxinus excelsior*.)

Budzianowski, J. and Budzianowska, A. 2006. Chromatographic and spectrophotometric analyses of the DPPH free radical scavenging activity of the fractionated extracts from *Lamium album* L., *Lamium purpureum* L. and *Viscum album* L. Herba Polonica 52(1/2): 51-57.

Burckhardt, D. and Wyniger, D. 2007. The systematic position of *Psylla phorodendri* Tuthill with comments on the New World genus *Freysuila* Aleman (Hemiptera, Psylloidea, Aphalaroidinae). Mitteilungen der Schweizerischen Entomologischen Gesellschaft 80(1/2): 63-70. (Describing adult and larval characters of *Freysuila phorodendri* (renamed from *Psylla phorodendri*), which develops on *Phoradendron* spp. in Arizona and California, USA.)

Carlo, T.A. and Aukema, J.E. 2005. Female-directed dispersal and facilitation between a tropical mistletoe and a dioecious host. Ecology 86: 3245-3251. (Confirming that female individuals of the dioecious host tree *Cecropia schreberiana* were twice as likely as males to be infected by *Phoradendron hexastichum* because generalist frugivorous birds including *Spindalis portoricensis* feed on both host and parasite.)

Castillo, U.F., Browne, L., Strobel, G., Hess, W.M., Ezra, S., Pacheco, G. and Ezra, D. 2007. Biologically active endophytic streptomycetes from *Nothofagus* spp. and other plants in Patagonia. Microbial Ecology 53(1): 12-19. (*Streptomyces* isolates from *Nothofagus* appeared to be unique, but one from *Chiliotrichum diffusum* proved identical to one previously known from *Misodendrum punctulatum.)*

Cebovic, T. and Popovic, M. 2007. Effect of European mistletoe (*Viscum album* L.) grown on plums under antioxidant status of Ehrlich tumor cells *in vivo*. Fresenius Environmental Bulletin 16: 435-442. (Noting 53 to 95% reduction in Ehrlich tumour cells in rats from an extract of *V. album* grown on plum in Iran.)

Cetin, E. S. and Özcelik, N. 2007. (Apoptotic mechanism of mistletoe (*Viscum album*) extract used in the treatment of cancer: review.) (in Turkish) Türkiye Klinikleri tip Bilimleri Dergisi 27: 533-539. (Concluding 'little is known about the mechanism of apoptosis induced by mistletoe lectin, even though there is convincing evidence that lectin-mediated anticancer properties are due to an activation of apoptotic processes.')

Costea, M. and Tardif, F.J.. 2006. The biology of Canadian weeds. 133. *Cuscuta campestris* Yuncker, *C. gronovii* Willd. ex Schult., *C. umbrosa* Beyr. ex Hook., *C. epithymum* (L.) L. and *C. epilinum* Weihe. Canadian Journal of Plant Science, 86(1): 293-316. (A masterly in-depth review of the *Cuscuta* spp. occurring in Canada with a wealth of wide-ranging information. Our apologies for the delay in noting this valuable publication.)

de Craene, L.P.R. 2007. Are petals sterile stamens or bracts? The origin and evolution of petals in the core eudicots. In: Scutt, C.P., Theissen, G. and Ferrandiz, C. (eds) Annals of Botany 100: 621-630. (Suggesting that tepal-derived petals have evolved independently in the major lineages of the core eudicots (i.e. asterids, Santalales and rosids) while staminodial petals have arisen only in a few isolated cases where petals had been previously lost (Caryophyllales, Rosales).)

de Groote, H., Wangare, L. and Kanampiu, F. 2007. Evaluating the use of herbicide-coated imidazolinone-resistant (IR) maize seeds to control *Striga* in farmers' fields in Kenya. Crop Protection 26: 1496-150. (Reporting on-farm trials which showed a small but highly profitable yield benefit from the use of herbicide in conjunction with hybrid maize., and suggesting ways of improving farmer interest.)

Deil, U. 2005. A review on habitats, plant traits and vegetation of ephemeral wetlands - a global perspective. Phytocoenologia 35: 533-705. (Citing *Rhamphicarpa* as a keystone genus for the Palaeotropical region.)

de Vega, C., Ortiz, P. L., Arista M., Talavera, S. 2007. The endophytic system of Mediterranean *Cytinus* (Cytinaceae) developing on five host Cistaceae species. Annals of Botany 100: 1209-1217. (Despite the fact that *Cytinus* is the most widespread endophytic parasite in Europe, little is known about its anatomy. This study shows that the endophyte is essentially similar in different hosts. Unlike most parasitic plants, *Cytinus* has well-developed phloem in its endophyte.)

Devkota, M.P. and Glatzel, G. 2007. Comparative haustorium morphology and vegetative reproduction in the Old World genus *Scurrula* L. (Loranthaceae) from the Central Nepal Himalayas. Flora (Jena) 202: 179-193. (Comparing the structure of haustoria and endophytic systems of *Scurrula elata, S. gracilifolia, S. parasitica* and *S. pulverulenta*. Haustoria did not differ significantly, but 3 types of endophyte are distinguished – sinker, flanging, and flanging with radial shaft.)

Die, J.V., Dita, M.A., Krajinski, F., González-Verdejo, C.I., Rubiales, D., Moreno, M.T. and Román, B. 2007. Identification by suppression subtractive hybridization and expression analysis of *Medicago truncatula* putative defence genes in response to *Orobanche crenata* parasitization. PMPP Physiological and Molecular Plant Pathology 70(1-3): 49-59. (Eighty-one genes apparently up-regulated in *M. truncatula* infected by *O. crenata* included some thought to be related to the jasmonic acid pathway or to be involved in cell wall modifications, but also many novel genes not matching entries in the main *M. truncatula* sequences collections.)

Dong Qun, Yao Jian, Fang JiNian and Ding Kan 2007. Structural characterization and immunological activity of two cold-water extractable polysaccharides from *Cistanche deserticola* Y. C. Ma. Carbohydrate Research 342: 1343-1349. (Identifying two polysaccharide fractions, CDA-1A, active for B-cell proliferation, and CDA-3B, potent for the stimulation of both T- and B-cell proliferation.)

Dormon, E.N.A., van Huis, A. and Leeuwis, C. 2007. Effectiveness and profitability of integrated pest management for improving yield on smallholder cocoa farms in Ghana. International Journal of Tropical Insect Science 27(1): 27-39. (An IPM programme is described involving neem for pest control and cultural methods for control of (unspecified) mistletoes.)

Dzomeku, I.K. and Murdoch, A.J. 2007. Modelling effects of prolonged conditioning on dormancy and germination of *Striga hermonthica*. Journal of Agronomy 6(2): 235-249. (Changes in germinability potential during conditioning were consistent with the hypothesis that loss of primary dormancy precedes induction of secondary dormancy. An additive mathematical model is developed.)

Economou, G., Lyra, D., Sotirakoglou, K., Fasseas, K. and Taradilis, P. 2007. Stimulating *Orobanche ramosa* seed germination with an *Ascophyllum nodosum* extract. Phytoparasitica 35: 367-375. (Recording germinbation of *O. ramosa* with 'Algit Superâ' an extract of *A.nodosum*.)

Eggenschwiler, J., von Balthazar, L., Stritt, B., Pruntsch, D., Ramos, M., Urech, K., Rist, L., Simões-Wüst, A.P. and Viviani, A. 2007. Mistletoe lectin is not the only cytotoxic component in fermented preparations of *Viscum album* from white fir (*Abies pectinata*). BMC Complementary and Alternative Medicine 7(14): 10 pp. (Comparing the effects of *V. album* extracts from various hosts on breast and bladder cancer cell lines. Extracts from oak, apple and pine had activity proportional to their lectin content, but that from *A pectinata* had low lectin/high activity, suggesting involvement of some other cytotoxic component.)

Elluru, S., van Huyen, J.P.D., Bharath Wootla, Delignat, S., Prost, F., Negi, V.S. and Kaveri, S.V. 23007. Tumor regressive effects of *Viscum album* preparations. Exploration of immunomodulatory mechanisms. Medicina (Buenos Aires) 67(Suppl.II): 85-89. (Reviewing the current understanding of the immunomodulation achieved by *V. album* preparations in various cell types including lymphoblastoid, monocytic and endothelial cell lines.)

Elson, L.T. and Simon, N.P.P. 2007. Plant abundances after clearcutting and stripcutting in Central Labrador. Northern Journal of Applied Forestry 24(2): 110-116. (Abundance of *Geocaulon lividum* (Santalaceae) was associated with 1970s logging and coarse woody debris.)

Evidente, A., Fernández-Aparicio, M., Andolfi, A., Rubiales, D. and Motta, A. 2007. Trigoxazonane, a monosubstituted trioxazonane from *Trigonella foenum-graecum* root exudate, inhibits *Orobanche crenata* seed germination. Phytochemistry 68: 2487-2492. (Identifying a component of root exudates of fenugreek showing over 50% inhibition of *O. crenata* seed germination.)

Fageer, F.A. and Assubaie, F.N. 2006. Ecological studies on tha-noun (*Cistanche phelypaea* L) Cout. (Orobanchaceae) in Al-Ahsa Oasis, Saudi Arabia. Scientific Journal of King Faisal University (Basic and Applied Sciences) 7(1): 75-86. (Wild hosts of *C. phelypaea* included a range of *Suaeda* species, and several other Chenopodiaceae, but also three species of *Zygophyllum*. Crop hosts included *Beta vulgaris* and *Atriplex leucodada*, but *Spinacia oleracea* was resistant.

Fernández-Aparicio, M., Sillero, J.C., Pèrez-de-Luque, A. and Rubiales, D. 2008. Identification of sources of reszistance to crenate broomrape (*Orobanche crenata*) in Spanish lentil (*Lens culinaris*) germplasm. Weed Research 48: 85-94. (None of

234 accessions, field-tested for response to *O. crenata*, showed complete resistance. The 35 which showed reduced infection demonstrated a range of different mechanisms including lower root density, lower germination, and cessation of development at different stages after germination and attachment.)

Fernández-Aparicio, M., Sillero, J.C. and Rubiales, D. 2007. Intercropping with cereals reduces infection by *Orobanche crenata* in legumes. Crop Protection 26: 1166-1172. (Reporting reduced infestation of faba bean by *O. crenata* when intercropped with oats, perhaps due to an allelopathic effect of oat root exudates.)

*Funk, H.T., Berg, S., Krupinska, K., Maier, U.G. and Krause, K. 2007. Complete DNA sequences of the plastid genomes of two parasitic flowering plant species, *Cuscuta reflexa* and *Cuscuta gronovii*. BMC Plant Biology 7(45). http://www.biomedcentral.com/content/pdf/1471-2229-7-45.pdf (Providing insights into not only gene deletions that accompany the loss of photosynthetic capacity, but also intriguing observations about differences in RNA splicing and editing.)

Germishuizen, G., van Jaarsveld, E.J. and Condy, G. 2007. *Viscum crassulae* Viscaceae. Flowering Plants of Africa 60: 58-62. (Illustrating *V. crassulae* and describing its morphology, distribution and host plants.)

Ghannam, I., Barakat, R. and Al-Masri, M. 2007. Biological control of Egyptian broomrape (*Orobanche aegyptiaca*) using *Fusarium* spp. Phytopathologia Mediterranea 46: 177-184. (Testing 125 Egyptian isolates of *Fusarium* and selecting a number of *F. oxysporum* and *O. solani* with good activity against *O. aegyptiaca* and no observed damage to tomato.)

Gibot-Leclerc, S., Pinochet, X. and Sallé, G. 2006. (Broomrapes (*Orobanche ramosa*) as parasite of winter oilseed rape: an extension risk under observation.) (in French) OCL - Oléagineux, Corps Gras, Lipides 13: 200-205. (Discussing the increasing problem of *O. ramosa* in rapeseed in Central West region Poitou-Charentes and possibilities for preventing its further spread.)

*Gomaa, A.M. and Ramadan, M.F. 2006. Characterisation of bioactive lipid compounds of *Cistanche phelypaea*. Electronic Journal of Environmental, Agricultural and Food Chemistry 5(2): 7 pp. http://ejeafche.uvigo.es/index.php?option=com_docman&task=doc_download&gid=115&Itemid=33 (Recording the levels of various lipid components of *C. phelypaea*, including oleic, palmitic and linoleic acids, phytosterols and tocopherol.)

Gonzáles, W.L., Suárez, L.H., Guiñez, R. and Medel, R. 2007. Phenotypic plasticity in the holoparasitic mistletoe *Tristerix aphyllus* (Loranthaceae): consequences of trait variation for successful establishment. Evolutionary Ecology 21: 431-444. (Results suggest that the successful adaptation of *T. aphyllus* to the long spines of its host cactus *Echinopsis chilensis* via long radicles are due to the plasticity in radicle length, rather than selection for this character.)

Gonzáles, W.L., Suárez, L.H. and Medel, R. 2007. Outcrossing increases infection success in the holoparasitic mistletoe *Tristerix aphyllus* (Loranthaceae). Evolutionary Ecology 21(2): 173-183. (Inbreeding in *T. aphyllus* resulted in 20-30% lower fruit production and 5-15% lower germination.)

Grenz, J.H. and Sauerborn, J. 2007. Mechanisms limiting the geographical range of the parasitic weed *Orobanche crenata*. Agriculture, Ecosystems & Environment 122: 275-281. (An interesting analysis confirming that temperature and seasonality of rainfall are critical and concluding that suitable conditions outside the Mediterranean exist in parts of the monsoon, savanna and winter-dry climate regions of Central America, Africa, Australia and South Asia.)

Grossarth-Maticek, R. and Ziegler, R. 2007. Prospective controlled cohort studies on long-term therapy of ovarian cancer patients with mistletoe (*Viscum album* L.) extracts Iscador. Arzneimittel Forschung 57: 665-678. (Concluding that the *V. album* extract Iscador can prolong survival of ovarian cancer patients, while in the short term, psychosomatic self-regulation increases more markedly than under conventional therapy alone.)

*Gua-Hua Ma and Bunn, E. 2007. Embryology and pollination trials support dichogamy in *Santalum album* L. Sandalwood Research Newsletter 22: 1-4. (http://www.jcu.edu.au/school/tropbiol/srn/) (Results indicate the flower of *S. album* is dichogamous, the pollen maturing before the embryo sac. Seed set from open pollination was only 3%. Each fruit may have up to 3 embryos.)

Guimarães, A.C., Kuster, R.M., Amaral, A.C.F., Ferreira, J.L.P. and Siani, A.C. 2007. Histological study of the leaf and stem of the Amazonian medicinal mistletoe *Cladocolea micrantha* (Loranthaceae). International Journal of Botany 3: 218-221. (Describing *C. micrantha,* which is used for the treatment of inflammation and tumors, and indicating distinguishing features from the closely related *Struthanthus vulgaris*.)

Hadi, M.H.S., Fazeli, F., Darzi, M.T. and Shahmoradi, R. 2005. Biological control of *Orobanche aegyptiaca* in tomato. In: Harper, J.D.I., An, M., Wu, H. and Kent, J.H. (eds) Proceedings of the 4th World Congress on Allelopathy, "Establishing the Scientific Base", Wagga Wagga, New South Wales, Australia, 21-26 August 2005: 332-335. (In a field experiment in Iran, roots of tomato were inoculated with *Fusarium solani*. There was a partial reduction in weight of *O. aegyptiaca* but no significant benefit in crop weight.)

Hättenschwiler, S. and Zumbrunn, T. 2006. Hemiparasite abundance in an alpine treeline ecotone increases in response to atmospheric CO_2 enrichment. Oecologia 147(1): 47-52. (Density and height of both *Melampyrum pratense* and *M. sylvaticum* were markedly increased by elevated levels of CO_2.)

Hatthakitpanichakul, N. and Tangjitjaroenkun, J. 2007. Preliminary studies of the inhibition of plant pathogens using active compounds from plants in Si Racha campus. Proceedings of the 45th Kasetsart University Annual Conference, Kasetsart, 30-January - 2 February, 2007: 600-608. (Extracts of *Melientha suavis* (Opiliaceae) suppressed both *Fusarium oxysporum* and *Xanthomonas campestris.*)

Hedwall, S.J. and Mathiasen, R.L. 2006. Wildlife use of Douglas-fir dwarf mistletoe witches' brooms in the southwest. Western North American Naturalist 66: 450-455. (Witches' rooms caused by *Arceuthobium douglasii* in Douglas fir were most often used by red squirrel, *Tamiasciurus hudsonicus*.)

Henwood, B.P. 2007. Wild larvae of *Helicoverpa armigera* (Hübner, 1808) (Lepidoptera: Noctuidae) in Devon during 2006. Entomologist's Gazette 58(3): 188 pp. (Involving *Rhinanthus minor* as a host.)

Hoffman, C., Mathiasen, R. and Sieg, C.H. 2007. Dwarf mistletoe effects on fuel loadings in ponderosa pine forests in northern Arizona. Canadian Journal of Forest Research 37: 662-670. (Studies suggest that forests severely infested by *Arceuthobium vaginatum* ssp. *cryptopodum* are at greater risk from fire.)

Holzapfel, S. 2005. *Dactylanthus taylorii* recovery plan review: 1995-2000. DOC Research 224, 47 pp. (Reviewing the generally successful achievements of the recovery plan for *D. taylorii* (Balanophoraceae) in New Zealand - allowing it to set fruit in a large number of populations, presumably for the first time in decades.)

Hosseini, S.M., Kartoolinejad, D., Mirnia, S.K., Tabibzadeh, Z., Akbarinia, M. and Shayanmehr, F. 2007. The effects of *Viscum album* L. on foliar weight and nutrients content of host trees in Caspian forests (Iran). Polish Journal of Ecology 55: 579-583. (Confirming lower leaf area and weight, and higher content of K, Mn and Zn in branches of *Carpinus betulus* and *Parrotia persica* infested with *V. album* than in uninfested branches. N was also reduced in *C. betulus.*)

Huang GuiRong, Du XiaoYing, Xu DaGao, Zhang Hui, Pan RuQian and Xu HanHong 2007.Antifungal activities in methanol extracts from twenty species of plants in three Gorges region, Hubei province. Journal of South China Agricultural University 28: 37-41. (Methanol extracts of *Melampyrum roseum* provided 100% inhibition of mycelial growth of *Peronophythora litchi*.)

Hugo, F., Schwitalla, S., Niggemann, B., Zänker, K.S. and Dittmar, T. 2007. *Viscum album* extracts Iscador(R)P and Iscador(R)M counteract the growth factor induced effects in human follicular B-NHL cells and breast cancer cells. Medicina (Buenos Aires) 67(Suppl.II): 90-96. (Providing new insights into the potency of VA extracts for cancer treatment.)

*ICRISAT 2007. *Striga*-free sorghum: one step away from reality. ICRISAT Eastern and Southern Africa Region. 2006 Highlights. pp. 15-17. www.icrisat.org/ESA/ICRISAT_ESA%20Highlights%2020061.pdf (Making optimistic forecasts for the successful application of Marker Assisted Selection in a plant breeding programme based on the *Striga* resistant sorghum variety N.13.)

Ikie, F.O., Schulz, S., Ogunyemi, S., Emechebe, A.M., Togun, A.O. and Berner, D.K. 2006. Effect of soil sterility on soil chemical properties and sorghum performance under *Striga* infestation. World Journal of Agricultural Sciences 2: 367-371. (Demonstrating greater damage from a standard inoculation of *S. hermonthica* in sterilised soils. Differences are assumed due to microbial suppression of the parasite, and suggest this effect could be enhanced by 'microbial inundation'.)

Irwin, M.T. 2007. Living in forest fragments reduces group cohesion in diademed sifakas (*Propithecus diadema)* in eastern Madagascar by reducing food patch size. American Journal of Primatology 69: 434-447. (Studies on *P. diadema* suggest that decreased cohesion in groups in fragmented habitat results from their increased reliance on mistletoes and other small resources, which causes them to spread out among multiple patches.)

Jacob, J.P., Mohan, V., Lalitha, N. and Srimurugan, N. 2006. First report of plant parasite *Cuscuta chinensis* Lam. on *Acacia nilotica* (L) Willd. ex Del. ssp. *indica* (Benth.) Brenan seedlings in forest nursery. Indian Forester 132: 903-905. (Reporting

C. chinensis and suggesting some methods of control.)

Jafari, L., Kholdebarin, B. and Jafari, E. 2007. Phytotoxic effects of *Chenopodium album* L. water extract on higher plants. American Journal of Plant Physiology 2:221-226. (Showing some activity against *Cuscuta campestris* from high concentrations of extract from *C. album*.)

Jain, S.H., Ranjana Arya and Hemant Kumar 2007. Distribution of Sandal (*Santalum album* L.), current growth rates, predicted yield of heartwood and oil content and future potential in semi arid and arid regions of Rajasthan, Forests, Trees and Livelihoods 17: 261-266. (Suggesting there is potential for the cultivation of *S. album* in Rajasthan.)

Kartoolinejad, D., Hosseini, S.M., Mirnia, S.K., Akbarinia, M. and Shayanmehr, F. 2007. The relationship among infection intensity of *Viscum album* with some ecological parameters of host trees. International Journal of Environmental Research 1(2): 143-149. (Suggesting a relationship between intensity of *V. album* and the size of the host tree *Parrotia persica.*)

Kelter, G., Schierholz, J.M., Fscher, I.U. and Fiebig, H.H. 2007. Cytotoxic activity and absence of tumor growth stimulation of standardized mistletoe extracts in human tumor models *in vitro*. Anticancer Research 27(1A): 223-233. (Extracts of *Viscum album* Helixor A, Helixor M and Helixor P showed cytotoxic effects but did not show tumour stimulation as had been suggested they might.)

Keyes, W.J., Palmer, A.G., Erbil, W.K., Taylor, J.V., Apkarian, R.P., Weeks, E.R. and Lynn, D.G. 2007. Semagenesis and the parasitic angiosperm *Striga asiatica*. Plant Journal 51:707-716. (Further elucidating the role of reactive oxygen species in signaling related to haustorial development. H_2O_2 production was greatest in the surface cells of the primary root meristem and was down-regulated after exposure to DMBQ, suggesting a feedback mechanism once the host root is located.)

Khan, H.A., Asif, M. and Athar, M. 2006. Medicinal plants as potential sources of drugs for cardiovascular diseases: traditional and mineral approaches. Hamdard Medicus 49(2): 75-80. (Including study of *Santalum album* as used in the Unani system of medicine.)

Khanna, K.K. and Anand Kumar 2007. Taxonomic status of *Alectra chitrakutensis* (Rau) Prasad & R.D. Dixit (Scrophulariaceae). Journal of Economic and Taxonomic Botany 31: 536-538. (Detailed studies suggest *Alectra chitrakutensis* should not have specific status but be treated as *A. parasitica* ssp. *chitrakutensis.*)

Khil LeeYong, Kim Wi, Lyu SuYun, Park WonBong, Yoon, J.W. and Jun, H.S. 2007. Mechanisms involved in Korean mistletoe lectin-induced apoptosis of cancer cells. World Journal of Gastroenterology 13: 2811-2818. (Extracts of *Viscum album* ssp. *coloratum* killed human colon cancer cells and induced complete regression of tumours in nude mice transplanted with this cell line.)

Kirsch, A. 2007. Successful treatment of metastatic malignant melanoma with *Viscum album* extract (Iscador(R) M). Journal of Alternative and Complementary Medicine 13: 443-446. (In a single patient, 'the use of low-dose Iscador as the sole postoperative modality for the adjuvant treatment of metastatic melanoma was extremely effective and very well tolerated'.)

*Ko KamMing and Leung HoiYan 2007. Enhancement of ATP generation capacity, antioxidant activity and immunomodulatory activities by Chinese Yang and Yin tonifying herbs. Chinese Medicine 2(3): http://www.cmjournal.org/content/pdf/1749-8546-2-3.pdf pages not specified. (Discussing the activity of a herbal product Herba Cistanche, presumably based on a *Cistanche* sp.)

Kuehn, J.J. 2007. Treatment responses to *Viscum album* Pini (Iscador(R) P) in non-Hodgkin's lymphoma. Exploring a new therapeutic route. Medicina (Buenos Aires) 67(Suppl.II): 107-114. (Reporting generally favourable results of Iscador(R)P use in a trial involving 191 patients. A larger trial is now planned.)

Kupelı, E.**,** Orhan, I.**,** Yesılada, E.E. 2007. Evaluation of some plants used in Turkish folk medicine for their anti-inflammatory and antinociceptive activities. Pharmaceutical Biology 45: 547-555. (Extracts of *Arceuthobium oxycedri* displayed significant anti-inflammatory activity using carrageenan-induced hind paw edema model in mice without inducing any gastric damage.)

Kusumoto, D., Goldwasser, Y., Xiaonan Xie, Yoneyama, K., Takeuchi, Y. and Yoneyama, K. 2007. Resistance of red clover (*Trifolium pratense*) to the root parasite (*Orobanche minor*) is activated by salicylate but not by jasmonate. Annals of Botany 100: 537-544. (Confirming the effectiveness of salicylic acid and its synthetic analogue benzo-thiadiazole-carbothioate (BTH) in reducing attachment of *O. minor* to clover roots, via induction of defence responses including lignification of the endodermis. Jasmonic acid, known to induce resistance to insects was not effective against *O. minor*.)

*Lans, C.A. 2006. Ethnomedicines used in Trinidad and Tobago for urinary problems and diabetes mellitus. Journal of Ethnobiology and

Ethnomedicine 2(45). (http://www.ethnobiomed.com/content/pdf/1746-4269-2-45.pdf) (Noting the use of *Cuscuta americana* for jaundice.)

*Lans, C., Turner, N., Khan, T., Brauer, G. and Boepple, W. 2007. Ethnoveterinary medicines used for ruminants in British Columbia, Canada. Journal of Ethnobiology and Ethnomedicine 3(11) (http://www.ethnobiomed.com/content/pdf/1746-4269-3-11.pdf) (Including *Euphrasia officinalis* among 128 plants with potential for use in ruminant cattle – for eye problems.)

Leal, L., Bujokas, W.M. and Biondi, D. 2006. (Analysis of mistletoes infestation on urban street trees in the city of Curitiba, PR.) (in Portugese) Floresta 36(3): 323-330. (Commonest parasites were *Tripodanthus acutifolius* and *Struthanthus vulgaris*. *T. acutifolius* was particularly associated with the host tree *Tipuana tipu*. *Lagerstroemia indica* was among 5 other tree species affected by mistletoes.)

Lebedeva, V.Ch., Tikhodeyeva, M.Y. and Ipatov, V.S. 2007. Comparative estimation of different tree species influences on the soil cover in bilberry birch forests. Botanicheskiĭ Zhurnal 92: 681-702. (Discussing the influence of shade and leaf fall on under-story species including *Melampyrum pratense*.)

Lee KyuBae 2007. Ultrastructure of mature embryos in the parasitic flowering plant *Cuscuta japonica*. Journal of Plant Biology 49: 384-391. (see below)

Lee KyuBae 2007. Ultrastructure and development of seedlings of the parasitic weed *Cuscuta japonica*s. Journal of Plant Biology 50: 213-219. (see below)

Lee KyuBae 2007. Ultrastructure of crystalline inclusions in the thylakoids of dodder (*Cuscuta japonica*) plastids. Journal of Plant Biology 50: 325-330. (These three papers on one of the most robust of all dodders are descriptive of the ultrastructure at various stages of development. From the standpoint of parasite biology, one interesting observation is the change from etioplasts to chloroplasts when the shoot apex is exposed to light.)

Lee SooJung, Son YoungOk, Kim HyunJin, Kim JooYoung, Park SoonWon, Bae JaeHo, Kim HyungHoi, Lee EunYup, Chung ByungSeon, Kim SunHee and Kang ChiDug 2007. Suppressive effect of a standardized mistletoe extract on the expression of activatory NK receptors and function of human NK cells. Journal of Clinical Immunology 27: 477-485. (Results suggest that inhibition of survival and function of NK ('natural killer') cells by mistletoe extract, ABNOBA viscum Fraxini may curtail in part the therapeutic effects of mistletoe.)

Lefebvre, G.N.F., Bonamin, L.V. and de Oliveira, C.M. 2007. (Treatment of transmissible venereal tumor (tvt) in dogs with *Viscum album* (mistletoe) associated to chemotherapy.) (in Portuguese) Clínica Veterinária 12(70): 78-86. (Use of *V. album* extract gave promising results.)

Lehmkuhl, J.F., Kennedy, M.,Ford, E.D., Singleton, P.H., Gaines, W.L. and Lind, R.L. 2007. Seeing the forest for the fuel: integrating ecological values and fuels management. In: Molina, R., Benson, G., Kerns, B. and Parks, C. (eds). Forest Ecology and Management Year 246(1): 73-80. (Describing the development of a 'FuelSolve' model to help minimize potential fire risk while minimizing loss of spotted owl habitat. This could involve retaining some mistletoe (*Arceuthobium*)-infested trees.)

Lei Li, Jiang Yong, Liu XiaoMing, Tu PengFei, Wu LiJun and Chen FaKui 2007. New glycosides from *Cistanche salsa*. Helvetica Chimica Acta 90(1): 79-85. (Six new glycosides are described from the stems of *C. salsa*.)

Leu YannLii, Hwang TsongLong, Chung YuMing and Hong PaoYun 2006. The inhibition of superoxide anion generation in human neutrophils by *Viscum coloratum*. Chemical & Pharmaceutical Bulletin 54: 1063-1066. (A new 1,3-diphenylpropane, viscolin, proved most active.)

Li AiRong, Guan KaiYun and Probert, R.J. 2007. Effects of light, scarification, and gibberellic acid on seed germination of eight *Pedicularis* species from Yunnan, China. HortScience 42: 1259-1262. (Many of the 8 species of *Pedicularis* tested showed response to scarification; those from wet habitats generally responded to light, while none responded consistently to GA.)

Lindell, T. 2006. (Is *Rhinanthus osiliensis* present on Gotland?) (in Swedish) Svensk Botanisk Tidskrift 100: 261-262. (Previously believed restricted to the Baltic island of Saaremaa, Estonia, *R. osiliensis* is thought to have been found in Gotland associated with *Schoenus ferrugineus*.)

Lins, R.D., Colquhoun, J.B. and Mallory-Smith, C.A. 2007. Efect of small broomrape (*Orobanche minor*) on red clover growth and dry matter partitioning. Weed Science 55: 517-520. (The 15-51% reduction in total biomass of red clover by *O. minor* was proportional to the dry weight of the parasite, not to the number. Dry matter allocated to host inflorescences was disproportionately reduced by 50-80%)

Lozano-Baena, M., Prats, E., Moreno, M.T., Rubiales, D. and Pèrez-de-Luque, A. 2007. *Medicago trunculata* as a model for nonhost resistance in legume-parasitic plant interactions. Plant

Physiology 145: 437-449. (Describing two accession of *M. truncatulata* with differing modes of resistance to *Orobanche crenata*, one expressed before tubercle formation and the other after tubercles had become attached.)

Luo HongXia, Lin ShaoHua, Ren FaZheng, Wu LiPing, Chen LiShui and Sun Yan 2007. Antioxidant and antimicrobial capacity of Chinese medicinal herb extracts in raw sheep meat. Journal of Food Protection 70: 1440-1445. (Extracts of *Santalum album* were among the most effective of 10 tested for antimicrobial activity.)

Ma DeYing, Chai Yan, Yushanjiang Tuniyazi, Liu Ying, Zhao Li and Dilibaier 2007. A study on seed traits of parasitic weeds *Cuscuta* sp. in Xinjiang farmland. Xinjiang Agricultural Sciences 44: 429-433. (External and internal morphological characters of seeds are described for *C. approximata, C. campestris, C. europaea, C. epilinum, C. chinensis, C monogyna, C. eupulata* and C. *australis*, and a key prepared.)

Mabrouk, Y., Simier, P., Arfaoui, A., Sifi, B., Delavault, P., Zourgui, L. and Belhadj, O. 2007. Induction of phenolic compounds in pea (*Pisum sativum* L.) inoculated by *Rhizobium leguminosarum* and infected with *Orobanche crenata*. Journal of Phytopathology 155: 728-734. (Confirming that gallic acid and naringenin, produced in pea roots infected by *R. leguminosarum*, cause browning and severe physiological disorder in germinating seeds of *O. crenata*.)

Mabrouk, Y., Simier, P., Delavault, P., Delgrange, S., Sifi, B., Zourgui, L. and Belhadj, O. 2007. Molecular and biochemical mechanisms of defence induced in pea by *Rhizobium leguminosarum* against *Orobanche crenata*. Weed Research 47: 452-460. (Further elucidation of the mechanism by which certain strains of *Rhizobium* reduce infection by *O. crenata*, confirming the involvement of genes enhancing activity of oxidative lipoxygenase and the phenylpropanoid/isoflavanoid pathways, leading to accumulation of phenolics and the phytoalexin pisatin..)

Macías, F.A., García-Díaz, M.D., Carrera, C., de Luque, A.P.,Rubiales, D. and Galindo, J.C.G. 2005. Synthetic studies on germination stimulants of *Orobanche* species. In: Harper, J.D.I., An, M., Wu, H. and Kent, J.H. (eds) Proceedings of the 4th World Congress on Allelopathy, "Establishing the Scientific Base", Wagga Wagga, New South Wales, Australia, 21-26 August 2005: 438-440. (A range of sesquiterpene lactones have been synthesised and compared with strigolactones for their germination of *Orobanche* species, including *O. cumana*.)

Magassouba, F.B. *et al.* (24 other authors listed) 2007. Ethnobotanical survey and antibacterial activity of some plants used in Guinean traditional medicine. Journal of Ethnopharmacology 114(1):44-53. (*Ximenia americana* among the plants most commonly used for treating infectious diseases in Guinea.)

Mallavadhani, U.V., Kilambi Narasimhan, Sudhakar, A.V.S., Anita Mahapatra, Li, W.K. and van Breemen, R.B. 2006. Three new pentacyclic triterpenes and some flavonoids from the fruits of an Indian Ayurvedic plant *Dendrophthoe falcata* and their estrogen receptor binding activity. Chemical & Pharmaceutical Bulletin 54: 740-744. (Reporting 3 new triterpenes and their binding to estrogen receptor sites.)

Manikandan, P., Ganesan, S. and Sekar, R. 2007. Parasitic weed - *Cuscuta chinensis* Lam. (Dodder): a potential threat to common medicinal plant diversity. Journal of Economic and Taxonomic Botany 31: 444-446. (Recording 40 species belonging to 36 genera as hosts of '*C. chinensis'* - possibly *C. campestris*? in the Madurai district.)

Marozas, V., Racinskas, J. and Bartkevicius, E. 2007. Dynamics of ground vegetation after surface fires in hemiboreal *Pinus sylvestris* forests. In: Jõgiste, K., Kuuluvainen, T. and Kangur, A. (eds) Forest Ecology and Management 250(1/2): 47-55. (Listing *Melampyrum pratense* among early successional species after fire.)

Mathiasen, R.L. 2007. A new combination for Hawksworth's dwarf mistletoe (Viscaceae). Novon 17(2): 217-221. (On the basis of morphological and molecular analyses, reclassifying *A. hawksworthii* as *Arceuthobium hondurense* subsp. *hawksworthii*.)

Mathiasen, R.L. 2007. First report of durangan dwarf mistletoe, *Arceuthobium vaginatum* spp. *durangense*, on *Pinus cooperi* and *P. engelmannii* in Mexico. Plant Disease September 2007: 1201. (Reporting *A. vaginatum* spp. *durangense*, also known as *A. durangense,* in Durango province, Mexico, forming brooms and causing serious damage on *P. engelmannii* but lesser damage and no brooms on *P.cooperi*.)

Mathiasen, R. L. and Daugherty, C.M. 2007. *Arceuthobium tsugense* subsp. *amabilae*, a new subspecies of hemlock dwarf mistletoe (Viscaceae) from Oregon. Novon 17(2): 222-227. (Describing a new subspecies *A. tsugense* subsp. *amabilae* parasitic mainly on *Abies amabilis*, *A. procera*, and *Tsuga mertensiana*, but also parasitizing several other *Abies, Tsuga* and *Pinus* spp.)

McCartney, J., Stringer, I.A.N. and Potter, M.A. 2007. Feeding activity in captive New Zealand lesser short-tailed bats (*Mystacina tuberculata*). New Zealand Journal of Zoology 34: 227-238. (Nectar from *Metrosideros excelsa* (Balanophoraceae) was a minor component in the diet of *M. tuberculata*.)

Medel, R., Vergara, E., Silva, A. and Kalin-Arroyo, M. 2004. Effects of vector behavior and host resistance on mistletoe aggregation. 85(1): 120-126. (Results provide evidence that aggregation of the mistletoe *Tristerix aphyllus* on its cactus host *Echinopsis chilensis* is influenced by the behaviour of its avian seed vector *Mimus thenca* and the spines of the host.)

Meléndez-Ackerman, E.J., Aragón, S., Morales-Vargas, M., Sustache, J., Axelrod, F.S., Fuentes, C., Ackerman, J.D., García, M. and Fernández, D.S. 2005. Monitoring efforts yield new plant records for Mona Island, Puerto Rico, a tropical dry forest wonderland. Caribbean Journal of Science 41(1): 150-152. (A first record for *Schoepfia schreberi* (Olacaceae) in Puerto Rico.)

Melnick, S.J. 2006. Developmental therapeutics: review of biologically based CAM therapies for potential application in children with cancer: Part I. Journal of Pediatric Hematology and Oncology 28(4): 221-230. (Reviewing complementary and alternative medicine (CAM) therapies that have potential anticancer activity with a focus on those agents that may be active in childhood cancer, including extracts of *Viscum*.)

Metzger, J.O. and Bornscheuer, U. 2006. Lipids as renewable resources: current state of chemical and biotechnological conversion and diversification. Applied Microbiology and Biotechnology 71(1): 13-22. (Suggesting potential use for santalbic acid from *Santalum album*.)

Meulebrouck, K., Ameloot, E., Verheyen, K. and Hermy, M. 2007. Local and regional factors affecting the distribution of the endangered holoparasite *Cuscuta epithymum* in heathlands. Biological Conservation 140(1/2): 28-18. (Studies in Belgium suggest abundance of *C. epithymum* depends mainly on canopy structure, and is favoured most by young *Calluna vulgaris*.)

Molano-Flores, B., Koontz, J.A. and Feist, M.A. 2007. Seed germination of the Illinois-threatened *Agalinis auriculata* (Michx.) Blake (Orobanchaceae). Castanea 72(2): 116-118.

Mourão, F.A., do Carmo, F.F., Ratton, P. and Jacobi, C.M. 2006. (Hosts of *Struthanthus flexicaulis* (Loranthaceae) in ironstone in Quadrilatero Ferrifero, Minas Gerais.) (in Portugese) Lundiana 7(2): 103-109. (The host range of *S. flexicaulis* included over half the woody species in the localities surveyed.)

Mücher, C.A., Hennekens, S.M., Bunce, R.G.H. and Schaminée, J.H.J. 2005. Spatial identification of European habitats to support the design and implementation of a Pan-European Ecological Network. In: McCollin, D. and Jackson, J.I. (eds) 2005. Planning, people and practice: the landscape ecology of sustainable landscapes. Proceedings of the 13th Annual IALE(UK) Conference, Northampton, 2005: 217-225. (Indicator species for this project include *Cephalanthera* and *Neottia nidus-avis*.)

Müller-Stöver, D. and Sauerborn, J. 2007. A commercial iron fertilizer increases the survival of *Fusarium oxysporum* f. sp. *orthoceras* propagules in a wheat flour-kaolin formulation. Biocontrol Science and Technology 17: 597-604. (The proportion of surviving propagules of *F. oxysporum* was significantly increased after adding iron chelate of EDDHA to the formulation.)

Musselman, L. J. and Bolin, J. F. 2008. New Infestation of Branched Broomrape, *Orobanche ramosa* (Orobanchaceae), on Black Medic, (*Medicago lupulina*) (Fabaceae), in Virginia. Plant Disease 92(2): 315. (The first documented record of this parasite from the Middle Atlantic States.)

Nadal, S. and Moreno, M.T. 2007. Behaviour of narbon bean (*Vicia narbonensis* L.) under presence-absence of broomrape (*Orobanche crenata* Forsk.) in rainfed agricultural systems in Southern Spain. Journal of Sustainable Agriculture 30(4): 133-143. (Noting the availability of genetic resistance-tolerance to *O. crenata* in *V. narbonensis* and hence its potential for planting in broomrape-infested areas.)

N'guessan, J.D., Dinzedi, M.R., Guessennd, N., Coulibaly, A., Dosso, M., Djaman, A.J. and Guede-Guina, F. 2007. Antibacterial activity of the aqueous extract of *Thonningia sanguinea* against extended-spectrum-β-lactamases (ESBL) producing *Escherichia coli* and *Klebsiella pneumoniae* strains. Tropical Journal of Pharmaceutical Research 6: 779-783. (Results suggest flowers of *T. sanguinea* can be used in association with antibiotics for alternative therapy of diseases caused by ESBL-producing *E. coli* and *K. pneumoniae*.)

Nirmal, D.D. 2006. Management of mango maladies. In: Sontakke, M.B. (ed.) Production and management of rainfed fruit crops, 2006: 112-116. (Including discussion on the control of *Dendrophthoe falcata* in mango.)

Olakojo, S.A. and Olaoye, G. 2007. Response of maize (*Zea mays* L.) to different nitrogen fertilizer formulations under *Striga lutea* (Lour.) artificial infestation. Tropical and Subtropical Agroecosystems 7(1): 21-28. (In a factorial pot experiment, the use of a *Striga*- resistant genotype in combination with nitrogen fertilizer in the form of calcium ammonia nitrate, but not ammonium sulphate, reduced *'S. lutea'* (?= *S. asiatica*) infestation and enhanced crop growth.)

Olujide, M.G. and Adeogun, S.O. 2006. Assessment of cocoa farmers' farm hygiene and farm maintenance practices in Ondo State of Nigeria. Karnataka Journal of Agricultural Sciences 19: 339-343. (A survey suggested that few farmers bothered to remove mistletoes, although they probably did affect productivity.)

Orhan, D.D. and Orhan, I. 2006. Fatty acid composition of *Viscum album* subspecies from Turkey. Chemistry of Natural Compounds 42: 641-644. (Linoleic, oleic and palmitic acids were highest in *V. album* ssp. *album* growing on apricot trees. Arachidic acid was found only in ssp. *austriacum* and ssp. *abietis.*)

Orians, G.H. and Milewski, A.V. 2007. Ecology of Australia: the effects of nutrient-poor soils and intense fires. Biological Reviews 82: 393-423. (Reviewing evidence for the Nutrient-Poverty/Intense-Fire Theory, but acknowledging that it does not readily explain the prominence of parasitic plants in Australia.)

Ouyang Jie, Wu YanWen, Wang XiaoDong, Zhao Bing and Wang YuChun 2007. Kinetics of *Cistanche deserticola* cells in suspension culture. Journal of Beijing Forestry University 29(5): 132-136. (Over 25 days growth in culture, phosphate and ammonia were quickly consumed, but nitrate only slowly.

Pällin, R., Püssa, T., Soidla, R., Tsahkna, A., Kuusik, S. and Rei, M. 2007. The use of herbal supplements for increasing the healthiness and storage stability of MDCM burgers. Agraarteadus 18(1): 25-36. (Concluding that an oil derived from (unspecified) *Cuscuta* seeds enables the enrichment of meat products with biologically important fatty acids.)

Panetta, F.D. and Lawes, R. 2007. Evaluation of the Australian branched broomrape (*Orobanche ramosa*) eradication programme. Weed Science 55: 644-651. (Describing a model designed to help monitor the progress of an eradication programme and suggest improvements. In the Australian instance, a means of rapidly reducing soil seed populations is identified as a priority for exploration.)

Papchenkov, V.G. 2007. Rare and new hybrid plants in the Middle Volga basin. Botanicheskiĭ Zhurnal, 92: 929-937. (Recording a hybrid in the genus *Euphrasia*.)

Pederson, L.A., Beckman, D.P., Halsey, R.L. and Stipe, L.E. 2005. Idaho forest insect and disease conditions, 2003: 40 pp. (Including information on *Arceuthobium*.)

Pereira, R., Steck, G.J., Varona, E. and Sivinski, J. 2007. Biology and natural history of *Anastrepha interrupta* (Diptera: Tephritidae). Florida Entomologist 90: 389-391. (*A. interrupta* destroys the seeds of *Schoepfia schreberi* (Olacaceae). Also reporting occurrence of the hymneopteran parasitoid on *A. interrupta*.)

Pérez-de-Luque, A., Lozano, M.D., Moreno, M.T., Testillano, P.S. and Rubiales, D. 2007. Resistance to broomrape (*Orobanche crenata*) in faba bean (*Vicia faba*): cell wall changes associated with prehaustorial defensive mechanisms. Annals of Applied Biology 151: 89-98. (Resistance to *O. crenata* is associated with reinforcement of cell walls in the cortex by callose deposition, and lignification of endodermal cells.)

Pevzner, I.B., Agapov, I.I., Pfueller, U., Pfueller, K., Maluchenko, N.V., Moisenovich, M., Tonevitsky, A.G. and Kirpichnikov, M.P. 2005. Cloning and expression of mistletoe lectin III B-subunit. Biochemistry (Moscow) 70(3): 306-378. (Describing characterization of the lectin III B subunit using antibodies and analysis of amino acid sequences. The focus is on understanding anti-tumor properties of mistletoe extracts.)

Raffone, G. 2006. (Faunistic remarks on Italian Calliphoridae (Diptera Brachycera).) (in Italian) Bollettino della Società Entomologica Italiana 138(2): 149-155. (Quoting records of 31 species of Calliphoridae on *Bellardia polita.*)

Rajasekaran, K. 2007. Studies in Indian Loranthaceae: VIII. Inflorescence. Journal of Economic and Taxonomic Botany 31(1): 177-180. (Describing the various floral structures and their taxonomic significance in Indian Loranthaceae.)

Rajasekaran, K. 2007. Studies in Indian Loranthaceae IX. Enumeration and distribution. Journal of Economic and Taxonomic Botany 31(1): 181-188. (Enumerating 48 species in 8 genera and giving distributions in India.)

Rajesh Kumar, Dubey, N.K., Tiwari, O.P., Tripathi, Y.B. and Sinha, K.K. 2007. Evaluation of some essential oils as botanical fungitoxicants for the protection of stored food commodities from fungal infestation. Journal of the Science of Food and Agriculture 87: 1737-1742. (Comparing oil from 18 species: that from *Mentha arvensis* much more effective than that from *Santalum album*.)

Ramaekers, F.C.S., Harmsma, M., Tusenius, K.J., Schutte, B., Werner, M. and Ramos, M. 2007. Mistletoe extracts (*Viscum album* L.) Iscador(R) interact with the cell cycle machinery and target survival mechanisms in cancer cells. Medicina (Buenos Aires) 67(Suppl.II): 79-84. (Reporting wide-ranging studies on the mode of action of *V. album* extracts.)

Ramamurthy, V.V. 2007. Faunistic, ecological, biogeographical and phylogenetic aspects of Coleoptera as gall-inducers and associates in plant galls in the Orient and eastern Palearctic. In: Raman, A. and Gupta, V.K. (eds) Oriental Insects 41: 93-119. (Including consideration of *Smicronyx albovariegatus* as a potential biocontrol agent for *Striga* spp.)

Rao, M.D. 2007. Seed coat micro sculpturing of weed species of Scrophulariaceae. Advances in Plant Sciences 20(1): 299-303. (The sculpturing of seeds of *Bacopa monnieri, Striga angustifolia, Sopubia delphinifolia* and *Stemodia viscosa* are described and a key devised based on these characters.)

Rao, M.N., Ganeshaiah, K.N. and Shaanker, R.U. 2007. Assessing threats and mapping sandal resources to identify genetic 'hot-spot' for in-situ conservation in peninsular India. Conservation Genetics 8: 925-935. (Allozyme markers were used to study the genetic diversity of 19 populations of *Santalum* in peninsular India. Genetic diversity was greatest in the Deccan Plateau.)

Ravi Marigoudra, Sanjeev Kyatappanavar, Ramesh Rathod and Krishna, A. 2004. Vegetation studies in Bairumbe in Uttara Kannada District. Karnataka Journal of Agricultural Sciences 17: 878-880. (In a *Terminalia* forest *Santalum album* was abundant as saplings and had a high Importance Value Index.)

Rawat, P.S., Suresh Chandra and Anil Khaneja 2007. Mortality of *Pinus wallichiana* by dwarf mistletoe in Uttarkashi. Indian Forester 133: 937-944. (Recording 70% occurrence of *Arceuthobium minutissimum* in a blue pine forest in Uttar Pradwesh, India, causing 15% mortality.)

Rice, A.V., Thormann, M.N. and Langor, D.W. 2007. Mountain pine beetle associated blue-stain fungi cause lesions on jack pine, lodgepole pine, and lodgepole x jack pine hybrids in Alberta. Canadian Journal of Botany 85: 307-315. (Concluding that infection of lodgepole x jack pine hybrid by *Arceuthobium* sp. does not influence its susceptibility to the fungal pathogens associated with mountain pine beetles, *Dendroctonus ponderosae*.)

Richardson, B.A., Zambino, P.J., Klopfenstein, N.B., McDonald, G.I. and Carris, L.M. 2007. Assessing host specialization among aecial and telial hosts of the white pine blister rust fungus, *Cronartium ribicola*. Canadian Journal of Botany 85: 299-306. (Reporting and discussing the discovery that *Pedicularis racemosa* acts as an alternative, telial, host to the white-pine blister rust fungus, *Cronartium ribicola*.)

Rietman, L.M., Shamoun, S.F. and van der Kamp, B.J. 2006. Development of a biological control strategy to mitigate hemlock dwarf mistletoe in silviculture systems: *Neonectria neomacrospora* hemlock dwarf mistletoe pathosystem. BC Journal of Ecosystems and Management 7(1): 30-35. (Non-clearcutting forestry practices are expected to result in increased infestation of western hemlock by *Arceuthobium tsugense*. Trials with a potential inundative biocontrol organisim *Neonectria neomacrospora* showed 38% reduction in healthy shoots of the parasite.)

Robiul Islam, Alam, A.H.M.K., Rahman, B.M., Salam, K.A., Aslam Hossain, Abdullahil Baki and Golam Sadik 2007. Toxicological studies of two compounds isolated from *Loranthus globosus* Roxb. Pakistan Journal of Biological Sciences 10: 2073-2077. (A study suggesting that 3,4-dimethoxycinnamyl alcohol and 3,4,5-trimethoxycinnamyl alcohol, isolated from *L. globosus* (= *Macrosolen cochinchinensis*) are sufficiently non-toxic in rats to be used safely for clinical trial.)

Rodríguez-Cabal, M.A., Aizen, M.A. and Novaro, A.J. 2007. Habitat fragmentation disrupts a plant-disperser mutualism in the temperate forest of South America. Biological Conservation 139(1/2): 195-202. (Confirming that fragmentation of forest and consequent reduction in abundance of *Dromiciops gliroides* can result in reduction or even extinction of the mistletoe *Tristerix corymbosus*, whose dispersal depends on that endemic marsupial.)

Román, B., Satovic, Z., Alfaro, C., Moreno, M.T., Kharrat, M., Pérez-de-Luque, A. and Rubiales, D. 2007. Host differentiation in *Orobanche foetida* Poir. Flora (Jena) 202: 201-208. (Study of RAPD markers confirmed a distinction between populations of *O. foetida* parasitising chickpea and faba bean. There was a corresponding difference in germination of seeds on the respective hosts.)

Rümer, S., Cameron, D.D., Wacker, R., Hartung, W. and Jiang Fan 2007. An anatomical study of the haustoria of *Rhinanthus minor* attached to roots of different hosts. Flora (Jena) 202: 194-200. (The reactions in root tissue of different hosts to penetration by *R. minor* varied from very mild in Fabaceae, to strong lignification in Poaceae, suberisation in *Leucanthemum vulgare* and complete localised cell destruction in *Plantago lanceolata*.)

Sandquist, D.R. and Cordell, S. 2007. Functional diversity of carbon-gain, water-use, and leaf-allocation traits in trees of a threatened lowland dry forest in Hawaii. American Journal of Botany 94: 1459-1469. (Species studied included *Santalum paniculatum*.)

Sanilkumar, M.G. and Thomas, K.J. 2007. Fringe plants of Muriyad wetlands (part of Vembanad-Kol Ramsar site) and its economic importance. Journal of Economic and Taxonomic Botany 31(1): 123-132. (Noting that the fringe areas of Muriyad wetlands support the threatened medicinal plant *Santalum album.*)

Scheer, R., Alban, S., Becker, H., Holzgrabe, U., Kemper, F.H., Kreis, W., Matthes, H. and Schilcher, H. (eds) 2007. 4th Mistletoe Symposium, Mistletoe in Tumour Therapy. Basic Research and Clinical Practice, Nonnweiler-Otzenhauzen, Germany, 8-10 November 2007. Phytomedicine 14 (Suppl VII): 56 pp. (Including 49 abstracts of oral and poster presentations dealing with aspects of biology, pharmacy and pharmacology of *Viscum album* preparations.)

Schmalholz, M. and Kiviniemi, K. 2007. Relationship between abundance and fecundity in the endangered grassland annual *Euphrasia rostkoviana* ssp. *fennica*. Annales Botanici Fennici 44(3): 194-203. (Noting an Allee effect, i.e. a reduced fecundity in small and sparse populations, of this already declining species.)

Schneeweiss, G.M. 2007. Correlated evolution of life history and host range in the nonphotosynthetic parasitic flowering plants *Orobanche* and *Phelipanche* (Orobanchaceae). Journal of Evolutionary Biology 20: 471-478. (Studies support the hypothesis that narrow host specialization is associated with predictable resources (i.e. long-lived hosts) and a wide host range with unpredictable (i.e. short-lived) hosts.)

Schoenbeck, M.A., Swanson, G.A. and Brommer, S.J. 2007. β-Glucuronidase activity in seedlings of the parasitic angiosperm *Cuscuta pentagona*: developmental impact of the β-glucuronidase inhibitor saccharic acid 1,4-lactone. Functional Plant Biology 34: 811-821. (Results suggest a role for β-glucuronidase in the early stages of development of *C. pentagona*.)

Seifert, G., Tautz, C., Seeger, K., Henze, G. and Laengler, A. 2007. Therapeutic use of mistletoe for CD30+ cutaneous lymphoproliferative disorder/lymphomatoid papulosis. Journal of the European Academy of Dermatology and Venereology 21: 558-560. (Use of 'Abnoba', an extract of *Viscum fraxini*, gave favourable results in an individual 8-year old boy.)

Shah, G.M. and Khan, M.A. 2006. Checklist of noxious weeds of district Mansehra, Pakistan. Pakistan Journal of Weed Science Research 12: 213-219. (Among 63 species recorded, *Viscum album* damages walnut trees, *Cuscuta reflexa* occurs on a wide range of trees and shrubs, while *Orobanche cernua* attacks tobacco.)

Shaikh, A.R. 2006. Weed management in rainfed fruit crops. In: Sontakke, M.B. (ed.) Production and management of rainfed fruit crops, 2006: 262-267. (Reviewing the biology and control of *Loranthus* spp. and *Cuscuta* in rainfed fruit crops in India.)

Shang ZhiQiang and Zhang XiuGuo 2007. Taxonomic studies of *Pseudospiropes* from Yunnan, China. Mycotaxon 100: 149-153. (Describing 2 new species of *Pseudospiropes*, including *Pseudospiropes ximeniae* saprophytic on dead branches of *Ximenia* spp.)

Shankaranarayana, K.H., Ravikumar, G., Rajeevalochan, A.N. and Angadi, V.G. 2005. Fragrant oils from exhausted sandalwood powder and sandal sapwood. Journal of Scientific & Industrial Research 64: 965.

Sharma, R.K., Bahukhandi, D. and Agarwal, D.K. 2007. Biological management of *Orobanche* with *Fusarium oxysporum* - a new record from India. Indian Phytopathology 60: 275-276. (Recording the natural occurrence of *F. oxysporum* on *O. ramosa* in rapeseed mustard, seriously damaging the parasite and providing healthier crop in the patches affected.)

Shen Hao, Hong Lan, Ye WanHui, Cao HongLin and Wang ZhangMing 2007. The influence of the holoparasitic plant *Cuscuta campestris* on the growth and photosynthesis of its host *Mikania micrantha*. Journal of Experimental Botany 58: 2929-2937. (A detailed analysis of the influence of *C. campestris* on various growth parameters of *M. micrantha* which was almost completely killed by the parasite after 70 days infection.)

Showemimo, F. A. and Kimbeng, C.A. 2005. Genetic studies of sorghum cultivars under *Striga* infestation in Northern Guinea Savannah of Nigeria. Agricultura Tropica et Subtropica 38(2): 91-95. (Noting KSV-4 and SK-5912 to be least affected by *S. hermonthica*, with resistance dominant over susceptibility.)

Sillero, J.C., Cubero, J.I., Fernández-Aparicio, M. and Rubiales, D. 2005. Search for resistance to crenate broomrape (*Orobanche crenata*) in *Lathyrus*. Lathyrus Lathyrism Newsletter 4: 7-9. (Among 11 *Lathyrus* species tested, *L clymenum* and *L. ochrus* showed high levels of resistance to *O. crenata*. *L. choranthus* allowed tubercle development but no emergence. All other species including *L. annuus* and *L. aphaca* were susceptible.)

Singh, N.K. 2007. Ethno botanical studies on indigenous medicinal flora of Terai Belt of U.P. International Journal of Forest Usufructs Management 8(1): 29-34. (Noting the use of *Cuscuta reflexa* as a medicinal plant.)

Singh, S.P., Sachin Gupta and Jain, V.K. 2006. Studies on carving quality of some Indian timbers. Indian

Forester 132: 1019-1023. (Reviewing the carving quality of 11 hardwood species as alternatives for the use of *Santalum album*.)

Školek, J. 2006. The association *Festucetum tatrae* Szafer, Pawlowski et Kulczyński 1923 corr. 1927 in the Western Carpathians. Thaiszia - Journal of Botany 16(2): 121-130. (Describing variants of the *Festucetum tatrae* association, including one with *Thesium alpinum* in the Lower Tatra Mountains.)

Smith, A., Sethy, M., Viji, I. and Robson, K. 2005. Spring field plantings of *Santalum austrocaledonicum* (sandalwood). Bush Nius 2005(24): 7-10. (Detailing the establishment of *Santalum austrocaledonicum* seed stands in Espiritu Santo, Vanuatu.)

Soberón, J.R., Sgariglia, M.A., Sampietro, D.A., Quiroga, E.N. and Vattuone, M.A. 2007. Antibacterial activity of plant extracts from northwestern Argentina. Journal of Applied Microbiology 102: 1450-1461. (Concluding that certain types of extract of *Tripodanthus acutifolius* (Loranthaceae) used in folk medicine in Argentina have antibacterial activity, partially attributable to glycoflavonoids.)

Solymosi, P. 2007. (Selected publications of Hungarian weed research from history of latter sixty years (1945-2000)) (in Hungarian) Növényvédelem 43(3):151-164. (A short summary including reference to work on parasitic weeds.)

Song SeongKyu, Moldoveanu, Z., Nguyen, H.H., Kim EuiHo, Choi KwanYong, Kim JongBae and Mestecky, J. 2007. Intranasal immunization with influenza virus and Korean mistletoe lectin C (KML-C) induces heterosubtypic immunity in mice. Vaccine 25: 6359-6366. (Suggesting that lectin from *Viscum album* ssp. *coloratum* could be a useful adjuvant to inactivated influenza virus (H1N1).)

Soriano, I., Bernal, M. and Sánchez-Cuxart, A. 2006. (A new subspecies of *Pedicularis pyrenaica* J. Gay (Scrophulariaceae) in Central Pyrenees.) (in Spanish) Acta Botanica Barcinonensia 50: 435-439. (*P. pyrenaica* ssp. *praetermissa* is described, differing in the fusiform, attenuated shape of the upper lip, and larger size of the corolla.)

Spafford, H., Jardine, A., Carver, S., Tarala, K., van Wees, M. and Weinstein, P. 2007. Laboratory determination of efficacy of a *Santalum spicatum* extract for mosquito control. Journal of the American Mosquito Control Association 23: 304-311. (QN50, a sesquiterpene alcohol from *S. spicatum* provided some control of mosquito larvae but also killed *Daphnia*, as did methoprene.)

Standen, M.D., Connellan, P.A. and Leach, D.N. 2006. Natural killer cell activity and lymphocyte activation: investigating the effects of a selection of essential oils and components *in vitro*. International Journal of Aromatherapy 16: 133-139. (Oil from *Santalum spicatum* gave negative results in tests for immunomodulating effects on natural killer cell activity (NKCA) and lymphocyte activation through CD69 expression.)

Stankevičiūtė, J. 2006. The succession of sand vegetation at the Lithuanian seacoast. Botanica Lithuanica12(3): 139-156. (Listing *Melampyrum nemorosum* among successional species characteristic of forest communities.)

Subramani, S. P., Vaneet Jishtu, Verma, R.K. and Kapoor, K.S. 2007. Floristic composition, life-forms and biological spectrum of Renuka Wildlife Sanctuary, Himachal Pradesh. Indian Forester 133(1): 79-92. (Among 395 species identified ,4 were parasitic (unspecified in abstract).)

Sudarkina, O.J., Kurmanova, A.G. and Kozlov, J.V. 2007. Production and characterization of the B chains of mistletoe toxic lectins. Molecular Biology (New York) 41: 601-608.

Suffredini, I.B., Paciencia, M.L.B., Frana, S.A., Varella, A.D. and Younes, R.N. *In vitro* breast cancer cell lethality of Brazilian plant extracts. Pharmazie 62:798-800. (Among 1220 extracts from 351 plant spedcies, one from a species in Olacaceae was among only 11 showing cytotoxicity against MCF-7 human breast adenocarcinoma cell lines.)

Sumit Chaturvedi, Dhyani, V.C., Singh, A.P., Rajeev Kumar, Gurvinder Singh and Mishra, D.S. 2007. Biological control of weeds. In: Ahamad, S. and Narain, U. Ecofriendly management of plant diseases, pp. 428-451. (Including reference to parasitic weeds.)

Sun BuGong, Long RuiJun and Wang ChangTing 2007. A study on the plant population phenology in a Qinhai-Tibet plateau *Kobresia pygmaea* meadow. Acta Prataculturae Sinica 16(3): 128-131. (Including *Pedicularis kansuensis* among the 26 species studied.)

Šutiak, V. **,** Šutiaková, I. **,** Čellárová, E. **,** Droppová, L. **,** Kania, B.F. 2007. Use of *Matricaria recutita*, *Viscum album* and other plants in the University of Veterinary Medicine teaching programs. In: Salamon, I. (ed.) Acta Horticulturae 749: 275-282. (Noting that *Viscum* contains choline, amino acids, flavonoids, triterpenes, viscotoxin, histamine and other natural products exhibiting efficacy in the gastrointestinal tract, brain, heart, and blood.) Slovakia

Taira, C., Wagner, M. and Gurni, A. 2004. Pharmacological and cardiovascular aspects of *Ligaria cuneifolia* infusions. Pharmaceutical

Biology 42: 234-239. (Extracts of *L. cuneifolia* (Loranthaceae), known as Argentine mistletoe, are used traditionally to reduce blood pressure, but studies show this only occurs after initially raising it. The treatment is thus risky.)

Tan DeYuan, Guo QuanShui, Liu YuJun, Ma Chao and Wang XiangFu 2007. The physiological metabolism reaction of *Haloxylon* paratized by *Cistanche deserticola*. Forest Research, Beijing 20: 495-499. (In *Haloxylon* parasitisized by *C. deserticola*, chlorophyll and relative water contents were decreased and proline and malondialdehyde contents increased.)

Tang Ya, Xie JiaSui and Sun Hui 2007. Pollination ecology of *Pedicularis muscoides* H. L. Li subsp. *himalayca* Yamazaki from alpine areas of Western Sichuan, China. Arctic, Antarctic, and Alpine Research 39: 481-487. (Pollination of the depauperate *P. muscoides* was exclusively by queens of four bumblebee species, especially *Bombus friseanus* working at ground level. Results suggest coadaptation between *Pedicularis* and bumblebee pollinators.)

Tang Ya, Xie JiaSui and Sun Hui 2007. The pollination ecology of *Pedicularis rex* subsp. *lipkyana* and *P. rex* subsp. *rex* (Orobanchaceae) from Sichuan, southwestern China. Flora (Jena) 202: 209-217. (Reporting the mechanisms by which flowers of *P. rex* are pollinated by bumblebees.)

Tang YiMei, Li ZhongJin, Wang ShiXiang, Liu AiFang, Zheng JianBin and Zheng XiaoHui 2007. Influence of *Santalum album* on the pharmacokinetics of *Radix Salvia miltiorrhizae*. Journal of China Pharmaceutical University 38(2): 149-152.

Tennakoon, K. U., J. F. Bolin, L. J. Musselman, and E. Maass. 2007. Structural attributes of the hypogeous holoparasite *Hydnora triceps* Drège & Meyer (Hydnoraceae). American Journal of Botany 94(9): 1439-1449. (Showing that the underground structures are anatomically roots and that the distinctive "bumps" that can form haustoria arise exogenously. The photo featured on the cover of this issue of the journal won first prize for Jay Bolin in a national competition.)

Tran Dang Khanh, Luong Chi Cong, Tran Dang Xuan, Sun Joo Lee, Dong Soo Kong, and Ill Min Chung 2008. Weed-suppressing potential of dodder (*Cuscuta hygrophilae*) and its phytotoxic constituents. Weed Science, 56(1):119-127. (Dried, ground material of *C. hygrophilae* from a mountainous area of N. Vietnam (host not noted) had allelopathic effects on weeds when incorporated into soil at 0.5-2 t/ha, apparently due to especially high levels of cinnamic acid (37 mg/g). methyl cinnamate, myristic acid and dihydro-5,6-dehydrokavain may also have contributed.)

Tusenius, K.J., Spoek, A.M. and van Hattum, J. 2005. Exploratory study on the effects of treatment with two mistletoe preparations on chronic hepatitis C: biochemical and quality of life improvement. Arzneimittel Forschung 55: 749-753. (Noting favourable results with *Viscum* extracts Iscador or Abnoba comparable to glycyrrhicin, and having the advantage of easy administration and low cost.)

Uddin, S. J., Shilpi, J.A., Middleton, M., Byres, M., Shoeb, M., Nahar, L. and Sarker, S.D. 2007. Swarnalin and *cis*-swarnalin, two new tetrahydrofuran derivatives with free radical scavenging activity, from the aerial parts of *Cuscuta reflexa*. Natural Product Research 21: 663-668. (A mixture of the two new derivatives was shown to have scavenging activity about one order lower than the reference control quercetin.)

Uematsu, K., Nakajima, M., Yamaguchi, I., Yoneyama, K. and Fukui, Y. 2007. Role of cAMP in gibberellin promotion of seed germination in *Orobanche minor* Smith. Journal of Plant Growth Regulation 26: 245-254. (Adenosine 3',5'-cyclic monophosphate (cAMP) is shown to accumulate during conditioning of *O. minor* seed and to act in conjunction with gibberelllin in germination.)

Umucalilar, H. D. , Gülsen, N. , Coskun, B. , Hayırlı, A. and Dural, H. 2007. Nutrient composition of mistletoe (*Viscum album)* and its nutritive value for ruminant animals. Agroforestry Systems 71(2): 77-87. (*V. album* ssp. *album* from almond plum and willow was analysed and fed to cows. In general it was low in protein, moderate in fibre, and high in minerals.)

USDA 2007. Botany. Alert! Invasive Species Report. Los Angeles, California Volume 3 Issue 7 July 2007: 2-6. (Recording the interception of *Cassytha filiformis* hitching a ride on *Perssonia* (Proteaceae) being imported from Australia.)

van Mourik, T.A. 2007. *Striga hermonthica* seed bank dynamics: process quantification and modelling. Tropical Resource Management Papers 92: 123 pp. (Results of a PhD study quantifying recruitment, survival to maturity, and fecundity of *S. hermonthica* in the field in sorghum in Mali and in pearl millet in Niger, as affected by intercropping. A model was devised, suggesting that intercropping with a trap crop could be more effective in reducing *Striga* seed bank than rotation with a trap crop.)

Veldkamp, J.F. 2007. Some notes on the cultivation of *Rafflesia*. Flora Malesiana Bulletin 14(1/2): 50-53. (Reviewing the possibilities for cultivating *Rafflesia* spp. in botanic gardens.)

Vipan Guleria. 2006. *Santalum album* Linn. in Himachal Pradesh: to optimize media and polybag size for raising containerized seedlings. Indian Forester 132: 894-898. (Concluding that the optimum conditions for *S. album* in this area included 6" x 9" polybags and a growing medium containing 1:1:2 ratio of soil:sand:FYM.)

Voronkova, N.M. 2007. Effects of cryoconservation on the viability of the seeds and fruits of some species in the Moneron Island (Sakhalin Region). Rastitel'nye Resursy 43(3): 34-41. (Germination of *Pedicularis schistostegia* was not significantly affected by cryopreservation.)

Vurro, M. and Boari, A. 2006. Natural compounds for novel strategies of parasitic plant management. In: Rimando, A.M. and Duke, S.O. (eds) Natural products for pest management, 226th ACS National Meeting, Anaheim, California, USA, 28 March-1 April 2004: 76-87. (Reviewing the potential of fungal metabolites as germination stimulants or mycoherbicides for parasitic weeds.)

Wagschal, I., Eggenschwiler, J., von Balthazar, L., Patrignani, A., Rehrauer, H., Schlapbach, R., Ramos F.M.H. and Viviani, A. 2007. Gene expression signatures of pathway alterations in tumor cells caused by plant extracts. Medicina (Buenos Aires) 67(Suppl.II): 97-106. (Studies related to those of Eggenschwiler *et al.* – see above)

Wang Hu, Li WenWei, Cai DingFang and Yang Ru 2007. Protecting effect of *Cistanche* extracts on MPP^+-induced injury of the Parkinson's disease cell model. Journal of Chinese Integrative Medicine 5: 407-411. (Pretreatment with *Cistanche* extracts have a protective effect on the MPP^+-treated SH-SY5Y cell line, and its down-regulation of GADD153 may contribute to the effect.)

Ward, D., Shrestha, M.K. and Musli, I. 2006. Are invasive mistletoes killing *Ziziphus spina-christi?* Israel Journal of Plant Sciences 54(2): 113-117. (Concluding that the mistletoe *Plicosepalus acaciae* has a significant negative impact on *Z. spina-christi* and that control of its disperser, the yellow-vented bulbul (*Pycnonotus xanthopygos*) is the most effective means of limiting this problem.)

Westbury, D.B. and Dunnett, N.P. 2007. The creation of species-rich grassland on an urban substrate. In: Britt, C., Cherrill, A., le Duc, M., Marrs, R., Pywell, R., Sparks, T. and Willoughby, I. (eds) Aspects of Applied Biology 82: 123-130. (Describing the establishment of vegetation on an urban brick-waste substrate using a meadow mix with and without *Rhinanthus minor* or graminicide.)

Westwood, J.H. 2006. Engineering natural products for crop resistance to parasitic weeds. In: Rimando, A.M. and Duke, S.O. (eds) Natural products for pest management, 226th ACS National Meeting, Anaheim, California, USA, 28 March-1 April 2004: 220-232. (Reporting enhanced resistance to *Orobanche aegyptiaca* in transgenic tobacco expressing the natural peptide sarcotoxin 1A derived from the flesh fly *Sarcophaga peregrine*.)

Winkler, E. and Heinken, T. 2007. Spread of an ant-dispersed annual herb: an individual-based simulation study on population development of *Melampyrum pratense* L. Ecological Modelling 203: 424-438. (Describing the development of a model for the spread of *M. pratense* in a forest habitat in NE Germany and concluding that dispersal of seeds by ants over distances of 1-2 m was indispensable for explaining the observed population spread.)

Xie XiaoNan, Kusumoto, D., Takeuchi, Y., Yoneyama, K., Yamada, Y. and Yoneyama, K. 2007. 2'-Epi-orobanchol and solanacol, two unique strigolactones, germination stimulants for root parasitic weeds, produced by tobacco. Journal of Agricultural and Food Chemistry 55: 8067-8072. (Identifying 5 stimulants produced by tobacco of which the major was a new tetradehydrostrigol isomer, named solanacol.)

Ye Guan, Peng Hua, Fan MingSong and Huang ChengGang 2007. Ellagic acid derivatives from the stem bark of *Dipentodon sinicus*. Chemistry of Natural Compounds 43(2): 125-127. (Describing a number of new ellagic acid derivatives from *D. sinicus* (Santalales).)

Yeo SangGeon 2006. Toxicity of lectin extracted from Korean mistletoe (*Viscum album coloratum*) in chicks and its immunoadjuvant activity on Newcastle disease virus vaccines. Korean Journal of Veterinary Research 46: 215-224.

Yeo SangGeon 2006. Toxicity of lectin extracted from Korean mistletoe (*Viscum album coloratum*) in piglets and its effects on the immunogenicity of Aujeszky's disease virus vaccines. Korean Journal of Veterinary Research 46: 225-234.

Yoneyama, K., Sato, D., Takeuchi, Y., Sekimoto, H., Yokota, T. and Sassa, T. 2006. Search for germination stimulants and inhibitors for root parasitic weeds. In: Rimando, A.M. and Duke, S.O. (eds) Natural products for pest management, 226th ACS National Meeting, Anaheim, California, USA, 28 March-1 April 2004: 88-98. (Reviewing the structure- activity relationships of strigolactones and other natural germination stimulants, including the fungal metabolites cotylenins and fuscicoccins, and the plant hormone jasmonate and its analogues.)

Zermane, N., Souissi, T., Kroschel, J. and Sikora, R. 2007. Biocontrol of broomrape (*Orobanche crenata* Forsk. and *Orobanche foetida* Poir.) by *Pseudomonas fluorescens* isolate Bf7-9 from the faba bean rhizosphere. Biocontrol Science and Technology 17: 483-497. (Among 337 bacterial samples isolated from *Orobanche* plants and from faba bean rhizosphere, strain Bf7-9 of *Pseudomonas fluorescens* showed high biocontrol activity against both *O. crenata* and *O. foetida*, and positively influenced faba bean growth. *P. marginalis* strain Nc1-2 also reduced *O. crenata*.)

Zhang Lan, Zhu ZhiQiang, Niu XiWu, Cao ChangFeng, Yao Qi and Pan ChunYu 2006. The effects of Traditional Chinese Medicine on the serum level of endothelin and nitric oxide in rats with diabetes. Chinese Journal of Information on Traditional Chinese Medicine 13(10): 30-31. (Recording significant effects from a herbal concoction including seeds of *Cuscuta chinensis*.) **(N.B. over 20 other papers in the same journal, not listed here, report results with various proprietary products, each containing 4 to 16 ingredients which included *Cuscuta chinensis* seeds, and/or in some cases *Cistanche deserticola, Scurrula parasitica, Santalum album* or *Cynomorium songaricum*, for treatment of a wide range of problems including diabetes, chronic obstructive pulmonary disease, infertility in women, vascular dementia, chronic aplastic anaemia, and cancer, generally with some beneficial effect.)**

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