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PRESIDENT’S MESSAGE

Dear IPPS Members,

May the year 2013 be happy and fruitful.

As mentioned in the last issue of Haustorium, our next World Congress on Parasitic Plants (WCPP) will be held from July 15-19 in Sheffield, UK. We are sorry for the delay in opening of the special conference website which will soon be available. (You will informed directly as soon as it is available – Ed.)

We will have seven sessions (session titles & session organizers), 1. Genomics (John Yoder, Jim Westwood), 2. Biology and Biochemistry (Philippe Delavault, Philippe Simier), 3. Host-Parasite Communication (Koichi Yoneyama, Maurizio Vurro), 4. Ecology and Population Biology (Yaakov Goldwasser, JonneRodenburg), 5. Control and Management (Diego Rubiales, Joseph Hershon), 6. Crop Resistance and Tolerance (Julie Scholes, Michael Timko), 7. Environmental factors, modeling and mapping (Ahmed Uludag, Hanan Eizenburg), and an IPPS-COST (STRigolactones Enhanced Agricultural Methodologies, STREAM) symposium (Hinanit Koltai, Cristina Prandy). Please prepare for the Congress to share your recent findings on parasitic plants with many colleagues and friends.

During a year and a half after the 11th WCPP in Italy, we have witnessed breakthroughs in parasitic plant sciences. Among them, for example, practical transgenic techniques of root parasitic plants have been developed, and the major pathways in strigolactone biosynthesis have been unveiled. These have convinced me that our current schedule to have WCPP every other year is appropriate to catch up with this rapid progress.

In addition to these rapid advances in basic sciences, we also need to pay great attention to applied sciences because farmers have been waiting eagerly for innovation in practical control measures for parasitic weeds.

In Japan, clover broomrape (Orobanche minor) was first reported in 1937 in Chiba Prefecture near Tokyo. Since then it has spread rapidly and now it occurs in Kyoto. Ten years ago, we went to Watarase River bank to collect sunflower seeds but now we can find it easily in our city. In addition, dodgers (Cuscuta spp.) are now causing noticeable crop damage in Japan. So we are afraid that in the near future these parasitic weeds may become noxious weeds in Japan.

Of course, parasitic plants are unique and important contributors to biodiversity. We need to evaluate not only negative effects but also positive effects of parasitic plants on natural and agricultural ecosystems.

Looking forward to meeting many IPPS members at the next WCPP in Sheffield in July.

Sincerely,

Koichi Yoneyama, IPPS President
yoneyama@cc.utsunomiya-u.ac.jp

SEASONAL GREETINGS TO ALL

With thanks to Dietmar Fennel for this montage, prepared for the exhibition entitled “The Bird World of the Mistletoe, in the Stadtmuseum, Schwabach, Germany http://www.schwabach.de/stadtmuseum/

ALECTRA VOGELII ON SUNFLOWER IN TANZANIA

Alectra vogelii Benth. is widely distributed as a parasite of legume crops in the dry savannahs of sub-Saharan Africa. The species is found on a number of legume hosts, most commonly in cowpea and locally as a significant problem in groundnut and soyabean. Earlier this year when travelling in Singida Rural District of central Tanzania we noticed plants of an Alectra species in many sunflower fields in Minko ward. Sunflower has become an important cash crop in central Tanzania expanding to meet the demands from oil extraction plants built in the area. While at first glance specimens looked typical for A. vogelii we noticed that all plants in the area collected from sunflower, cowpea and occasionally soya have densely hairy or so called “bearded” anther filaments. Current taxonomic treatments of Alectra (see Flora Zambesiaca: vol 8 part 2 (1990) Scrophulariaceae by D. Philcox) place A. vogelii with A. picta (Hiern) Hemsl. as two species with non-apicaluate
anther thecae. *A. picta* was maintained as a separate species by virtue of bearded filaments and plants were described as being ‘floriferous in the upper part of the stem, not generally throughout’. All our specimens from Singida are floriferous throughout but with densely bearded filaments so could be assigned to *A. picta*. Dr Iain Darbyshire kindly compared these Tanzania plants to other specimens in the Royal Botanic Gardens, Kew Herbarium and confirmed they are broadly similar to those previously identified as *A. picta*. The first author has previously collected *A. picta* type plants in Eastern Malawi growing in the same row of groundnuts as typical *A. vogelii* with glabrous filaments. In view of morphological similarities and similar responses to legume hosts in pot trials, Parker and Riches (1993 – Parasitic Weeds of the World: Biology and Control, Wallingford, UK, CAB International) raised doubt that *A. picta* and *A. vogelii* are distinct species. Subsequently Jeffery Morawetz in a revision of *Alectra* synonymised the two species as *A. vogelii* (Morawetz, J. 2007. Systematics of *Alectra* (Orobanchaceae) and phylogenetic relationships among the tropical clade of Orobanchaceae. PhD Thesis Ohio State University). Based on the above it seems likely that the *Alectra* in Singida is indeed *A. vogelii*.

As far as we are aware the extent of infestation of sunflower in Tanzania and beyond by *A. vogelii* is largely unknown. The second author has observed infested fields in Ismani ward of Iringa District where sunflower has also become a cash crop. Johann Visser listed an occurrence of *A. vogelii* on the crop at Ventersdorp in South Africa many years ago (Visser, J.H. 1978 The Biology of *Alectra vogelii* Benth., An Angiospermous Root Parasite. Beiträge zur Chemischen Kommunikation in Bio- und Ökosystemen, Witzenhausen pp. 279-294). In Singida farmers plant sunflower in rotation with maize or sorghum and rarely apply fertilizer. They report steadily declining yields. The effect of the parasite on sunflower is, however, uncertain although in Singidawe observed that some infested plants were stunted with small heads compared to non-infested ones.

Charlie Riches (Natural Resources Institute, University of Greenwich UK, charlie@riches27.freeserve.co.uk) Ambonesigwe Mbwaga (Uyole Agricultural Research Institute, Mbeya, Tanzania, ambwaga@gmail.com)

**PRESS RELEASES**

Decades old weed seeds trigger new plant parasite outbreak

In the early 1980s, a devastating parasitic weed was found in a tomato field in California. The infestation of branched broomrape (*Orobanche ramosa*) was treated aggressively and the field was quarantined to prevent further spread. When tomatoes were planted in the same spot more than two decades later, though, the branched broomrape quickly returned. According to Lee Van Wychen, Ph.D., science policy director of the Weed Science Society of America, the recurrence is not a surprise. ‘When weed seeds drop to the soil, some can remain viable for many decades,’ Van Wychen says. ‘Effective control requires a long-term commitment.’

There are a number of alternatives available to manage noxious weed seeds that become part of the soil seed bank. One is to quarantine the area and leave the seeds undisturbed until they are no longer viable. But as the broomrape example shows, the length of time the area will need to be quarantined is an unknown. In some instances, the soil is fumigated in an attempt to destroy noxious weed seeds. In other instances, the soil is lightly tilled and a nitrogen fertilizer applied to promote germination and encourage the seeds to sprout. Once they’ve emerged, the weeds are pulled, tilled or treated with an herbicide to keep them from reseeding. ‘None of these options are a magic bullet that will work overnight or kill 100 percent of the weed seeds each and every time,’ Van Wychen said. ‘Persistence is the key.’

Branched broomrape is a prolific seed producer, which significantly compounds efforts to control it. A single plant
can produce 50,000 or more tiny seeds that are easily spread by people, animals, farm machinery, wind and water. When the weed seeds germinate, they attach to the roots of host plants and drain them of water and nutrients – devastating tomatoes, potatoes, peppers, beans and other important crops that branched broomrape prefers.

As a result, California officials quickly sprang into action when the most recent outbreak of branched broomrape was discovered. The San Benito Agricultural Commissioner took the lead in a multifaceted response – quarantining the site again and pulling in state and federal experts and university personnel to lend their expertise. The California Department of Food and Agriculture has been involved, as well as the USDA’s Animal and Plant Health Inspection Service (APHIS). It was a pretty serious infestation,’ said Richard Smith, farm advisor with the University of California Cooperative Extension. ‘We collected big garbage bags of branched broomrape from the 70-acre plot where it was discovered. And when we mapped the site, it overlapped almost precisely with the 1980s outbreak.’ Smith says officials are still evaluating soil fumigation and other potential alternatives for dealing with the long-lived seeds still hidden in the soil.

Branched broomrape has earned a well-deserved spot on the federal noxious weed list. It has been found in several U.S. states to date, including California, Illinois, Kentucky, New Jersey, North Carolina and Texas.

Weed Science Society of America | October 3, 2012

How to go about getting rid of mistletoe in Modesto

On Aug. 16, I authored a community column encouraging Modesto residents to take responsibility for pruning mistletoe from city-owned trees that shade their properties and increase their property values. I have since heard from several Modestans who say the city won't allow private citizens to interfere with the maintenance of city-owned trees.

I knew the city had an approved vendor list of companies that homeowners could hire to prune a city-owned tree affecting their property, but I didn't know the particulars, so I did some more research.

The city does in fact allow homeowners to provide maintenance to city-owned trees at the property owner's expense, if you don't want to wait the scheduled seven years for the Modesto Community Forestry Department's regular maintenance. Homeowners are allowed to contract through approved vendors who have applied for a permit to maintain city-owned trees. The process can differ depending on the service the homeowner wants performed. General tree pruning and removal of mistletoe, deadwood or stumps can be handled by directly hiring a vendor from the list; no prior approval or permits is required. For tree removal, you first must contact the Community Forestry Division and request tree removal. Once approved, you can contact a vendor from the approved provider list. Planting a new tree can be handled by an approved vendor, provided the tree being replanted is of the same species. If the homeowner wishes to replace a tree with an alternate species, the tree must be approved by city staff. Root cutting and pest infestations can only be handled by the Community Forestry Division.

I called several of the approved vendors to find out how much it costs to prune mistletoe from a city-owned tree. The cost can range from $150 to $750, depending on the size of the tree and the degree of mistletoe infestation, but the average seemed to be $200 to $350.

Janie Gatzman
columns@modbee.com Wednesday, Aug. 29, 2012

Mistletoe therapy may give cancer sufferers kiss of life

It normally only comes to public attention at Christmas time but mistletoe may have beneficial effects on some cancer patients in terms of life expectancy and quality of life.

Now a pilot study for a clinical trial is being planned at Aberdeen University with the aim of understanding what effect mistletoe has on immune cells in the blood of patients with cancer, and on the tumours themselves, after positive results were experienced by patients of a general practitioner in the city.

Those who say they have benefited from mistletoe treatment include former England international cricketer John Edrich who was diagnosed in 2000 with a rare form of incurable leukaemia. He was given a maximum of seven years, with treatment, to live, and underwent gruelling chemotherapy for five years. Then he learned about the mistletoe treatment, and began receiving twice-weekly injections. Mr Edrich, who lives in Aberdeenshire, said he had been advised to contact Dr Stefan Geider, a GP and qualified anthroposophic doctor, at Camphill Medical Practice in Aberdeen. The retired Test cricketer said: 'I've gradually got better and better and I've got to a stage where I'm doing everything. I'm probably better now than I have ever been. I'm 75 and I'm playing golf three times a week. 'I'm certain it has been down to the mistletoe. Otherwise, I'm sure I wouldn't be here today.'

Dr Geider said: 'I've had experience with the treatment within the context of a German university hospital and had witnessed a number of patients who showed a marked improvement with the treatment. I've used mistletoe therapy with patients here in Aberdeen for 16 years and have had similar successes. ' Typically you see an increase in energy levels, less pain, improved appetite, better sleep patterns...
and improved motivation. From my clinical experience, of seeing patients for mistletoe therapy on a regular basis, it becomes clear mistletoe, with some people — though not with all — has some impact on tumour reduction. ‘Mistletoe has in my experience been helpful to many of my patients, both in terms of quality of life and life expectancy, but it does not work for everybody. It should be stressed it is not a miraculous cure and we need to understand more fully how mistletoe works and why it does so for some people more than for others. Therefore we need the pilot study.’

The Mistletoe for Cancer UK website, which notes the plant has been used in cancer treatment for more than 90 years, says the introduction of the mistletoe extract from the whole plant into the body is designed to kickstart and re-educate the immune system, so it realises something is wrong and starts to fight back against the cancer.

Steve Heys, professor of surgical oncology at the university and a consultant surgeon, said: ‘A very high quality, detailed analysis reviewed all the studies of mistletoe and concluded that because of the methodological problems with these studies there is currently no evidence for an effect on survival. [But] this review also suggested there might be an effect of mistletoe on improving the quality of life in patients with breast cancer undergoing chemotherapy. Further studies are necessary to determine if there is an effect on improving quality of life in this situation. ‘Given the importance of complementary and alternative medicine to patients, there is an urgent need to understand what effects these agents have both in terms of their own effects and possible drug interactions so patients may have this information to facilitate them making an informed decision as to what is important for them.”

Russell Leadbetter
Herald Scotland 26 September 2012

Varsity researchers win war on Striga weed with hybrid maize varieties – Magazines.

The development of three hybrid maize varieties and one for finger millet by a don at Maseno University (near Kisumu, Kenya) could offer the solution to massive crop failure as a result of Striga weed. Led by Prof Mathews Dida, lecturers from the university have developed Maseno EH10, EH11 and EH14 maize varieties, which emit a natural chemical component that suppresses growth of Striga weed in a maize farm. ‘I know that my colleagues have developed sterling seeds before and I must admit that it is on some of these initiatives that I have improved mine, but what makes these particular seeds stand out is their ability to eliminate Striga weed in our shambas (farms),’ Prof Dida said.

According to the researcher, the agricultural sector suffers close to Sh6.7 billion in losses as a result of Striga weed infestation. Prof Dida said that tackling the weed and the need to address the perennial food security was the overriding goal of his research that began more than 10 years ago. ‘I was trying to solve some of these problems I see in farming. How can we keep importing food yet we have some of the best climatic conditions to be able to achieve self-sufficiency in food production?’ he posed.

When finally taken up together with other varieties already in supply, he said that the country would be able to feed the rest of the East African community bloc. The researchers also developed Maseno 60D, a code name of the finger millet seed, which they said is not only fast maturing but also suitable for regions that experience low rainfall. The initiative was partly funded by the National Council for Science and Technology that promotes research and innovation to the tune of Sh1.7 million. Prof Dida said that in terms of output, a farmer should expect at least 12 tonnes of produce per acre compared to the current situation where some farmers harvest as low as a tonne or less from same size of farm. He said that all requisite assessment by the Kenya Plant Health Inspectorate (Kephis), which ascertains suitability of newly developed seeds, points to their success.

Agriculture minister Sally Kosgei will launch the new seeds soon to pave the way for commercial exploitation. They are also on display at the Kisumu agricultural show, which opened on Wednesday. Prof Dida said that the new maize varieties mature between 20 and 50 days earlier than those already in the market. ‘They flower in 60 days and mature in 80 days. This represents a reduction from 125 to 80 days,’ he observed. Although the seeds may thrive in almost all parts of the country, the don said that during the research, they focused on lowlands and the Lake Victoria region and coastal parts of the country, which receive relatively scarce rainfall. A seed variety with such traits will be the first of a kind in East Africa. However, similar seeds have been developed for farmers in Nigeria and South Africa. It took Prof Dida two years to develop and evaluate the millet seeds before Kephis took over to conduct independent trials. The work on maize took a little longer since the researchers had to cross-pollinate different maize seeds to obtain the superior breeds out of the originals.

‘Developing new seed variety is referred to as plant breeding and demands for a lot of patience if anything good is to come out of it. Like this has taken 10 years to piece together,’ he said.

By Justus Wanga
Kenya Business Daily
July 23 2012.
ICIPE and AATF in new partnership to boost *Striga* control efforts in Kenya

The International Centre for Insect Physiology and Ecology (ICIPE) and AATF in March 2012 signed a Partnership Agreement under the Integrated *Striga* Management in Africa (ISMA) project that is supported by the Bill & Melinda Gates Foundation. The agreement will see AATF and ICIPE undertake a survey on *Striga* weed management technologies in Kenya. The *Striga* weed is a highly invasive parasitic weed that attacks cereal crops. The infestation of *Striga* causes between 20 percent and 100 percent grain yield loss in many fields in Western Kenya, affecting over 250,000 hectares. It is estimated that farmers lose 300,000 tonnes (3.3 million bags or US$ 132 million) of maize grain every year in the region.

For more information visit [http://www.aatf-africa.org/news/new_partnership_for_aatf_and_icipe/en/](http://www.aatf-africa.org/news/new_partnership_for_aatf_and_icipe/en/) or contact Gospel Omanya (g.omanya@aatf-africa.org)

From: AATF Partnerships Newsletter 09, Jan-Apr. 2012.

**A New EU COST Action – FA1206. Strigolactones: biological roles and applications**

Strigolactones (SLs) are newly discovered phytohormones that contribute to define plant morphology, also in response to environmental conditions, and to the dialogue with organisms in the rhizosphere. As a consequence, SLs have become a cutting-edge topic in plant biology and agronomy, having a great potential in modern agriculture. However, little is known about how they act, their biosynthesis and signaling pathways. Because of their both endogenous and exogenous role as signalling molecules, SLs are well placed to mediate both adaptive changes in the plant architecture and beneficial rhizosphere interactions. Even though SLs are a prime interest for many laboratories across disciplines, there are no official networks neither in Europe nor in the rest of the world on this subject. An outcome of an EU network on this subject would be sustaining and promoting the EU leadership in SLs-related sciences, the coordination of SLs research activities and a transfer of knowledge which may lead to the development of targeted and sustainable agro-technologies. The aim of this proposal is the creation of such multidisciplinary network of experts, of both basic and applied sciences, who can share expertise through the flexibility of the COST framework.

**PAST MEETING**


Papers presented included:

- Zachary Gaudin *et al.* – Nitrogen fluxes in the *Phelipanche ramosa*/*Brassica napus* interaction.
- Philippe Delavault *et al.* – *Phelipanche ramosa* seed germination in response to the strigolactone analog GR24.
- Thomas Peron *et al.* - The phloem network in the parasitic plant *Phelipanche ramosa*; carboxyfluorescein labelling and characterization of three sucrose transporters.
- Bathilde Auger *et al.* - Germination stimulants of *Phelipanche ramosa* in the rhizosphere of *Brassica napus* are derived from the glucosinolate pathway.

**FORTHCOMING MEETING**

The 12th World Congress on Parasitic Plants (WCPP) will be held on Monday July 15 to Friday July 19, 2013 in Sheffield, UK. The venue will be the Edge Conference facility at the University of Sheffield. Further details will be provided via the conference website which will be available soon. An e-mail will be sent to everyone who receives Haustorium once the website is available, around the end of January.

Some details appear in the President’s Message above.

**VIDEOS ON STRIGA**

A new NGO, Access Agriculture, has been initiated with inputs from three private media companies and financial support from the Swiss Agency for Development and Cooperation Access Agriculture functions as a global facilitator/broker for the production, translation and dissemination of agricultural training videos in developing countries. People are invited to submit their training videos. Guidelines for this are provided on the site ([www.accessagriculture.org](http://www.accessagriculture.org)).

Along with training videos on many other topics, the series of ten ‘Fighting Striga’ videos can be watched and downloaded for free, either as video or audio file (for radio broadcasters) from the Access Agriculture website. The ten video modules focus on sorghum and pearl millet and are developed by Agro-Insight, ICRISAT, NGOs, farmer organisations and national scientists, enriched with key inputs from many African farmers involved in experimentation on integrated *Striga* and fertility.
management. The videos are available in 8 languages – English, French, Bambara, Bomu, Fulani, Hausa, Mossi/Mooré, Zarma/Djarma. DVD’s containing the ten video modules in these eight languages are also available for free and can be ordered from: Dr. T. van Mourik, ICRISAT-Mali, BP 320, Bamako, Mali (Tom.vanmourik@icrisatml.org). By early 2013, Access Agriculture will also make Arabic, Swahili, Portuguese and Chichewa versions of these videos available on its website. These are very high quality films and can be highly recommended to any agricultural service provider.

A range of videos developed by Agro-Insight, ICRISAT, NGOs, farmer organisations and national scientists, enriched with key inputs from many African farmers involved in experimentation on integrated Striga and fertility management, are available on this site The ten video modules focus on sorghum and pearl millet. They can be watched and downloaded for free, either as video or audio file (for radio broadcasters) from the Access Agriculture website. The videos are available in 8 languages – English, French, Bambara, Bomu, Fulani, Hausa, Mossi/Mooré, Zarma/Djarma. A DVD containing the ten video modules in these eight languages can be ordered from: Dr. T. van Mourik, ICRISAT-Mali, BP 320, Bamako, Mali, or via Tom.vanmourik@icrisatml.org. Individual copies are free. By early 2013, Access Agriculture will also make Arabic, Swahili, Portuguese and Chichewa versions of these videos available on its website. These are very high quality films and can be highly recommended to any agricultural service provider.

For more on the way the films were made see: http://www.new-ag.info/en/research/innovationItem.php?a=2513

GENERAL WEB SITES

For individual web-site papers and reports see LITERATURE

For information on the International Parasitic Plant Society, current issue of Haustorium, etc. see: http://www.parasiticplants.org/ (N.B. currently a little out of date)

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

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

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

For the Parasitic Plant Genome Project (PPGP) see: http://ppgp.huck.psu.edu/

For information on the EU COST 849 Project (now completed) 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/parasitic_weeds.asp

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

For information on the work of the African Agricultural Technology Foundation (AATF) on Striga control in Kenya, including periodical ‘Strides in Striga Management’ and ‘Partnerships’ newsletters, see: http://www.aatf-africa.org/

For Access Agriculture (click on cereals for videos on Striga) see: http://www.accessagriculture.org/

For The Mistletoe Center (including a comprehensive Annotated Bibliography on mistletoes up to 1995, but apparently incomplete since then) see: http://www.rmr.s nau.edu/mistletoe/

For a compilation of literature on Viscum album prepared by Institute Hiscia in Arlesheim, Switzerland, see: http://www.vfk.ch/informationen/literatursuche (in German but can be searched by inserting author name).

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

For past and current issues of the Sandalwood Research Newsletter, see: http://www.jcu.edu.au/mbil/srn/index.html

LITERATURE

* indicates web-site reference only


Anon. 2012. (EU-ECE inventory of forest damage (IDF) in Spain. European Network Monitoring Forest damage. Level I. Sampling results 2010.) (in Spanish) Ecología (Madrid) 24: 107-149. [Damage due to mistletoe infestations (*Viscum album?*) continue with their worrying increasing trend, and the impact of the decline process on alder forest stands near the Cantabrian coasts is confirmed.]

Anteneh Belayneh, Zemede Asfaw, Sebsebe Demissew and Bussa, N.F. 2012. Medicinal plants potential and use by pastoral and agro-pastoral communities in Erer valley of Babile Wereda, eastern Ethiopia. Journal of Ethnobiology and Ethnomedicine 8(42) [http://www.ethnobiomed.com/content/pdf/1746-4269-8-42.pdf] [Root preparations from *Hydnora johannis* are prescribed as remedies for diarrhoea, haemorrhage, wound and painful body swelling.]

Anter, S.H. and Kassim, T.A. 2011. (Effect of cutting and bromanid herbicide on growth and seed yield of alfalfa *Medicago sativa* L. and dodder *Cuscuta* sp.) (in Arabic) Diyalog Agricultural Sciences Journal 3(2); Ar241-Ar249. [Cutting to 1 cm was superior to cutting at 5 cm for control of *Cuscuta planiflora* and *C. chinensis* (or perhaps *C. campestris*?) in Iraq. Pronamide (=propyzamide) was ineffective.]

Antonova, T.S., Araslanova, N.M., Strelnikov, E.A., Ramazanova, S.A., Guchetl, S.Z. and Tchelustnikova, T.A. 2012. Some peculiarities of ontogenesis of *Orobanchus cumana* Wallr., parasitizing on sunflower in Rostov region of Russian Federation. Helia 35(56): 109-117. [Noting the relatively recent development of the *Orobanchus cumana* problem in the Rostov region of Russia in the 1990s, and describing some features of the plant’s development including multiple stem apices on the tubercle, development of new plants from secondary infections, development of new plants from root apices without attachment to other roots, regrowth from the tubercle after the main shoot has matured and fruited, etc.]


Anupama Chembath, Balasundaram, M. and Sujanapal, P. 2012/ Phylogenetic relationships of *Santalum album* and its adulterants as inferred from nuclear DNA sequences.
Arruda, R. and nine others. 2012. Ecology of neotropical mistletoes: an important canopy-dwelling component of Brazilian ecosystems. Acta Botanica Brasilia 26(2): 264-274. [Reviewing studies conducted in the neotropical region in order to provide a framework for current research and new ideas for future investigations of mistletoes, especially in Brazil.]


Auger, B., Pouvreau, J.B., Pouponneau, K., Yoneyama, K., Montiel, G., le Bizec, B., Yoneyama, K., Delavault, P., Delourme, R. and Simier, P. 2012. Germination stimulants of Phelipanche ramosa in the rhizosphere of Brassica napus are derived from the glucosinolate pathway. Molecular Plant-Microbe Interactions 25(7): 993-1004. [Making the interesting discovery that P. ramosa germination is triggered particularly by isothiocyanate products derived from the breakdown of glucosinolates in the rhizosphere of B. napus and other Brassicaceae as Arabidopsis rather than by strigolactones. Raises the interesting question how the rapeseed parasite P. ramosa has acquired sensitivity to isothiocyanates while other races of the same species parasitise non-Brassicaceae so are apparently sensitive to other compounds (strigolactones).]


Bachhav, S.S., Bhutada, M.S., Patil, S.D., Bhavana Baser and Chaudhari, K.B. 2012. Effect of Viscum articulatum Burm. (Loranthaceae) in N′-nitro-L-arginine methyl ester induced hypertension and renal dysfunction. Journal of Ethnopharmacology 142(2): 467-473. [Concluding that V. articulatum may have an antihypertensive effect in the NO deficient type of hypertension, attributable to its diuretic, nephroprotective and hypolipidemic actions, supporting its traditional use for hypertension in China.]


Barbu, C.O. 2012. Impact of white mistletoe (Viscum album) infection on needle and crown morphology of silver fir (Abies alba Mill.). Acta Botanica Croatica. 71(1): 215-227. [An excellent detailed study of the host ranges of Viscum album. Numbers of hosts ranged from 183 to 341 for C. epithymum, C. campestris and C. europaea; 77-99 for C. lupuliformis and C. australis; and 15-16 for C. approximata and C. epilimum. Concluding that these species are not host specific and are able to parasite most plants they come into contact with. Hence host range is mostly determined by habitat differences and host availability.]

Baráth, K. and Csiky, J. 2012. Host range and host choice of Cuscuta species in Hungary. Acta Botanica Croatica. 71(2): 207-214. [A careful study confirming that infection by V. album is associated with significantly smaller needles, increased needle fall, and lower photosynthesis, apparently playing an important role in silver fir decline. But lacking discussion on possibility that weaker trees have increased incidence of parasite.]


Borowiec, V.A. and Armstrong, J.E. 2012. Resource limitation and the role of a hemiparasite on a restored prairie. Oecologia 169(3): 783-792. [Three after removal of Pedicularis canadensis the mass of grasses was almost doubled but there were smaller effects on forb species in Illinois grassland. Light levels did not affect the hemiparasite across 4 years of manipulation but fertilizer increased P. canadensis shoot mass.]

Boz, Ő., Doğan, M.N. and Öğüt, D. 2012. The effect of duration of solarization on controlling branched broomrape (Phelipanche ramosa L.) and some weed species. Julius-Kühn-Archiv 2(434): 687-693. [In one season when maximum temperatures under plastic reached 54°C, P. ramosa was completely controlled by 2 weeks solarization. In a second season when temperatures only reached 44.5°C, control was only 20% after 2 weeks and 74% after 6 weeks.]

Braby, M.F. 2012. The taxonomy and ecology of Delias aestiva Butler, 1897 stat. rev. (Lepidoptera: Pieridae), a unique mangrove specialist of Euphorbiaceae from northern Australia. Biological Journal of the Linnean Society 107(3): 697-720. [Delias spp. mostly feed on Snatalaceae, Loranthaceae and Viscaceae. D. aestiva differs in being specialized on mangroves, but was found to be able to also feed on some Loranthaceae, suggesting a recent evolutionary shift.]


Byrne, M. and Hankinson, M. 2012. Testing the variability of chloroplastic sequences for plant phylleography. Australian Journal of Botany 60(7): 569-574. [Analysis identified a set of seven chloroplastic regions that are a useful basis for informed selection of sequences for assessment of phylleographic structure in plants in several families including Santalaceae.]

Caffasso, D. and Chinali, G. 2012. Multiple and different genomic rearrangements of the rbcL gene are present in the parasitic orchid Neottia nidus-avis. Genome, 2012,
55, 9, 629-637. [Concluding that N. nidus-avis contains different platostomes, each with a different pseudogene, and that these can exist within the same individual plant.]

C’ebovic’ T., Popovic’ M., Rovčanin, B. and Gojkovic’ Z. 2012. Evaluation of the cytotoxic and antioxidant effects of non-polar Viscum album L. extract (collected from Juniperus communis), Fresenius Environmental Bulletin 21(6): 1454-1460. [The CO2 extract of V. album contained the sesquiterpenes trans-α-bergamotene, trans-β-farnesene and fomifoliol as major extract constituents. The cytotoxic activity of the extract was assayed against EAC breast carcinoma cells and AS30D hepatoma cells in vivo. Volmifoliol was the most active component.]


Chen Rui, Huo LiNi, Liao YanFang, Li PeiYuan, Lu RuMei and Zhang HongYi. 2013. Study on the chemical constituents of essential oils from the leaves of Viscum ovalifolium and Loranthus pentapetalus Roxb. parasitizing on Guaiacum spp. Asian Journal of Chemistry 25(3): 1757-1758. [Isolating a wide range of compounds from V. ovalifolium and L. pentapetalus (=Helixanthera parasitica).]


Crichton, R.J., Squirrell, J., Woodin, S.J., Dalrymple, S.E. and Hollingsworth, P.M. 2012. Isolation of microsatellite primers for Melampyrum sylvaticum (Orobanchaceae), an endangered plant in the United Kingdom. American Journal of Botany 99(11): e457-e459. [The results show the utility of these novel polymorphic microsatellite markers for further conservation genetic analyses. The strong deficit of heterozygosity across all loci in the local sample suggests the species may be inbreeding.]


de Vega, C. and Herrera, C.M. 2012. Relationships among nectar-dwelling yeasts, flowers and ants: patterns and incidence on nectar traits. Oikos 121(11): 1878-1888. [The nectar fungus, Metschnikowia reukaufii, introduced to the flowers of Cyrtisus hypocistis by ants, is shown to decrease the quality of the nectar and may influence pollinator behaviour.]

Delaux, P.M., Xie, X., Timme, R.E., Puech-Pages, V., Dunand, C., Lecompte, E., Delwiche, C.F., Yoneyama, K., Bécard Origin of strigolactones in the green lineage, G. and Séjalon-Delmas, N. 2012. New Phytologist 195(4): 857-871. [Detecting strigolactones in liverworts and in some other lower green plants but concluding that their function in these is to control rhizoid elongation.]


Ding LiLi, Zhang YueKun, Zhao SiFeng, Yao ZhaoQun and Du Juan. 2012. (Isolation and identification of pathogen of Orobanche cumana stem-rot disease in Xinjiang) (in Chinese) Xinjiang Agricultural Sciences 49(6): 1096-1102. [Noting that O. cumana is a serious problem in Xinjiang. Isolating 377 samples of pathogen most of which were Fusarium spp, including F. oxysporum, F.solani and F. cerealis, also Rhizoctonia and Pythium.]

Dixon, E. 2012. Vancouver Ground cone (Boschniakia hookeri), Douglasia Journal of the Washington Native Plant Society 36(4):1. (A brief, illustrated note on the presence of this parasite in Washington State where it is not rare but always fascinating to find.)
Drumeva, M. 2012. Development and testing of experimental sunflower hybrids obtained by using doubled haploid lines. Agricultural Science and Technology 4(3): 196-200. [Testing 17 new hybrids, 12 of which showed full resistance to both downy mildew and Orobanche cumana (races E-F) and moderate resistance to phoma and phomopsis.]


Encheva, J., Shindrova, P., Encheva, V. and Penchev, E. 2012. Sunflower hybrid Yana, developed with mutant restorer line R 12003. Helia 35(56): 47-59. [Results suggest that a dynamic mosaic of pollinator-mediated interactions among Pedicularis spp. in the Hengduan region of China promotes ecological sorting through recurrent selection against reproductive interference, causing rapid species turnover, and accelerating the rate of floral divergence, together contributing to the diversely species of Pedicularis endemic to the this biodiversity hotspot.]


Fernández-Aparicio, M., Moral, A., Kharrat, M. and Rubiales, D. 2012. Resistance against broomrapes (Orobanche and Phelipanche spp.) in faba bean (Vicia faba) based in low induction of broomrape seed germination. Euphytica 186(3): 897-905. [Confirming that the resistance of two breeding lines (Navio and Quijote – based on material resistant to O. foetida in Tunisia – this in turn developed from crosses INIA06 × F402 selected for resistance to O. crenata by ICARDA) is based largely on low stimulation of germination of O. crenata, O. foetida and O. aegyptiaca.]


Gao MeiLi, Li YongFei, Yang JianXiong and Wang YiLi. 2012. Effects of n-butanol and water fractions from Pedicularis decora Franch on oxidative stress in mice induced by a single bout of swimming exercise. Journal of Medicinal Plants Research 6(39): 5186-5195. [P. decora fractions protected mice from oxidative stress induced by a single bout swimming exercise through a decrease in LPO levels, SOD, GPx, LDH.]

Physiologiae Plantarum 34(5): 1801-1809. [Nutrients seemed to be transferred passively through the xylem sap between Loranthus and Quercus as there was a strong correlation between the calcium and potassium concentrations within the species and between the species, Nitrogen appeared to be the limiting nutrient for the parasite.]


Ghantous, K.M. and Sandler, H.A. 2012. Mechanical scarification of dodder seeds with a handheld rotary tool. Weed Technology 26(3): 485-489. [Good germination of small seed lots of Cuscuta gronovii (probably but some doubt) was obtained using a handheld rotary tool at the 10,000 rpm setting with a conical grinding-stone bit attached.]


Gibot-Leclerc, S., Sallé, G., Reboud, X. and Moreau, D. 2012. What are the traits of Phelipanche ramosa (L.) Pomel that contribute to the success of its biological cycle on its host Brassica napus L.? Flora (Jena) 207(7): 512-521. [A detailed analysis of the germination, attachment and development of P. ramosa on oilseed rape and noting up to 90% yield losses recorded in France.]


Goldwasser, Y., Miranda Sazo, M.R. and Lanini, W.T. 2012. Control of field dodder (Cuscuta campestris) parasitizing tomato with ALS-inhibiting herbicides. Weed Technology 26(4): 740-746. [Pot and field studies confirmed the selectivity of sulfosulfuron early post-emergence at 50 or 100 g/ha for control of C. campestris. Rimsulfuron, halosulfuron, and flazasulfuron were less effective.]


Gulur, Halik, U., Matrui, A. and Welp, M. 2012. Study on the high and stable yield cultivation techniques of Cistanche tubulosa (Schenk) Wight. Medicinal Plant 3(8): 16-18. [The success rate of C. tubulosa inoculation on Tamarris sp. was influenced by inoculation method, inoculation distance, inoculation time and planting mode, also by inoculation depth and irrigation time.]


Hamiaux, C., Drummond, R.S.M., Janssen, B.J. 2012. DAD2 is an α/β hydrolase likely to be involved in the perception of the plant branching hormone, strigolactone. Current Biology 22(21): 2032-2036. [A crystal structure of DAD2 (ortholog of D14) and biochemical evidence showing that DAD2 can
Hydrolysate GR24 provide compelling evidence that DAD2/D14 is involved in the recognition/perception of strigolactones.

Han LiFeng, Boakye-Yiadom, M., Liu ErWei, Zhang Yi, Li Wei, Song XinBo, Fu FengHua and Gao XiuMei. 2012. Structural characterisation and identification of phenylethanol glycosides from Cistanches deserticola Y.C. Ma by UHPLC/ESI-QTOF-MS/MS. Phytochemical Analysis 23(6): 668-676. [Describing a rapid method for the identification of phenylethanol glycosides in the crude extract of Cistanches deserticola which can be used for rapid prediction of the chemical constituents and qualities of the plant.]

Han LiFeng, Ji LiNa, Boakye-Yiadom, M., Li Wei, Song XinBo and Gao XiuMei. 2012. Preparative isolation and purification of four compounds from Cistanches deserticola Y.C. Ma by high-speed counter-current chromatography. Molecules 17(7): 8276-8284. [Four phenyl-ethanoid glycosides identified.]

Hassan, M.M., Osman, A.G.E., Yagoub, S.O., Sherif, A.M., Ragheim, A.M.E., Mohamed, I.S., Gani, M.E.A. and Babiker, A.G.E. 2012. Effects of bacterial strains and chicken manure on Orobanche crenata infesting faba bean. Agricultural Journal 7(2): 122-127. [In a pot experiment faba bean inoculated with Rhizobium TAL 1399 alone or in combinations with Bacillus megatherium var phosphaticum or Azospirillum braziliense plus chicken manure at 35 g pot\(^{-1}\) greatly delayed emergence of O. crenata and increased faba bean growth.]


Hassan, M.M., Yagoub, S.O. and Gabouch, N.A. 2010. Effect of different levels of organic manure on Striga hermonthica (Del.) Benth. and sorghum growth. Bioscience Research 7(1): 32-38. [In a pot experiment, a combination of chicken manure and nitrogen at 95 kg/ha reduced S. hermonthica infestation by 60%. Nitrogen alone reduced it by 83%.


Hladni, N., Dedic’, B., Jocic´, S., Miklić, V. and Dušanic´, N. 2012. Evaluation of resistance of new sunflower hybrids to broomrape in the breeding programs in Novi Sad. Helia 35(56): 89-98. [Nine out of 15 hybrids tested showed complete immunity to Orobanche cumana race E in Serbia. Of these NS-H-6385 and NS-H-6396 were the most high-yielding.]

Hobbie, E.A. and Högberg, P. 2012. Nitrogen isotopes link mycorrhizal fungi and plants to nitrogen dynamics. New Phytologist 196(2): 367-382. [A review noting that parasitic plants and autotrophic hosts are similar in \(\delta^{15}N\), mycoheterotrophic plants are higher in \(\delta^{15}N\) than their fungal hosts, presumably with preferential assimilation of fungal protein, and autotrophic, mycorrhizal plants are lower in \(\delta^{15}N\) than their fungal symbionts, with saprotrophic fungi intermediate, because mycorrhizal fungi transfer \(\delta^{15}N\)-depleted ammonia or amino acids to plants.]

Huang, K., Mellor, K.E., Paul, S.N., Lawson, M.J., Mackey, A.J. and Timko, M.P. 2012. Global changes in gene expression during compatible and incompatible interactions of cowpea (Vigna unguiculata L.) with the root parasitic angiosperm Striga gesnerioides. BMC Genomics 13(402) (http://www.biomedcentral.com/content/pdf/1471-2164-13-402.pdf) [Studying the difference in response of cowpea variety B.301 to non-virulent and virulent (Benin/Zakpota) races of S. gesnerioides and tracking the distinct changes in global gene expression profiles following successful and unsuccessful attempted parasitism.]

Huang, K., Whitlock, R., Press, M.C. and Slochoes, J.D. 2012. Variation for host range within and among populations of the parasitic plant Striga hermonthica. Heredity (Edinb) 108(2): 96-104. [The developmental success of S. hermonthica on different rice-host cultivars depended significantly on a parasite population by host-genotype interaction. Genetic analysis using AFLP markers revealed that a small subset of markers showed ‘outlier’ genetic differentiation among subpopulations of S. hermonthica attached to different host cultivars.]


Isah, K.M. and Niranjan Kumar. 2012. Influence of non-host crop rotation on the reaction of cereal host crop genotypes to Striga hermonthica of different ecotypes. Indian Journal of Scientific Research (IJSR) 3(1): 179-190. [In a pot experiment, groundnut var. SAMNUT 11, soybean var. TGs 1448-2E, cowpea var. SAMPEA 7 and cotton var. SAMCOT 10 reduced Striga parasitism and increased growth vigour and productivity more than other varieties of the tested trap-crops.]


Jamil, M., Van Mourik, T.A., Charnikhova, T. and Jamil, M., Kanampiu, F.K., Karaya, H., Charnikhova, T., Jigam, A.A., Abdulrazaq, U.T., Mahmud, H.A. and Tijani, Jia YaMin, Guan QiuNong, Guo YuHai and Du CaiGan Jayanthi, J., Karthigeyan, K. and Sumathi, R. 2012. genotypes to host crop rotation on the reaction of cereal host crop parasitism in maize in response to N and P fertilizers. In the field in Kenya, there was also a Striga suppressive effect of N application but the effect of P was less pronounced than in the greenhouse, likely due to unpredictable P availability in Kenyan field soil.]

*Jamil, M., Van Mourik, T.A., Charnikhova, T. and Bouwmeester, H.J. 2012. Striga hermonthica parasitism in maize in response to N and P fertilizers. Field Crops Research134: 1-10. [In pot experiments S. hermonthica parasitism in maize was suppressed by both N and P and this strongly correlated to the reduced exudation of strigolactones under high levels of N and P. In the field in Kenya, there was also a Striga suppressive effect of N application but the effect of P was less pronounced than in the greenhouse, likely due to unpredictable P availability in Kenyan field soil.]


Kaitera, J., Hiltunen, R. and Samils, B. 2012. Alternate host ranges of the rusts Cronartium ribicola and Cronartium flaccidum in Finland. Canadian Journal of Forest Research 42(9): 1661-1668. [Establishing that the pine rusts C. ribicola and C. flaccidum could infect a range of wild hosts including Bartisia albina and Euphrasia stricta.]


Kang Jing, Li XuWen, Geng JiaYang, Han Lu, Tang Jie Li, Jin YongRi and Zhang YiHua. 2012. Determination of hyperin in seed of Cuscuta chinensis Lam. by enhanced chemiluminescence of CdTe quantum dots on calcine/K₃Fe(CN)₆ system. Food Chemistry 134(4): 2383-2388. [Defining a technique for the measurement of hyperin in C. chinensis (in China).]

Kavanagh, P.H. and Burns, K.C. 2012. Mistletoe macroecology: spatial patterns in species diversity and host use across Australia. Biological Journal of the Linnean Society 106(3): 459-468. [Data collected on the distribution and host use of 65 species of Loranthaceae mistletoes across Australia. Generally supporting the prediction that greater host generality is likely to evolve in regions with greater host diversity while regions with fewer potential hosts lead to the evolution of host specialization.]

Kohlen, W., López Ráez, J.A., Pollina, T., Lammers, M., Toth, P., Charnikhova, T., de Maagd, R., Pozo, M.J., Bouwmeester, H.J. and Ruyter-Spira, C. 2012. The tomato CAROTENOID CLEAVAGE DIOXYGENASE8 (SICCD8) is regulating rhizosphere signaling, plant architecture and reproductive development through strigolactone biosynthesis. New Phytologist 196: 535–547. [Transgenic SICCD8 RNAi tomato lines exhibited strongly reduced strigolactone production. They displayed a.o. increased shoot branching, and infestation by Phelipanche ramosa was reduced by 90% while arbuscular mycorrhizal symbiosis was only mildly affected. This demonstrates that reduction of strigolactone biosynthesis could be a suitable tool in parasitic weed management.]

Kokubugata, G., Nakamura, K., Forster, P.I., Wilson, G.W., Holland, A.E, Hirayama, Y. and Yokota, M. 2012. Cassytha pubescens and C. glabella (Lauraceae) are not disjunctly distributed between Australia and the Ryukyu Archipelago of Japan - evidence from morphological and molecular data. Australian Systematic Botany 25(5): 364-373. [Concluding that that plants considered as C. pubescens and C. glabella in the Ryukyus are to be respectively treated as C. filiformis and the Ryukyu endemic species C. pergracilis.]


Koua, F.H.M. 2011. Striga hermonthica (Del.) Benth: phytochemistry and pharmacological properties outline. Journal of Applied Pharmaceutical Science 1(7): 1-5. [Noting a wide range of traditional uses for S. hermonthica; for abortion, dermatosis, diabetes, leprosy ulcer, pneumonia and jaundice remedy, trypanocidal effects; also antibacterial and anti-plasmoidal activities have been recorded.]


Matata, P.Z., Gama, B.M., Mbwaga, A., Mpanda, M. and Byamungu, D.A. 2011. Effect of Sesbania sesban fallows on Striga infestation and maize yield in Tabora Region of Western Tanzania. Journal of Soil Science and Environmental Management 2(10): 311-317. [Growing S. sesban for 2 years resulted in 88% less Striga asiatica in maize in the third year than in plots in which maize had been grown for the first 2 years without fertilizer. With fertilizer Striga numbers in the third year were halved. Yields in third year were ca. 1400 kg/ha after S. sesban, 1200 kg/ha with fertilizer and 400 kg/ha without. Economics not discussed.]

Matiwade, P.S., Kajjidoni, S.T. and Hundekar, A.R. 2010. Orobanche management in bidi tobacco through trap crops in Northern Karnataka, India. Plant Archives 10(1): 479-481. [Maize and sorghum were the most effective of a range of trap crops for control of O. cernua tested over a 3 year period in the field.]

Mayzlish-Gati, E. and 14 others. 2012. Strigolactones are involved in root response to low phosphate conditions in Arabidopsis. Plant Physiology, 2012, 160, 3, 1329-1341. [Confirming that the response in root architecture of plants to low Pi (inorganic phosphate) is regulated by strigolactones. This regulation requires MAX2 and correlates with the induction of TIR1, the auxin receptor.]


Min Shen, Chang-Qin Zhang, Yong-Peng Ma, Welti, S., Moreau, P.A. and Selosse, M.A. 2012. Mycorrhizal features and fungal partners of four mycohererotrophic Monotropoideae (Ericaceae) species from Yunnan, China. Symbiosis 57(1): 1-13. [Identifying the fungal associates of Monotropa uniflora, Hypopitys monotropa, Monotropastrum humile and Monotropastrum scilphilum, and challenging the idea that these are host-specific.]


Morawetz, J.J. 2012. Aureolaria (Orobanchaceae). Flora of North America. (published online 8 March 2012) [Providing a key to the 8 species occurring in N. America and Mexico.]


Morawetz, J.J., Randle, C.P. and Wolfe, A.D. 2010. Phylogenetic relationships among the tropical clade of Orobanchaceae. Taxon 59(2): 416-426. [The tropical clade was strongly supported as monophyletic in all analyses, and four main clades were recovered. The genus Nesogenes is included within the tropical clade of Orobanchaceae rather than in the separate family Nesogenaceae.]


Muhammad Remy Othman, Leong SowTein, Baki Bakar, Khalijah Awang and Mohamad Suffian, M.A. 2012. Allelopathic potentials of Cuscuta campestris Yuncker extracts on germination and growth of radish (Raphanus sativus L.) and lettuce (Lactuca sativa L.). Journal of Agricultural Science (Toronto) 4(9): 57-63.  [Confirming some toxic effects from extracts of C. campestris.]


Natalis, L.C. and Wesselingh, R.A. 2012. Post-pollination barriers and their role in asymmetric hybridization in Rhinanthus (Orobanchaceae). American Journal of Botany 99(11): 1847-1856.  [In a R. angustifolius background, bumblebees preferred R. angustifolius, but visited hybrids more often than R. minor. In contrast, visitation rates were similar on a R. minor background. Results suggest that hybridization rates in Rhinanthus remain low because of several leaky barriers that make R. minor the maternal parent of most F1 offspring.]

Natalis, L.C. and Wesselingh, R.A. 2012. Shared pollinators and pollen transfer dynamics in two hybridizing species, Rhinanthus minor and R. angustifolius. Oecologia 170(3): 709.  [Discussing the degree to which bumble bees visit both these species and successfully cause cross pollination.]


Noubissié, J.B.T., Fohouo, F.N.T. and Tchako, S.L.T. 2012. Role of Lepidoptera as pollinators on the breeding systems of Striga hermonthica (Del.) Benth under the Guinean savannah zone conditions. Annals of Biological Research 3(6): 2821-2828.  [In Cameroon, insect visitors to S. hermonthica included 4 Lepidoptera, 1 Hymenoptera, 1 Hemiptera and 1 Coleoptera. The Lepidoptera, a Hesperididae, Papilio demodocus and a Heterocera were the main foragers with 64%, 28 % and 3% of visits (impact of each pollinator on fruit set) respectively.]


O-rhamnoses from the Eastern Nigeria mistletoe with potent immunostimulatory and antioxidant activities. Biomolecules Journal of Biomolecular Research and Therapeutics 1(102) (http://omicsgroup.org/journals/BOM/BOM-1-102.php?aid=5016) [Demonstrating high anti-oxidant activity in three compounds: (-) catechin-7-O-rhamnose (1), (-) catechin-3-O-rhamnose (2) and a 4′-methylene-7-O-rhamnose (3) isolated from L. micranthus (= Ileostylus micranthus) parasitising Kola acuminate.]

Olufajo, O.O. 2012. Agronomic performance of improved cowpea varieties under natural infestation with Alektra vogelii (Benth.) in the northern Guinea savannah of Nigeria. Agricultura Tropica et Subtropica 45(2): 66-71. [Among 20 varieties IT95K-1072-57 and IT97K-499-35 supported little A. vogelii and were high yielding in grain and fodder. IT95K-1090-12 and IT97K-818-35 were immune but very low yielding.]


Othira, J.O., Omolo, J.O., Wachira, F.N. and Onek, L.A. 2012. Effectiveness of arbuscular mycorrhizal fungi in protection of maize (Zea mays L.) against witchweed (Striga hermonthica Del Benth.) infestation. Journal of Agricultural Biotechnology and Sustainable Development 4(3): 37-44. [A greenhouse experiment showed that AMF inhibited germination and reduced growth of Striga hermonthica while enhancing maize host growth and development. Glomus etunicatum, was more effective than Scutellosphora fulgida and Gigaspora margarita.]


Page, T., Tate, H., Bunt, C., Potrawiak, A. and Berry, A. 2012. Opportunities for the smallholder sandalwood industry in Vanuatu. ACIAR Technical Reports Series No. 79: 67 pp. [This report discusses the current rate and location of new plantings of sandalwood (Santalum sp.) in Vanuatu, and the silvicultural requirements for growing sandalwood.]


Parergrym, O.M. 2012. Morphological features of the leaves of Euphrasia taurica Ganesch. (Orobanchaceae). Modern Phytomorphology 2: 63-65. [Showing that tooth pattern, type of ultrastructure and type of indumentum of the leaves are diagnostic for E. taurica.]


Prider, J., Correll, R. and Warren, P. 2012. A model for risk-based assessment of Phelipanche matulii (branched broomrape) eradication in fields. Weed Research 52(6): 526-534. [A new model predicts that the current infestation of P. matulii (= Orobanche ramosa ssp. matulii) is unlikely to be eradicated in less than 38 years and may take 62 years.]


Ramirez, M.M., Ornelas, J.F. 2012. Cross-infection experiments of Psittacanthus schiedeanus: effects of host provenance, gut passage, and host fate on mistletoe seedling survival. Plant Disease 96(6): 780-787. [The success rate of P. schiedeanus establishment on 4 hosts Acacia pennatula, Liquidambar styraciflua, Platanus mexicana, and Quercus germa, depended largely (but not simply!) on the host from which the seed came.]


Rios, M.Y. and nine others. 2012. Vasorelaxant activity of some structurally related triterpenic acids from Phoralendron reichenbachianum (Viscaceae) mainly by NO production: ex vivo and in silico studies. Fitoterapia 83(6): 1023-1029. [All compounds showed significant relaxant effect on endothelium-intact vessels in a concentration-dependent manner. Ursolic, moronic and betulinic acids were the most potent.]

Robson, K. 2012. Variation in Sandalwood (Santalum album L.) seed diameter and its effect on nursery and field growth. Sandalwood Research Newsletter 27: 6-8. [Showing a non-significant but consistent advantage of larger seeds in germination and growth rate.]


Rosa, A., Rascigno, A., Piras, A., Atzeri, A., Scano, P., Porcedda, S., Zucca, P. and Dessi, M.A. 2012. Chemical composition and effect on intestinal Caco-2 cell viability and lipid profile of fixed oil from Cynomorium coccineum L. Food and Chemical Toxicology 50(10): 3799-3807. ['The results showed remarkable biological activity of Maltese mushroom oil, and qualify it as a potential resource for food/pharmaceutical applications.]

Roura-Pascual, N., Brotons, L., García, D., Zamora, R. and de Cáceres, M. 2012. Local and landscape-scale biotic correlates of mistletoe distribution in Mediterranean pine forests. Forest Systems 21(2): 179-188. [The presence of Viscum album in stands of Pinus halepensis is determined by multiple factors operating at different spatial scales, with the availability of orchards of Olea europaea in the surroundings playing a relevant role.]

Rusinamhodzi, L., Corbeels, M., Nyamangara, J. and Giller, K.E. 2012. Maize-grain legume intercropping is an attractive option for ecological intensification that reduces climatic risk for smallholder farmers in central Mozambique. Field Crops Research 136:12-22. [Within-row pigeon pea was more effective than N and P in increasing yield and suppressing Striga asiatica in maize.]

Rzedowski, J. and Calderón de Rzedowski, G. 2010. (Main hosts and some other ecological data Viscaceae species in the state of Queretaro.) (in Spanish) Flora del Bajío y de Regiones Adyacentes: Fasc compl 26, 5 pp. [A study in Mexico. No detail in abstract but author’s email address available.]

reporter gene construct, Green Fluorescent Protein (GFP), was used to generate transgenic composite maize plants that were parasitised normally by Striga hermonthisca. The technique will help to advance understanding of gene function in parasitic plant-host interactions.]

Ruyter-Spira, C. and Bouwmeester, H. 2012. Strigolactones affect development in primitive plants. The missing link between plants and arbuscular mycorrhizal fungi? New Phytologist 195(4): 730-733. [A commentary to the paper by Delaux et al, mentioned above, that showed that freshwater green algae belonging to the Charales already produce and exude strigolactones. The commentary concludes that if strigolactone signaling evolved first when plants started to colonize drier habitats, strigolactone signaling in AM fungi must have evolved independently. It will be of interest to see if this is indeed the case and what then the differences and/or similarities are between plants and AM fungi in strigolactone downstream signalling.]


Semerci, A., Kaya, Y., Sahin, I. and Citak, N. 2010. Determination of the performances and adoption levels of sunflower cultivars based on resistance to broomrape in farm conditions in Thrace region. Helia 33(53): 69-76. [Comparing the performance of sunflower varieties resistant to Orobanche cumana and those resistant to imidazolinone herbicide in Thrace, Turkey and concluding that highest and most economical yields are obtained with genetic resistance to the parasite.] (NB Entry repeated from Haustorium 61 with inclusion of full title and source – Ed.)


Su HueiJiun and Hu JerMing. 2012. Rate heterogeneity in six protein-coding genes from the holoparasite Balanophora (Balanophoraceae) and other taxa of Santalales. Annals of Botany 110(6): 1137-1147. [Concluding that the mechanism or mechanisms responsible for rapid sequence evolution and concomitant rate acceleration for 18 S rDNA and matR are currently not well understood and require further study in Balanophora and other holoparasites.]

Suettsug, K., Takeuchi, Y., Futai, K. and Kato, M. 2012. Host selectivity, haustorial anatomy and impact of the
invasive parasite Parentucellia viscosa on floodplain vegetative communities in Japan. Botanical Journal of the Linnean Society 170(1): 69-78. [P. viscosa has recently become established in Japan and threatens to become invasive. It favours Poaceae and Fabaceae and reduces their vigour relative to other vegetation, hence changing native flora.]


Ticktin, T., Rengai Ganasen, Mallegowda Paramesh and Siddappa Setty. 2012. Disentangling the effects of multiple anthropogenic drivers on the decline of two tropical dry forest trees. Journal of Applied Ecology 49(4): 774-784. [Phyllanthes emblica and P. indofischeri are important wild trees which have declined by 84% in the past 10 years, it is thought largely due to infestation by Lantana camara and the mistletoe Taxillus tomentosus.]


Uchôa, M.A., Caires, C.S., Nicácio, J.N. and Duarte, M. 2012. Frugivory of Neosilba species (Diptera: Lonchaeidae) and Theypus echelta (Lepidoptera: Lycaenidae) on Psittacusanthus (Santalales: Loranthaceae) in ecotonal Cerrado-South Pantanal, Brazil. Florida Entomologist 95(3): 630-640. [A study aimed at finding potential biocontrol agents for Psittacanthus spp. mainly P. acinarius. The lepidopteran Theypus echelta was identified as having some potential.]

Urban, J., Gebauer, R., Nadezhdiha, N. and Čermák, J. 2012. Transpiration and stomatal conductance of mistletoe (Loranthus europaeus) and its host plant, downy oak (Quercus pubescens). Biologia (Bratislava) 67(5): 917-926. [The seasonal sum of transpired water expressed per leaf area unit was five times higher in the mistletoe than in the oak.]


Wahab, O.M., Ayodele, A.E. and Moody, J.O. 2010. TLC phytochemical screening in some Nigerian Loranthaceae. Journal of Pharmacognosy and Phytotherapy 2(5): 64-70. [A valuable paper endeavouring to clarify the taxonomy of Nigerian mistletoe species used in traditional medicine and usefully confirming that ‘Viscum album’ repeatedly referred to in Nigerian publications does NOT occur in Nigeria and that in most cases Taphinanthus spp. are involved.]


Watson, D.M. and Herring, M. 2012. Mistletoe as a keystone resource: an experimental test. Series B, Biological Sciences 279(1743): 3853-3860. [Complete removal of all mistletoes (mainly Amyema miquelii but with occasional Muellerina eucalyptoides, A. pendula and A. miraculosa) from Dry Foothill Forest or Grassy Box Woodland in NSW, Australia, resulted over 3 years in losses of more than a quarter of the woodland-dependent bird species, with the number of resident species decreasing by more than a third. Birds nesting in mistletoe were more affected than those feeding on them.]


Wong ZinHua, Habshah Abdul Kadir, Lee ChoyLong and Goh BeyHing 2012. Neuroprotective properties of Loranthus parasiticus aqueous fraction against oxidative stress-induced damage in NG108-15 cells. Journal of Natural Medicines 66(3): 544-551. [Confirming that L. parasiticus (=Scurrula parasitica) exerts marked neuroprotective activity, with potential therapeutic application for managing oxidative stress-related neurological disorders and supporting the traditional use of L. parasiticus in treating brain-related diseases in SW China.]


Xi, Z.X., Bradley, R.K., Wurdack, K.J., Wong, K.M., Sugumaran, M., Bombilies, K., Rest, J.S. and Davis, C.C. 2012. Horizontal transfer of expressed genes in a parasitic flowering plant. BMC Genomics 13(227) (http://www.biomedcentral.com/content/pdf/1471-2164-13-227.pdf) [A study of Rafflesia cantleyi and its obligate host Tetrastigma rafflesiae showed that several dozen actively transcribed genes in the parasite, mostly in the nuclear genome, are likely of host origin, perhaps providing a fitness benefit.]


Xia Jing and Guo YouHao. 2012. Effects of flowering date and co-flowering species on pollination and reproduction in Pedicularis gruina. Biodiversity Science 20(3): 330-336. [Pollination by bumble bees, and reproduction in P. gruina was not affected by flowering date but in the presence of co-flowering P. densisipica and P. siphopanthus there was enhanced pollination and reproduction through increased floral resource diversity and larger floral displays.]


Yang YueQin, Yi XianFeng, Peng Min and Zhou YuBi 2012. Stable carbon and nitrogen isotope signatures of root-holoparasitic *Cynomorium songaricum* and its hosts at the Tibetan plateau and the surrounding Gobi desert in China. Isotopes in Environmental and Health Studies 48(4): 483-493. [$\delta^{13}$C and $\delta^{15}$N values of *C. songaricum* closely mirrored the values of its hosts, *Nitraria tangutorum* and *N. sibirica*. Isotopic difference also depend on the different altitudes and habitats of the hosts on the Tibetan plateau and in the Gobi desert.]


Yigezu, A.Y. and Sanders, J.H. 2012. Introducing new agricultural technologies and marketing strategies: a means for increasing income and nutrition of farm households in Ethiopia. African Journal of Food, Agriculture, Nutrition and Development 12(5): 6365-6384. [A study in the Qobo Valley in Central Ethiopia confirmed that an integrated approach, involving the combined technologies of water harvesting, fertilization and *Striga hermonthica*-resistant sorghum varieties, along with inventory credit increases farm household income by 31% and eliminates under-nutrition except in extreme drought years during which public assistance may be still needed.]

Yonli, D., Traoré, H., Séremé, P., Sankara, P. and Hess, D.E. 2012. Integrated management of *Striga hermonthica* (Del.) Benth. in sorghum using *Fusarium* inoculum, host plant resistance and intercropping. Journal of Applied Biosciences 53: 3734-3741. [Studying combinations of *Striga*-resistant sorghum (F2-20), inoculation with *F. oxysporum* (‘Finoculum’,34-FO) and intercropping with alternate rows of cowpea (IT-89-KD-245). Various combinations were effective, reducing *S. hermonthica* infestation by 74-89% and increasing sorghum yield up to 72%.]

Yoshida, S., Kameoka, H., Tempo, M., Akiyama, K., Umehara, M., Yamaguchi, S., Hayashi, H., Kyozuka, J. and Shirasu, K. 2012. The D3 F-box protein is a key component in host strigolactone responses essential for arbuscular mycorrhizal symbiosis. New Phytologist 196(4): 1208-1216. [This study provides evidence that strigolactones also play a role in facilitating the symbiosis after root colonization. However, only D3 (ortholog of MAX2) is crucial for establishing AM symbiosis in rice, whereas D14 and D14-LIKE are not.]

Zhu YanXia and Guo YuHai. 2012. (Monitor of tamarisk root growth and *Cistanche tubulosa* infection in soil arable layer by WINRHIZO.) (in Chinese) Journal of China Agricultural University 17(3): 43-48. [Using the WINRHIZO method to follow the development of *C. tubulosa* on three roots of the host tamarisk. Attachment began at 60 days after planting. Also following the content of echinacoside, verbascoside and soluble sugar in the parasite.]

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has been edited by Chris Parker, 5 Royal York Crescent, Bristol BS8 4JZ, UK (Email chrisparker5@compuserve.com), Lytton Musselman, Parasitic Plant Laboratory, Department of Biological Sciences, Old Dominion University, Norfolk Virginia 23529-0266, USA (fax 757 683 5283; Email lmusselm@odu.edu) and Harro Bouwmeester of Laboratory of Plant Physiology, Wageningen University, P.O. Box 658, 6700 AR Wageningen, the Netherlands (Email harro.bouwmeester@wur.nl): with valued assistance from Dan Nickrent, Southern Illinois University, Carbondale, USA. It is produced and distributed by Chris Parker and published by Old Dominion University (ISSN 1944-6969). Send material for publication to any of the editors.

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