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MESSAGE FROM THE IPPS PRESIDENT

Dear IPPS Members,

First of all, I would like to acknowlege the time and great efforts devoted by Jim Westwood during his presidency and finally in the election of IPPS executive members. I also thank all members who took part in this important election process. Now the new IPPS executive members are ready to lead the society with continuing support from you all.

The new elected IPPS executive members are now: Julie Scholes (Vice President), John Yoder (Secretary) and Ahmet Uludag (Member at Large), Philippe Delavault (Treasurer), Harro Bouwmeester (Editor), and myself President.

As the first mission of the new IPPS executive members, we are pleased to invite you to the 12th World Congress on Parasitic Plants (WCPP), which 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. We are currently planning sessions and workshops and any inputs from the IPPS members will be highly appreciated. Please contact me or Julie by email. Details of venue, program, and progress can be followed on a special conference website which will be available from the beginning of September 2012 (to follow shortly).

During the VI International Weed Science Congress (IWSC) held in Hangzhou, China, a session on parasitic weeds was held as a joint IPPS symposium with the IWSC (see the meeting report below). To my knowledge, this was the first international symposium on parasitic weeds held in Asia at least in this century. The papers presented in the symposium were a good mix of basic and applied studies, and I was convinced that contributions to IPPS from Asian scientists would increase in the near future. This is because the number of scientists working on parasitic weeds in Asian countries has been gradually increasing probably due to the spreading parasitic weed problems. Thus, we should raise awareness about parasitic weeds in Southeast and East Asian countries where both root and stem parasitic weeds are becoming serious problems.

Finally, I would like to express my sincere appreciation to Jim for his hard work on behalf of the society. Under his leadership, two IPPS meetings in Kusadasi (Turkey) and Martina Franca (Italy) have been held successfully and infra structure of IPPS including the constitution and election system has been established. Of course I am sure that Jim will continue to support and encourage us and the society.

Sincerely,

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

STRIGA GESNERIOIDES AND *STRIGA ASIATICA* IN NAMIBIA

As part of ongoing research collaboration among the University of Namibia, State University of New York-Oswego, and Old Dominion University, we surveyed Namibia for *Striga gesnerioides* and *S. asiatica*. Our field work covered 3500 km from the west coast north to the border with Angola and through the central part of the country. There are six species of the genus in Namibia with *Striga gesnerioides* and *S. asiatica* the most frequent. *Striga hermonthica* and *S. forbesii* have been collected but at present do not seem to be an agricultural problem. The other two, *S. elegans* and *S. bilabiatia* ssp *bilabiata* are confined to natural grasslands.

Striga gesnerioides is the most variable of all witchweeds in term of morphology and host selection. It is a well-known and often serious parasite of cowpea, *Vigna unguiculata* (Fabaceae). Wild hosts that have been documented in Namibia include species of *Euphorbia* (Euphorbiaceae), *Ipomoea, Jaquemontia*, and *Merremia* (Convolvulaceae); *Indigofera*, *Alysicarpus* and other wild legumes (Fabaceae), and *Nicotiana* (Solanaceae). Each of these hosts support populations with varying stem color, branching frequency, and flower color. Despite reports that such plants lack chlorophyll (e.g. Fischer *et al*., 2011, Willdenowia 41: 51-56 – see Literature section below) we have always found chlorophyll, though it is masked by the anthocyanins.

Here we confirm that a member of Bignoniaceae is host to *S. gesnerioides*. Some herbarium labels in Windhoek had suggested *Catophractes* as a possible host but we were able to confirm this now by excavating the parasite and tracing it to the root of the shrub. The flower and stem color of this variant are quite different from other morphotypes. Plants are always a reddish-purple with a purple corolla and a large haustorium (2.5 cm across). Of the various 'strains' of this species that we have studied in Africa, the *Catophractes* parasites most closely resemble those parasitizing *Euphorbia*.

Striga gesnerioides parasitising *Catophractes alexandri*, Outjo, Namibia. The woolly white leaves of the host are obvious.

The cropping system in the communal farming regions of northern Namibia is mixed cropping with millet (*Pennisetum americanum*), known locally as mahango, and *Zea mays* the favoured cereals. Fields also contain bambara nuts (*Vigna subterranea*) and cowpea (*Vigna unguiculata*) and less frequently peanuts (*Arachis hypogea*). We found no *S. gesnerioides* on cowpea or bambara nut though there is one record in the Windhoek herbarium of *S. gesnerioides* on cowpea, which could be growing on a different host in a cowpea field. However, within these fields this parasite was frequent on *Alysicarpus vaginalis* and *Indigofera arenophila*.

The situation with ***Striga asiatica*** is much different. At a new commercial maize cropping scheme near Rundu on the Angolan border, *S. asiatica* was parasitizing the crop. There was a marked increase in infestation since the first cropping season in 2011 when only a few *Striga* plants were observed. As a result, we examined about a dozen traditional fields that had mixed crops of mahango and maize. No witchweed was found on mahango or sorghum even when the maize was seriously attacked in the same field. Maize, a New World crop, is particularly susceptible to witchweed.

S. asiatica is native in Namibia and occurs scattered in acacia bush savannas. It is not clear if this is the source of the agronomically important parasites. *S. asiatica* parasitizing grasses has consistently shorter and round corolla lobes. We plan further research using molecular markers to determine the variability within both species of witchweed.

Striga asiatica on *Digitaria* in Northern Namibia showing the short corolla lobes.

Witchweed parasitizing maize in a mixed mahango/maize field, Rundu, Northern Namibia

Several of the farmers we interviewed were unaware of the damage that *S. asiatica* can do to maize so it is important that a program for making them aware of the parasite, its potential, and its control be instituted as soon as possible.

Erika Maass, University of Namibia;
Kamal Mohamed, State University of New York-Oswego;
Lytton Musselman, Old Dominion University.

NOTE ON THE COMMERCIAL USE OF *XIMENIA AMERICANA*

Known by the unhelpful common name of hogplum, *Ximenia americana* is a thorny, deciduous shrub in the family Ximeniaceae (formerly placed in the Olacaceae). In colloquial American English, a plant common name with 'hog' in it usually refers to something of inferior value to the original. However, the fruit of hogplum is quite tasty - as good as a real plum. It is also known as tallow wood.

Fruits of *Ximenia americana* Photo Lytton Musselman

This is perhaps the most widely distributed native parasitic plant on the globe. (The most widely distributed parasitic weed is *Cuscuta campestris*, native to the United States but spread around the globe.) I have seen stands of *Ximenia* in southern Florida in the United States where hogplum is common in dwarf oak sand scrub, central Sudan where the green color of the leaves stand out in the dry season, New Caledonia where it forms thickets near the coast, and many places in western and southern Africa. But it is also reported to form dense stands in Australia and elsewhere in tropical and semi-tropical regions in both the Western and Eastern hemispheres.

I have traced its parasitic attachments to a diversity of hosts, it is a generalist in host selection. Germination of the large seeds is easy and unique. As the epicotyl emerges, the first two formed leaves, cataphylls, bend back into the inter-cotyledon space. Early naturalists noticed this and suggested that these cataphylls were forming parasitic attachments within the seed. Careful examination, however, shows that this is not the case, there is no connection between the cotyledons and cataphylls.

During a recent visit to Namibia, I was surprised to learn of an industry that has arisen around this parasitic shrub. *X. americana* and the more restricted *X. afra* are quite common in the central and northern region of that country and the fruits are collected for the oil expressed from the seeds. In 2011, 16.5 tons of seeds where harvested for a value of approximately US$19,500 according to Indigenous Natural Products in Namibia (INP Market Bulletin. 2011. *Ximenia.* Indigenous Natural Products in Namibia 3: 2.). That does not seem like a lot of money but represents a lot of *Ximenia* plants! And for the 300 or so collectors it is a significant income. Most of the oil is shipped to France for the cosmetics industry.

Lytton John Musselman, Old Dominion University

MEETING REPORT

The VI International Weed Science Congress (IWSC) was held from 17 to 22 June 2012, at the New Century Grand Hotel Hangzhou, Hangzhou, China. The congress attracted 545 weed scientists from 51 countries. During this congress, a symposium on the **'The state of art of parasitic plants research in the technological and biotechnological era'**, organized by the International Parasitic Plant Society (IPPS) and the International Weed Science Society (IWSS), was held on Tuesday 19 June, and the oral presentations were grouped into 4 sessions; ecology and seed-bank, biology, and two management sessions. The number of abstracts submitted to this symposium was 34 and there were 18 oral (including 3 invited talks) and 16 poster presentations. The final programme and the proceedings will soon be available from the IWSC homepage (http://www.congress.com.cn/IWSC2012/)

Oral presentations:

Ecology and seedbank

Yongqing Ma (invited talk, China) - The parasitic weeds problems in China-past and present situation.
A historical view of parasitic weed problems in China was given. *Orobanche*, *Phelipanche* and *Cuscuta* spp. are important weedy parasites in China but most of the attention and publications was focused on the herbal and medicinal traits of these plants and not on their damaging effect as parasitic weeds. In recent years up to 50% crop loss in sunflower production due to *O. cumana* infection was reported. Severe crop loss due to *P. aegyptiaca* in melon and tomato was also reported. *Cuscuta* was described in an old Chinese book (2200 years ago) but mainly as a medicinal herb. Since some water and methanol extracts of medicinal herbs could induce seed germination of *Orobanche* and *Phelipanche* spp., they could be used as trap crops.

Marc Cotter (Germany) - Predicting the potential future geographic distribution of *Striga* under climate and land use change.
Using GIS-based modeling complemented by greenhouse and field studies, the present geographic distribution of *Striga* species mainly in Sub-Saharan

Africa was defined more precisely and its potential future expansion was predicted. *Striga* was found to occur as patches and may spread to areas of similar climate conditions like northern Australia in 2020. To improve reliability of the prediction, detailed data on *Striga* distribution, local climate factors, management practices, soil types, and vegetation need to be included.

Rosemary I. Ahom (Nigeria) - Severity of *Striga hermonthica* (Del.) Benth.parasitism on small-scale maize farms in Benue State, Nigeria.
Extensive and intensive surveys were conducted on the extent of *S. hermonthica* infestation on maize in low-input farmers in Benue Sate Nigeria. The farmers identified *Striga* properly but 20% of them indicated that *Striga* was a useful medicinal herb. *Striga* infested both local and improved varieties and the more severe damage being observed in the former. Although intercropping was adopted widely, most of the farmers in the Northern zone gave up cropping maize due to the *Striga* problem. Hoe weeding was the only *Striga* control measure in their farms.

Tuvia Yaacoby (Israel) - Survival of the parasitic weed *Phelipanche aegyptiaca* in compost.
Since the source of heavy *P. aegyptiaca* infestations in tomato greenhouses was suspected to be parasite seeds originating from compost used as fertilizer, the ability of *P. aegyptiaca* seeds to survive the composting procedure was investigated. *P. aegyptiaca* seeds lost germinability when they were kept at > 55°C for 4 hours or at 45–50°C for 15 hours. Therefore, proper composting procedure can prevent spreading of *P. aegyptiaca* infestation.

Yaakov Goldwasser (Israel) - Survival of seeds of parasitic weeds in cow manure.
Cattle manure may contain weed seeds and thus has a high potential to disseminate them and infest farm fields. Seeds of *P. aegyptiaca* and *C. campestris* were examined for their survival after passing through the cow digestive system, in farm liquid slurry in the reception pits in cattle sheds and in compost piles. *P. aegyptiaca* seeds could not survive the 3 day passage through the cow stomach while up to 36% of *Cuscuta* seeds could survive. Similar trends could be observed in the submersion treatment in cattle slurry and in the compost pile. The resistance of *C. campestris* seeds is probably due to its hard seed coat.

Biology

Linjian Jiang (China) - Interspecies protein trafficking endows the parasitic flowering plant dodder (*Cuscuta* spp.) with a host-specific herbicide tolerant phenotype.
It was examined how dodder (*C. pentagona* = *C. campestris*) interacted with transgenic glufosinate tolerant hosts carrying the detoxifying enzyme phosphinotricin acetyl transferase (PAT) gene. The interspecies trafficking of PAT protein from hosts to the parasite was detected by ELISA, but not that of PAT mRNA by RT-PCR. This may provide a basis for novel approaches to parasitic weed control by preventing interspecies trafficking of targeted enzymes.

Airong Li (China) - Nutrient strategies of root hemiparasitic *Pedicularis* (Orobanchaceae).
Both of the two sympatric root facultative hemiparasites *Pedicularis rex* and *P. tricolor* have been shown to have wide host ranges but different host preferences. Since they form symbiotic relationship with AM fungi, effects of host plants and AM fungi on growth of these hemiparasites and on phosphorus (P) acquisition were examined. Contribution of AM pathway in P acquisition was negligible in the absence of hosts but AM colonization affects host-derived P acquisition. In addition, AM colonization significantly reduced the number of haustoria (Li *et al.*, 2012. Ann. Bot. 109: 1075-1080 – see Literature below). Inhibition of haustorium induction would be a promising target for both facultative root hemiparasites as well as obligate root parasites.

Kaori Yoneyama (Japan) - Seed germination stimulants for *Phelipanche ramosa* produced by oilseed rape.
2-Phenylethyl isothiocyanate (ITC) was found to be a major germination stimulant for *P. ramosa* produced by oilseed rape (*Brassica napus*). This non-mycotrophic plant also produced orobanchyl acetate and novel strigolactones but the amounts exuded were quite low as compared with mycotrophic plants. Then, 21 ITCs were examined for their germination stimulation activities on *P. ramosa* and *O. minor*. Among them, C_{4}-$_{12}$ alkyl-ITCs, and benzyl- and 2-phenylethyl-ITC but not phenyl-ITC were active *P. ramosa* germination stimulants. By contrast, these ITCs were totally inactive on *O. minor* seeds. ITCs are important germination stimulants for *P. ramosa*, and *P. ramosa* has developed a special seed germination strategy to parasitize oilseed rape.

Tal Shilo (Israel) - Glyphosate inhibits the translocation of macromolecules in the parasitic association between Egyptian broomrape (*Phelipanche aegyptiaca*) and tomato (*Solanum lycopersicum*).
To examine a hypothesis that glyphosate restricts the translocation of phloem solutes from tomato (host) to *P. aegyptiaca*, a cross-bred transgenic tomato line expressing resistance to glyphosate and green fluorescent protein (GFP) was used. In the control (without glyphosate) treatment, a gradual increase in tubercle fluorescence was observed, indicating accumulation of GFP. By contrast, GFP accumulation in *P. aegyptiaca* tubercles was inhibited following glyphosate application. These results supported the hypothesis.

Zhi Wei Fan (China) - Induced host resistance as a control method for parasitic weeds.
The efficacy of acibenzolar-S-methyl (ASM, BTH) an inducer of systemic acquired resistance (SAR), in soybean dodder (*Cuscuta australis*) control was examined. ASM at 100–200 mg/L significantly reduced dodder biomass without affecting growth of soybean. Accordingly induction of SAR by ASM when combined with other control methods would provide effective control strategy for soybean dodder.

Management

Murizio Vurro (invited talk, Italy) - Renewing the interest in biological control of parasitic weeds: use of strigolactone-degrading microbes.
Extensive studies on microoroganism-derived compounds which inhibit or stimulate germination of broomrape seeds, and thus could be used as biological agents for managing broomrapes, were summarized. A novel approach to biological control of root parasitic weeds has been proposed – using microorganisms which grow along the root system of the host plant, degrade strigolactones (SLs) rapidly, and thus prevent germination of parasite seeds. Distinct differences were observed among microorganisms, treatments and SLs used.

George D. Odhiambo (Kenya) – Interaction between phosphorus and desmodium on *Striga hermonthica* (Del.) Benth. incidence and maize yield in western Kenya.
The influence of phosphorus (P) on effectiveness of two desmodium species (*D. uncinatum* and *D. intorum*) on *S. hermonthica* infestation and maize grain yield was investigated in western Kenya where the soil was P deficient. Application of P at 46 and 69 kg $P_2O_5 ha^{-1}$ significantly reduced *Striga* seedbank after three continuous cropping seasons. P fertilization of desmodium induced early emergence of *Striga* but later, as desmodium became matured, effectively suppressed *Striga* emergence. Farmers in P deficient areas are advised to fertilize their field with P to achieve optimum results.

Chinnusamy Chinnagounder (India) - Integrated management of witchweed (*Striga asiatica* L.) in early planted sugarcane (*Saccharum officinarum* L.) under red sandy loam soils of Tamil Nadu.
Field experiments were carried out to evaluate herbicidal management techniques for controlling *S. asiatica* in sugarcane. An integrated management system including pre-emergence application of atrazine (1.0 kg ha^{-1}), subsequent hand-weeding of emerged *Striga* shoots, and post-emergence application of 2,4-D sodium salt (5g L^{-1}) + urea (20 g L^{-1}) was proven to be effective in reducing *S. asiatica* infection in sugarcane under red sandy loam soils.

Hanan Eizenberg (invited talk, Israel) - The contribution of advanced technologies for broomrape (*Orobanche* and *Phelipanche* spp.) management.
As broomrapes are highly sensitive to herbicides in the underground stages, information for their spatial distribution and quantification of their developmental stages should contribute to management success. The temporal variation was quantified and broomrape parasitism was predicted by a thermal time model. Spatial variation of broomrape infestation within a field and between fields was estimated by the use of Geographical Information Systems (GIS) and other advanced technologies including *in-situ* observation using a minirhyzotron for parasitic weed mapping, and field history data storage. This allows accurate mapping of the spatial distribution of broomrape in the field and use of these data for Site Specific Weed Management (SSWM). An example of a decision support system for rational management of Egyptian broomrape (*P. aegyptiaca*) was presented.

Amnon Cochavi (Israel) - A thermal-time model for predicting the parasitism of *Phelipanche aegyptiaca* in carrot (*Daucus carota*).
A thermal-time model for predicting the initial parasitism of *P. aegyptiaca* in carrot was studied. Although the initial parasitism of *P. aegyptiaca* in tomato, *O. minor* in red clover and *O. cumana* in sunflower could be predicted by using a linear equation, this was not applicable to *P. aegyptiaca* in carrot. Instead, a beta function equation could robustly predict the tubercle growth stage (1-2 mm) which is highly sensitive to the herbicide glyphosate.

Evgenia Dor (Israel) - The resistance mechanism to imidazolinones herbicides of a novel tomato mutant HRT1 for broomrape management.
A tomato mutant HRT1 resistant to imidazolinone herbicides was screened from an EMS treated tomato line M82. Acetolactate synthase (ALS) of HRT1 was less sensitive to the imidazolinone herbicides imazamox, imazapic and imazapyr, but equally sensitive to sulfonylurea and pyrimidinylthiobenzoate herbicides as compared to ALS from M82. HRT1 ALS genes revealed four mutations and one of them resulted in the replacement of Ala194 to Val corresponding to Ala205 in the conserved region of *Arabidopsis* ALS. This mutation appeared to confer resistance to imidazolinone herbicides.

Satbir Punia (India) - Management of *Phelipanche aegyptiaca* in mustard and tomato in North-West India.
Extensive field trials to establish feasible management of *P. aegyptiaca* in mustard and tomato in North-West India were conducted. Application of different kinds of organic and inorganic fertilizers and foliar

treatment with crop oils were not effective. Seed coating with residual herbicides delayed the emergence of *P. aegyptiaca*. Post-emergence application of glyphosate provided promising results. Addition of 1% $(NH_4)_2SO_4$ to glyphosate spray enhanced its efficacy. Nitrogen fertilization (40 kg ha^{-1}, 3 times) could alleviate crop loss caused by the parasite.

Poster presentations:

Ecology and seedbank

Wentao Yu (China) - Expressed sequence tag (EST) - intron length polymorphism (ILPs) as a molecular tool for the identification of *Cuscuta* species.

Biology

Yongqing Ma (China) - Induction of sunflower broomrape (*Orobanche cumana*) seed germination by some hybrid maize (*Zea mays* L.) varieties and their parents.

Wei Zhang (China) - Induction of sunflower broomrape (*Orobanche cumana*) seeds germination by different soybean (*Glycine max*) varieties.

Ana A. Stepowska (Poland) - Light and scanning electron microscopy studies on the *Phelipanche ramosa* L. Pomel development parasitizing tomato plants.

Dragana M. Bozic (Serbia) - Effect of salinity on seed germination of *Cuscuta campestris* Yunck.

Zhaohu Li (China) - Programmed cell death facilitates the dispersion of dodder.

Management

Gui-Lin Chen (China) - The resistance of different sunflowers to *Orobanche Cumana* Wallr. in seedling stage.

Hanan Eizenberg (Israel) - A multidisciplinary integrated approach for alleviating broomrape damage in Israeli agriculture - an emergency national project, 2010-2013.

Murali Arthanari Palanisamy (India) - Integrated *Cuscuta* management in legume fodder lucerne *Medicago sativa*) and leafy vegetable (*Amaranthus viridis*).

Goran Malidza Serbia) - Broomrape (*Orobanche cumana*) control in tribenuron-tolerant sunflower.

Hanan Eizenberg (Israel) - Modelling approach for the prediction of parasitism dynamics in the root holoparasite broomrapes (*Orobanche* and *Phelipanche* spp.).

Germination stimulants

Hyun-il Kim (Korea, Japan) - Germination stimulating activity of strigolactone mixtures.

Takaya Kisugi (Japan) - Germination stimulants for root parasitic weeds produced by faba bean.

Takahito Nomura (Japan) - Analysis of endogenous strigolactones using plant cell cultures.

Xiaonan Xie (Japan) - Characterization of strigolactones produced by tobacco plant.

Pichit Khetkam (Thailand, Japan) - Strigolactones in root exudates from rice plants.

Koichi Yoneyama and Yaakov Goldwasser

PRESS RELEASES

Global Food Security Center Hires Manager, Receives Grants (abridged)

The recently created Center for Global Food Security at Purdue University has hired a managing director and received grants totalling $10 million for work to improve crops in Africa and train the next generation of global food security experts.

Gary Burniske, who had been director of Mercy Corps operations in Bogotá, Colombia, since 2006, will run daily operations of the center at Discovery Park, a complex of organizations leading large-scale collaborative research on campus engaging faculty, students and industry in state, national and global partnerships and entrepreneurial education. Burniske's appointment comes at a time when the center, established in 2011, will begin work on two major projects that have received significant funding and align with two of the center's core mission areas - research and education:

A four-year, multidisciplinary research and development program on the control of the parasitic *Striga* weed, which infests sorghum and other crops in Africa, damaging or destroying them. The center received a $5 million grant from the Bill & Melinda Gates Foundation to further research and establish programs for a sustainable ***Striga* c**ontrol and institutional development effort in the African nations of Tanzania and Ethiopia.

The *Striga* research will build on the work of Gebisa Ejeta, the center's director and Distinguished Professor of Agronomy who received the World Food Prize in 2009 for developing sorghum varieties resistant to drought and *Striga* in his native Africa, where sorghum is a major crop. The new effort will focus on furthering knowledge of biological interactions between *Striga* and sorghum through research in chemistry, molecular genetics and crop improvement.

'In the previous research, we focused on controlling *Striga* through manipulation of resistance genes in the host plant,' Ejeta said. 'Now we will expand the research to explore the role of virulence genes in the pathogen to

avoid catastrophic breakdown of resistance.' Shorter-term solutions will involve establishing sustainable *Striga* control programs by adapting previously piloted *Striga* management technologies to the variety of environments and livelihoods of small-scale farmers in highly infested regions of Ethiopia and Tanzania.

Ejeta will direct the project, which will include Tesfaye Mengiste, a Purdue professor of botany and plant pathology, and Harro Bouwmeester, who heads the Laboratory of Plant Physiology at Wageningen University in the Netherlands. They will collaborate with the agriculture ministries in Ethiopia and Tanzania.

Purdue University,
20 Feb 2012.

Mistletoe was controversial choice for Oklahoma flower

For 114 years, Oklahoma's state flower was the mistletoe. But it was always a controversial choice. In February 1893, while the 2nd Territorial Legislature met in Guthrie, Rep. John A. Wimberly introduced the bill to designate mistletoe as the official floral emblem. The Women's Congress of the Columbian World Exposition held in Chicago in 1893 had proposed that the states should consider selecting floral emblems to represent their state at the exposition. While Oklahoma was not a state, the Oklahoma Pavilion at the exposition, also known as the Chicago World's Fair, promoted the territory to exposition visitors. Wimberly was the youngest member of the House of Representatives and it was he who, according to The Oklahoman on April 19, 1925, suggested 'one of the most interesting traditions.' 'One day the question of the state flower was brought up. Everything from daisies to American Beauty roses was suggested. A representative from the southern part of the Territory wanted forget-me-nots. 'That's a good name for a state flower, and it's a pretty flower too,' he said. 'Mr. Wimberly remembered how hard the previous winter had been and that when settlers had died and there were no flowers to put on the graves: 'the only thing in the whole country with a bit of color was mistletoe.' So it was adopted as the new territory's floral emblem.

'Years later when Oklahoma became a state, members of the constitutional convention carried the old territorial flower over into statehood, thus confirming what has since become one of Oklahoma's oldest traditions.'

Every few years after it seemed someone would propose a change, it would be discussed and mistletoe would remain. The sweet pea, yucca and the cowboy rose (not a rose but a part of the mallow family), were among those proposed, but probably the most unusual was the alfalfa blossom.

Before we were even a state, in 1906, William H. Murray stated his preference for alfalfa in a letter to the editor of The Oklahoman: 'Who, indeed, would desire to adopt for a state flower, a parasite? Let greater Oklahoma be known as the 'Alfalfa State.' In an editorial in The Oklahoman for June 17, 1912, the newspaper came out in support of alfalfa as the state flower: 'Now that Oklahoma has become known as the marvelous alfalfa state, why not use the alfalfa blossom as the state flower?' 'The alfalfa blossoms are pretty; they enrich the scenery, added to the artistic part, alfalfa, is the mortgage lifter of Oklahoma. It is the crop which brings riches to the state; it is a crop which means more to the future than any other crop.' 'Alfalfa blossom — the state flower. It should be adopted'

The hardy little mistletoe stood firm from 1890 until 2004 when Gov. Brad Henry signed a bill into law making the Oklahoma Rose our official state flower. The mistletoe remains the state floral emblem.

Mary Philips for The Archivist
June 28, 2012

Global warming to spur invasive Australian 'sleeper' weeds

Global warming may shift the range of invasive weeds in Australia by hundreds of miles and awaken so-called 'sleeper weeds,' according to scientists with the Commonwealth Scientific and Industrial Research Organization **(CSIRO)**. Plant experts warned at the end of March warned that resource managers need to be prepared for big changes in the coming decades. Invasive weeds already cost Australia more than $4 billion (Australian) per year either in control of lost production, and, like elsewhere, displace native habitat and species.

At a recent conference in Perth, CSIRO scientist Dr. John Scott, said, those cost estimates are only based on the damage caused by weeds known to be active in Australia. 'Out there, throughout the nation, are many weed species lying low but with the potential to take off and add to the economic and social burden of weed control,' Dr Scott said. 'One critical unknown is what these lurking weeds will do under climate change. Will their distributions change? Will they spread north or south, east or west, and will these movements change them into full-blown pest species?'

A recent CSIRO report for the Australian Government's Land and Water Australia looked at what effects climate changes anticipated for 2030 and 2070 might have on the distribution of 41 weeds that pose a threat to agriculture ('sleeper' species) and the natural environment ('alert'

species). 'We found that climate change will cause most of these weeds to shift south, with wet tropical species making the greatest move – over 1,000 kilometers,' Scott said. 'The regions most at threat from alert and sleeper weeds, both under the current climate and under climate change, are south east Australia, followed by the south west.'

Karroo thorn (*Acacia karroo*), rosewood (*Tipuana tipu*) and kochia (*Bassia scoparia*) were found to pose the greatest threat under climate change while white weeping broom (*Retama raetam*) **and fringed dodder (*Cuscuta suaveolens*)** were predicted to have the highest risk of establishing in new areas.

'The predicted move south by both native and introduced plants would produce a 'vacuum' in northern Australia so, to prevent lurking species from invading, a new list of alert and sleeper weeds for this region needs to be developed,' Dr Scott said. The report also found that while the area currently infested by the most widespread weeds will decrease under climate change, the area of high risk would still be large.

Bob Berwyn for Summit County Citizens Voice
12 May 2012

CONGRATULATIONS

Dr Maurizio Vurro. Congratulations to Maurizio Vurro and Maria Antonietta Novielli on their recent marriage in Bari, Puglia on March 21st, 2012. With best wishes from us all.

Dr Bikash Ray. Congratulations to Dr Bikash Ray on his promotion to the Pulses and Oilseeds Research Station, Berhampore, West Bengal India, where he will be exploring the availability of resistance to *Orobanche aegyptiaca* in rapeseed and mustard.

FORTHCOMING MEETING

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 from mid October 2012. An e-mail will be sent to everyone who receives Haustorium once the website is available.

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/
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 The Mistletoe Center (including a comprehensive Annotated Bibliography on mistletoes, up to 1995?) see: http://www.rmrs.nau.edu/mistletoe/
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
For information on the work of the African Agricultural Technology Foundation (AATF) on *Striga* control in Kenya, including periodical 'Strides in *Striga* Management' newsletters, see: http://www.aatf-africa.org/

THANKS

As editors of Haustorium, Harro Bouwmeester and Chris Parker wish to thank Jim Westwood for his stalwart help, support and encouragement in the production of this newsletter over the past many years, particularly helping Chris with literature items that were beyond his comprehension. We may yet trouble him further but will try to leave him in peace.

LITERATURE

* indicates web-site reference only

Abad Domínguez, A.B., Torres Martínez, G., Montealegre Lara, A.L. and Barrera, O. 2005. (Detection of seeds of quarantined weed species in Mexico in observance of NOM-043-FITO-1999.) (in Spanish) XVII Congreso de la Asociación Latinoamericana de Malezas (ALAM) I Congreso Iberoamericano de Ciencia de las Malezas, IV Congreso Nacional de Ciencia de Malezas, Matanzas, Cuba, 8 al 11 de noviembre del 2005: 359-364. [Describing the official Mexican standard 'Specifications to prevent the introduction of quarantined weed species in Mexico' listing 64 species in 21 families, including Orobanchaceae, Scrophulariaceae, Convolvulaceae.]

Abella, S.R., Prengaman, K.A., Embrey, T.M., Schmid, S.M., Newton, A.C. and Merkler, D.J. 2012. A hierarchical analysis of vegetation on a Mojave Desert landscape, USA. Journal of Arid Environments 78: 135-143. [Noting the use of *Krameria grayi* as an ecological indicator.]

Adaramoye, O., Amanlou, M., Habibi-Rezaei, M., Pasalar, P. and Moosavi-Movahedi, A. 2012. Methanolic extract of African mistletoe (*Viscum album*) improves carbohydrate metabolism and hyperlipidemia in streptozotocin-induced diabetic rats. Asian Pacific Journal of Tropical Medicine 5(6): 427-433. [Extract of '*V. album*' (in Turkey?) has anti-diabetic and anti-hyperlipidemic effects in STZ-diabetic rats.]

Adnan Amin and Khan, M.A. 2011. In vitro bactericidal and bacteriostatic potential of ingredients of traditional medicine obtained from Kacha area (River Indus) district D.I. Khan, KPK, against human bacterial pathogens. Pakistan Journal of Botany 43(5): 2613-2617. [*Ximenia americana* among 5 species showing antimicrobial activity.]

Aichner, M., Oberauner, L., Liebminger, S., Fürnkranz, M. and Berg, G. 2012. Volatile organic compounds of plant-associated bacteria to reduce microbial contamination on clean room textile. In: Pertot, I., Elad, Y., Gessler, C. and Cini, A. (eds) IOBC/WPRS Bulletin 78: 381-384. [Volatile organic compounds from natural antagonistic endophytes from mistletoe (presumably *Viscum album*) inhibited the growth of *Stenotrophomonas maltophilia*.]

Akhilesh Kumar, Pandey, V.C. and Tewari, D.D. 2012. Documentation and determination of consensus about phytotherapeutic veterinary practices among the Tharu tribal community of Uttar Pradesh, India. Tropical Animal Health and Production 44(4): 863-872. [Recording 'great agreement among informants' for the use of *Cuscuta reflexa.*]

Alder, A., Jamil, M., Marzorati, M., Bruno, M., Vermathen, M., Bigler, P., Ghisla, S., Bouwmeester, H., Beyer, P. and Al-Babili, S. 2012. The path from β-carotene to carlactone, a strigolactone-like plant hormone. Science (Washington) 335(6074): 1348-1351. [A breakthrough paper on the elucidation of the strigolactone biosynthetic pathway. The catalytic function of DWARF27 was determined to be the isomerisation of *trans* to *cis*-ß-carotene. The latter serves as substrate for CCD7 and the resulting apocarotenoid as substrate for CCD8. This 3-step pathway results in the formation of the highly surprising compound carlactone that already has the D-ring that is so characteristic for strigolactones and stimulates the germination of *Striga* and *Orobanche/Phelipanche.*]

Ali, I.H.H. and El-Yazal, M.A. 2011. Efficacy of glyphosate herbicide against dodder and its impact on some biochemical parameters on host plant *Nerium oleander* L. and a survey of host range of some ornamentals at Fayoum. Bulletin of Faculty of Agriculture, Cairo University 62(4): 494-502. [Recording *C. campestris* on 11 host species in Egypt and noting its selective control on oleander by glyphosate at 200 and 400 ppm.]

Aly, R. 2012. Advanced technologies for parasitic weed control. Weed Science 60(2): 290-294. [Reviewing the need for alternative biotechnology-methods and describing the generation of transgenic tobacco plants expressing a cecropin peptide (*sarcotoxin IA*), under the control of the inducible *HMG2* promoter and showing enhanced resistance to *Phelipanche aegyptiaca.* (see also Haustorium 59 pp 2-3).]

Almehdar, H., Abdallah, H.M., Osman, A.M.M. and Abdel-Sattar, E.A. 2012. In vitro cytotoxic screening of selected Saudi medicinal plants. Journal of Natural Medicines 66(2): 406-412. [In studies with human breast cancer (MCF7), hepatocellular carcinoma (HEPG2), and cervix cancer (HELA) cells, 'interesting cytotoxic activity' was observed for extracts of *Phragmanthera austroarabica*.]

Amico, G.C., Vidal-Russell, R., García, M.A., and Nickrent D.L. 2012. Evolutionary history of the South American mistletoe *Tripodanthus* (Loranthaceae) using nuclear and chloroplast markers. Systematic. Botany 37: 218-225. [Results from a combined analysis of ITS and plastid genes showed the *Tripodanthus flagellaris* clade (including *T. belmirensis*) as sister to *T. acutifolius* which was composed of eastern and Andean clades.]

Amri, M., Abbes, Z., Youssef, S.B., Bouhadida, M., Salah, H.B. and Kharrat, M. 2012. Detection of the parasitic plant, *Orobanche cumana* on sunflower (*Helianthus annuus* L.) in Tunisia. African Journal of Biotechnology 11(18): 4163-4167. [Recording the first occurrence of *O. cumana* on sunflower in Tunisia and discussing the need for quarantine and control measures to reduce its spread.]

Atera, E.A., Itoh, K., Azuma, T. and Ishii, T. 2012. Farmers' perspectives on the biotic constraint of *Striga hermonthica* and its control in western Kenya. Weed Biology and Management, 12: 53–62. [*Striga hermonthica* is regarded as a major constraint to maize, sorghum, and finger millet production and is increasing in the region. Local control measures include hand-pulling, crop rotation, and intercropping, but are not

widely adopted as there is no guarantee of a direct pay-off in increased crop yield.]

Atera, E.A., Itoh, K., Azuma, T. Ishii, T. 2012. Response of NERICA rice to *Striga hermonthica* infections in western Kenya. International Journal of Agriculture and Biology 14(2): 271-275. [Confirming rice varieties NERICA 1 and NERICA 10 are resistant to *S. hermonthica*, while NERICA 4 is highly susceptible. Yield loss ranged between 33 and 90%.]

Atera, E.A., Itoh, K., Azuma, T. Ishii, T. 2012. Farmers' perception and constraints to the adoption of weed control options: the case of *Striga asiatica* in Malawi. Journal of Agricultural Science (Toronto) 4(5): 41-50. [Farmers attribute increasing infestation of maize by *Sriga asiatica* in central Malawi to insufficient funds to purchase inputs, low soil fertility and lack of grazing animals. Control options are not implemented because they are not trusted.]

Ayesha Mateen, Suresh, P.V.K. and Parwez Ahmed. 2011. Evaluation of antibacterial activity of *Cuscuta reflexa* and *Abutilon indicum*. International Journal of Pharma and Bio Sciences 2(4): B-355-B-361. [Confirming the antimicrobial activity of ethanol extracts of *C. reflexa* against a range of bacteria.]

Ayupbek, A., Ziyavitdinov, J.F., Ishimov, U.J., Sagdiev, N.Z., Kuznetsova, N.N., Hu KeLin and Aisa, H.A. 2012. Phenylethanoid glycosides from *Cistanche tubulosa*. Chemistry of Natural Compounds 47(6): 985-987.

Babalola, O.O. 2010. Exogenous cellulase contributes to mycoherbicidal activity of *Fusarium arthrosporioides* on *Orobanche aegyptiaca*. International Journal of Agronomy, 2010: Article ID 963259, 4 pp. [Addition of cellulose increases activity of *F. arthrosporioides* against *O. aegyptiaca* without causing damage to tomato roots.]

Badu-Apraku, B. and Oyekunle, M. 2012. Genetic analysis of grain yield and other traits of extra-early yellow maize inbreds and hybrid performance under contrasting environments. Field Crops Research 129: 99-110. [The available extra-early maize inbred lines are not only drought escaping but also possess genes for drought tolerance. TZEEI 79 × TZEEI 63 was the best extra-early hybrid under infestation by *Striga hermonthica*.]

Bandaranayake, P.C.G., Tomilov, A., Tomilova, N.B., Ngo, Q.A., Wickett, N., de Pamphilis, C.W. and Yoder, J.I. 2012. The *TvPirin* gene is necessary for haustorium development in the parasitic plant *Triphysaria versicolor*. Plant Physiology 158(2): 1046-1053. [Showing that TvPirin homologs are present in most flowering plants, and are not parasite-specific but are associated with the expression of a number of genes, some of which are involved in haustorium development.]

Barbu, C. 2010. Silver fir stands infected by mistletoe (*Viscum album* ssp. *abietis*) dynamics in the context of climate change. Lucrări Ştiinţifice, Universitatea de Ştiinţe Agricole Şi Medicină Veterinară "Ion Ionescu de la Brad" Iaşi, Seria Horticultură 53(1): 609-614. [A modelling study of the effects of climate change on *V. album* infestation of silver fir in Romania.]

Barea, L.P. 2012. Habitat influences on nest-site selection by the Painted Honeyeater (*Grantiella picta*): do food resources matter? Emu - Austral Ornithology 112(1): 39-45. [Showing that nest-site selection by the Painted Honeyeaters was largely explained by abundance and proximity of (unspecified) mistletoe clumps and discussing the need to conserve mistletoes in the interest of conserving this declining bird species.]

Barrett, T.M., Latta, G., Hennon, P.E., Eskelson, B.N.I. and Temesgen, H. 2012. Host-parasite distributions under changing climate: *Tsuga heterophylla* and *Arceuthobium tsugense* in Alaska. Canadian Journal of Forest Research 42(4): 642-656. [Analysis of 1549 forested plots within a 14.5 million ha region of southeast Alaska suggest that climate currently limits the range of *A. tsugense* on *Tsuga heterophylla* and that certain models for climate change suggest up to 750% increase in distribution over the next century.]

Beavan, S.D. and Heckford, R.J. 2012. Discovery of the larva of *Gynnidomorpha permixtana* ([Denis & Schiffermüller], 1775) (Lepidoptera: Tortricidae) in the British Isles and a consideration of the species' distribution there. Entomologist's Gazette 63(2): 69-83. [Larvae of *G. permixtana* found feeding in seed-capsules of *Odontites vernus* and *Rhinanthus minor*.]

Berg, G., Hartenberger, K., Liebminger, S., Zachow, C., Pertot, I., Elad, Y., Gessler, C. and Cini, A. 2012. Antagonistic endophytes from mistletoes as bio-resource to control plant as well as clean room pathogens. IOBC/WPRS Bulletin 78: 29-32. [Endophytes from *Viscum album* show activity against a range of bacteria and fungi.]

Blick, R.A.J., Burns, K. and Moles, A.T. 2012. Predicting network topology of mistletoe-host interactions: do mistletoes really mimic their hosts? Oikos 121(5): 761-771. [Concluding that Australian mistletoes do not mimic their hosts.]

Borokini, T.I. and Omotayo, F.O. 2012. Phytochemical and ethnobotanical study of some selected medicinal plants from Nigeria. Journal of Medicinal Plants Research 6(7): 1106-1118. [Identifying components in a range of plants, including *Tapinanthus globiferus* which tend to support their traditional medicinal uses.]

Braby, M.F. 2012. New larval food plants and biological notes for some butterflies (Lepidoptera: Papilionoidea) from eastern Australia. Australian Entomologist 39(2): 65-68. [*Pieris rapae* recorded for the first time on *Lysiana spathulata* (Loranthaceae).]

Bracci, A., Amat, A.G., Maione, F., Cicala, C., Mascolo, N. and de Feo, V. 2012. Diuretic activity of *Lophophytum leandri*. Natural Product Communications 7(1): 33-34. [Confirming the diuretic activity of extracts of *L. leandri* (Balanophoraceae), used traditionally in Argentina.]

Brokamp, G., Dostert, N., Cáceres-H, F. and Weigend, M. 2012. Parasitism and haustorium anatomy of *Krameria lappacea* (Dombey) Burdet & B.B. Simpson

(Krameriaceae), an endangered medicinal plant from the Andean deserts. Journal of Arid Environments 83: 94-100. [*K. lappacea* is an endangered, hemiparasitic, medicinal plant from the semi-deserts of Andean South America, and is being overexploited. The work in Peru confirms that it has a very wide host range. The need for conservation strategies and adequate management are stressed.]

Brown, A., Eatt, J., Done, C., Raymond, D. and Pattison, M. 2011. Indian sandalwood. Perfumer & Flavorist 36(22): 26-34. [A study of 90 *Santalum album* trees in Western Australia show good correlations between stem diameter, merchantable mass yield and heartwood yield. Together with observed oil yield from heartwood, the results contribute to the development of a predictive model.]

Burlov, V. 2010. Breeding of sunflower resistant to new races of broomrape (*Orobanche cumana* Wallr.). Helia 33(53): 165-172. [Noting the occurrence of a virulent form of *O. cumana* in the Black Sea region since 2004, infesting sunflower with resistance to race E. But noting the development of maternal lines of sunflower hybrids whose stability to the new race is controlled by a single dominant gene, Or^6.]

Campagna, G. and Rapparini, G. 2011. (Prevention and control of dodder.) (in Italian) Informatore Agrario 67(45): 62-65. [A brief review of potential control methods including crop rotation, use of uncontaminated seed and irrigation water, and the herbicides pendimethalin, chhlorpropham, ethofumesate and propyzamide.]

Castillejo, M.Á., Fernández-Aparicio, M. and Rubiales, D. 2012. Proteomic analysis by two-dimensional differential in gel electrophoresis (2D DIGE) of the early response of *Pisum sativum* to *Orobanche crenata*. Journal of Experimental Botany 63(1): 107-119, [Results suggest different defence responses to *O. crenata* in susceptible and more resistant pea varieties, apparently associated with certain proteins with protease activity.]

Chandrakasan, L. and Neelamegam, R. 2011. GC-MS analysis of *Loranthus longiflorus* Desr. (a hemi-parasite) bark harvested from two host trees. Journal of Pharmacy Research 4(9): 3072-3074. [Extracts from the bark of *L longiflorus* (= *Dendrophthoe falcata*) growing on *Casuarina equisetifolia* showed anti-microbial and anti-cancer properties, while the same species growing on *Ficus religiosa* contained different components, without useful activity.]

Chandrakasan, L. and Neelamegam, R. 2011. *In vitro* studies on antioxidants and free radical scavenging activities in the extracts of *Loranthus longiflorus* Desr. bark samples obtained from two host trees. Journal of Phytology 3(12): 22-30. [Showing some small differences in the antioxidant constituents and free radical scavenging activities of extracts from *L. longiflorus* (= *Dendrophthoe falcata*) growing on the hosts *Casuarina equisetifolia* and *Ficus religiosa*.]

Chang FuYe, Li Yun and Wan JiFeng. 2012. (Function of *Cistanche deserticola* Y. C. Ma anti-aging, regimen and facial make-up.) (in Chinese) 2012. Chinese Archives of Traditional Chinese Medicine 30(3): 472-473. ['It is believed that *C. deserticola* invigorates the kidney the function to achieve anti-aging, regimen and facial make-up purposes.' (sic)]

Chen, C.Q., Han, S., Gao, J. and Yang, L.N. 2012. First report of ginseng (*Panax ginseng*) as a natural host of dodder (*Cuscuta japonica*) in China. Plant Disease 96(2): 297. [Reporting poor growth, chlorosis, wilting, and eventual death in a field of ginseng infested by *C. japonica* in Jilin Province, China.]

Chen JaoShien and Hsiao ShuChuan. 2011. Study on seed morphogenesis of Orobanchaceae in Taiwan. Taiwania 56(4): 267-278. [Embryos of *Aeginetia indica* were of solanad type, while in *Boschniakia himalaica* and *Orobanche caerulescens* they were of onagrad type. All seeds consisted of embryo, endosperm and testa.]

Chiou WenFei, Shen ChienChang and Lin LieChwen. 2011. Anti-inflammatory principles from *Balanophora laxiflora*. Journal of Food and Drug Analysis 19(4): 502-508. [Concluding that isolariciresinol modulates the production of inflammatory mediators through the attenuation of NF-κB transcription signalling.]

Cursino, L.M.C., Santos, I., Mariúba, L.A.M., Jeffreys, M.F., Lima, N.M., Oliveira, J.L., Orlandi, P.P., Nunez, C.V. and Rastrelli, L. 2011. Antibacterial activity of *Minquartia guianensis* extracts and phytochemical evaluation. Emirates Journal of Food and Agriculture 23(6): 505-510. [Confirming activity of *M. guianensis* against several bacteria and identifying 4 triterpenes - lupeol, taraxerol, lupenona and squalene.]

Czarnecka, J. 2011. The role of linear structures in agricultural landscape in the maintenance of xerothermic species. Acta Agrobotanica 64(4): 151-158. [Including information on *Melampyrum arvense*.]

Daryaei, M.G. and Moghadam, E.S. 2012. Effects of mistletoe (*Viscum album* L.) on leaves and nutrients content of some host trees in hyrcanian forests (Iran). International Journal of Agriculture: Research and Review 2(3): 85-90. [Studies on *V. album*-infested hornbeam (*Carpinus betulus*) and alder (*Alnus glutinosa*) showed reduction of area and weight of host leaves, and lowered N, but increased K, Mn and Zn.]

de Camargo, N. F., Cruz, R.M.S., Ribeiro, J. F. and Vieira, E.M. 2011. (Frugivory and potential seed dispersal by the marsupial *Gracilinanus agilis* (Didelphidae: Didelphimorphia) in areas of Cerrado in central Brazil.) (in Portuguese) Acta Botanica Brasilica 25(3): 646-656. [*Phoradendron perrottetii* among the species eaten by *G. agilis*. Germination was not affected by passage through the gut.]

de Wet, H., Nzama, V.N. and van Vuuren, S.F. 2012. Medicinal plants used for the treatment of sexually transmitted infections by lay people in northern Maputaland, Kwazulu-Natal Province, South Africa. South African Journal of Botany 78: 12-20. [*Sarcophyte*

sanguinea (Balanophoraceae) among 33 species used to treat sexually transmitted disease.]

Delaux, P.M., Xie, X., Timme, R.E., Puech-Pages, V., Dunand, C., Lecompte, E., Delwiche, C.F., Yoneyama, K., Bécard, G., Séjalon-Delmas, N. 2012 Origin of strigolactones in the green lineage. New Phytologist 195(4): 857-871. [The authors show that strigolactones and corresponding genes are present in primitive land plants and the Charales, freshwater algae, and control rhizoid elongation in the primitive plants. They suggest that the original biological function of strigolactones is not to facilitate mycorrhizal colonisation but plant development.]

Disadee, W. Mahidol, C., Sahakitpichan, P., Sitthimonchai, S., Ruchirawat, S. and Kanchanapoom, T. 2012. Unprecedented furan-2-carbonyl *C*-glycosides and phenolic diglycosides from *Scleropyrum pentandrum*. Phytochemistry 74: 115-122. [Five new copmpounds from *S. pentandrum* (Santalaceae) identified and evaluated for their radical scavenging activities using both DPPH and ORAC assays.]

Doehmer, J. and Eisenbraun, J. 2012. Assessment of extracts from mistletoe (*Viscum album*) for herb-drug interaction by inhibition and induction of cytochrome P450 activities. Phytotherapy Research 26(1): 11-17. [Extracts of *V. album* growing on hosts ash, fir and pine differed in their cytotoxic effects on liver cells. None showed potential for herb-drug interactions by interference with cytochrome P450.]

Dong LiNa, Li DeZhu and Wang Hong. 2011. (Species delimitation of *Pterygiella* (Orobanchaceae), a genus endemic to southwestern China on the basis of morphometric and molecular analyses.) (in Chinese) Plant Diversity and Resources 33(6): 581-594. [Revising the genus *Pterygiella* to include only three species, *P. nigrescens*, *P. duclouxii*, and *P. cylindrica*. *P. suffruticosa* is merged into *P. cylindrica* as a variety.]

Dongo, A., Leflon, M., Simier, P. and Delavault, P. 2012. Development of a high-throughput real-time quantitative PCR method to detect and quantify contaminating seeds of *Phelipanche ramosa* and *Orobanche cumana* in crop seed lots. Weed Research (Oxford) 52(1): 34-41. [The PCR (TaqMan) diagnostic method allowed rapid, high-throughput and accurate assessment of contamination of rapeseed and sunflower seeds with *P. ramosa* or *O. cumana* respectively, to the level of seeds per kg crop seed.]

Duda-Chodak, A., Tarko, T. and Rus, M. 2011. Antioxidant activity and total polyphenol content of selected herbal medicinal products used in Poland. Herba Polonica 57(1): 48-61. [*Viscum album* among plant extracts studied.]

Eizenberg, H., Aly, R. and Cohen, Y. 2012. Technologies for smart chemical control of broomrape (*Orobanche* spp. and *Phelipanche* spp.). Weed Science 60(2): 316-323. [Discussing a range of advanced techniques for optimising the control of *Orobanche aegyptiaca* in tomato. (see also Haustorium 59 pp 2-3).]

Encheva, J. and Shindrova, P. 2011. Developing mutant sunflower lines (*Helianthus annuus* L.) through induced mutagenesis and study of their combining ability. Helia 34(54): 107-122. [Describing the use of ultrasound as a means of creating mutant lines of potential value in breeding for resistance to *Orobanche cumana*.]

Ephrath, J.E., Herschenhorn, J., Achardi, G., Bringer, S. and Eizenberg, H. 2012. Use of logistic equation for detection of the initial parasitism phase of Egyptian broomrape (*Phelipanche aegyptiaca*) in tomato. Weed Science 60(1): 57-63. [From phytotron and greenhouse experiments at a range of temperatures, it was established that attachment of *P. aegyptiaca* on tomato began at 200 growing degree days (GDD) and maximum attachment was at 800 GDD.]

Estep, M.C., Gowda, B.S., Huang, K., Timko, M.P. and Bennetzen, J.L. 2012. Genomic characterization for parasitic weeds of the genus *Striga* by sample sequence analysis. Plant Genome, 5(1): 30-41. [[Genomics analysis of *Striga* spp. shows that their DNA contains repetitive elements. The genome size varied from 615 Mb in *S. asiatica* to almost 2460 Mb in *S. forbesii*, suggesting a ploidy series. Phylogenetic analysis of chloroplast loci suggest that *S. gesnerioides* is more closely related to the grass-parasitising *Striga* spp. than expected.]

Fadini, R.F. and Lima, A.P. 2012. Fire and host abundance as determinants of the distribution of three congener and sympatric mistletoes in an Amazonian savanna. Biotropica 44(1): 27-34. [Prevalence of the relatively host-specific *P. plagiophyllus* was negatively related to fire frequency, while for the more generalist *P. biternatus* and *P. eucalyptifolius* it was not.]

Feldman, T.S., Morsy, M.R. and Roossinck, M.J. 2012. Are communities of microbial symbionts more diverse than communities of macrobial hosts? Fungal Biology 116(4): 465-477. [Studies on *Cuscuta cuspidata* and its host *Ambrosia psilostachya* in grassland in Oklahoma, USA, revealed at least 25 fungal taxa, and 10% of these with detectable viruses. Several mycovirus types were shared among fungal taxa, indicating that mycoviruses may be less specialized than previously thought.]

Fernández-Aparicio, M., Flores, F. and Rubiales, D. 2012. Escape and true resistance to crenate broomrape (*Orobanche crenata* Forsk.) in grass pea (*Lathyrus sativus* L.) germplasm. Field Crops Research 125(1): 92-97. [Resistance to *O. crenata* in *L. sativus* is scarce and influenced by environmental conditions but some useful genetic variation detected. Early and late varieties tend to escape.]

Fernández-Aparicio, M. and Rubiales, D. 2012. Differential response of pea (*Pisum sativum*) to *Orobanche crenata*, *Orobanche foetida* and *Phelipanche aegyptiaca*. Crop Protection 31(1): 27-30. [Pea stimulates high germination of *O. foetida* and *P. aegyptiaca* but resists infection, suggesting it could be a useful trap crop for *O. foetida* and *P. aegyptiaca*-infested land.]

Fernández-Aparicio, M., Westwood, J.H. and Rubiales, D. 2011. Agronomic, breeding, and biotechnological approaches to parasitic plant management through manipulation of germination stimulant levels in agricultural soils. Botany 89(12): 813-826. [Reviewing agronomic practices that use parasitic germination stimulant production as a target for manipulation to control parasitic weeds.]

Fischer, E., Lobin, W. and Mutke, J. 2011. *Striga barthlottii* (Orobanchaceae), a new parasitic species from Morocco. Willdenowia 41(1): 51-56. [Describing *S. barthlottii*, endemic to Morocco and specific to succulent *Euphorbia* species, previously mistaken for *S. gesnerioides*. The corolla lobes of *S. barthlottii* are rounded and about as long as wide while *S. gesnerioides* has long, narrow corolla lobes. The corolla of *S. barthlottii* is pale pink/whitish, while in *S. gesnerioides* it is usually violet. The stem of *Striga barthlottii* is typically unbranched, while typical *S. gesnerioides* is richly branched.]

Furuhashi, T., Fragner, L., Furuhashi, K., Valledor, L., Sun XiaoLiang and Weckwerth, W. 2012. Metabolite changes with induction of *Cuscuta* haustorium and translocation from host plants. Journal of Plant Interactions 7(1): 84-93. [Showing that metabolic components of *Cuscuta japonica* varied according to the host on which it was growing.]

Garcia M.A. 2012. *Cuscuta*. In: Castroviejo S. (ed.) Flora Iberica. Plantas vasculares de la península Ibérica e Islas Baleares, vol. 11, pp. 292-310. Madrid: Real Jardín Botánico, CSIC. [Keys and descriptions for the nine species of dodder occurring on the Iberian peninsula and Balearic islands: *C. approximata, C. epithymum, C. europaea, C. nivea, C. planiflora, C. triumviratus, C. australis, C. campestris*, and *C. monogyna*.]

Gaurav Gupta, Imran Kazmi, Muhammad Afzal, Mahfoozur Rahman, Shakir Saleem Ashraf, M.S., Khusroo, M.J., Khalid Nazeer, Sayeed Ahmed, Mohd Mujeeb, Zubair Ahmed and Firoz Anwar. 2012. Sedative, antiepileptic and antipsychotic effects of *Viscum album* L. (Loranthaceae) in mice and rats. Journal of Ethnopharmacology 141(3): 810-816. [Concluding that *V. album* exhibited sedative, antiepileptic and antipsychotic activity in mice and rats.]

Gaurav Sharma and Sundararaj, R 2011. Association of ants and honeydew producing sucking pests in Bangalore provenance of sandal (*Santalum album* Linn. Biological Forum 3(2): 62-64. [Different ants were found associated with five species of coccids on *S. album.*]

Genini, J., Côrtes, M.C., Guimarães Júnior, P.R. and Galetti, M. 2012, Mistletoes play different roles in a modular host-parasite network. Biotropica 44(2): 171-178. [Finding a wider host range for *Psittacanthus* spp. than for *Phoradendron* spp. in the Brazilian Pantanal, apparently associated with a wider range of bird dispersers.]

Ghannam, I., Al-Masri, M. and Barakat, R. 2012.The effect of herbicides on the Egyptian broomrape (*Orobanche aegyptiaca*) in tomato fields. American Journal of Plant Sciences 3(3): 346-352. [Post-emergence application of chlorsulfuron, triasulfuron and imazaquin caused substantial death of *O. aegyptiaca* without significant increase or decrease in tomato yield.]

Ghotbi, M., Rouhi, H.R., Amini Dehagi, M., Ghotbi, M., Moghaddam Khamseh, A.H. and Wahsha, M. 2012. Mitigate *Phelipanche aegyptiaca* Pers. infestation considering natural environment conservation. International Journal of AgriScience 2(1): 62-77. [Various crops grown in *P. aegyptiaca*-infested pots for 2 months before planting tomato seedlings. Cotton, sorghum and tomato significantly reduced infestation.]

Gianguzzi, L., D'Amico, A. Romano, S. 2010. Phytosociological remarks on residual woodlands of *Laurus nobilis* in Sicily. Lazaroa 31: 67-84. [Noting *Orobanche hederae* as a component of the laurel understory, associated with the presence of *Hedera helix*.]

Glijin, A., Mîta, E., Levitchi, A., Acciu, A., Calmîș, A. and Duca, M. 2011. Phenylalanine ammonia-lyase in normal and biotic stress conditions. Lucrări Științifice, Universitatea de Științe Agricole Și Medicină Veterinară "Ion Ionescu de la Brad" Iași, Seria Horticultură 54(2): 97-102. [Studies on *Orobanche cumana* in Moldova confirm the role of PAL in the expression of biochemical mechanisms of resistance to the parasite.]

Goldwasser, Y., Miryamchik, H., Sibony, M. and Rubin, B. 2012. Detection of resistant chickpea (*Cicer arietinum*) genotypes to *Cuscuta campestris* (field dodder). Weed Research 52(2): 122-130. [Among 52 international varieties of chickpea and 11 local varieties tested in pot experiments in Israel, ICV 95333 and Hazera 4 showed very high resistance to primary parasitism from *C. campestris*, and moderate resistance to secondary parasitism (when the *C. campestris* had first established on a susceptible variety).]

Gómez-Sánchez, M., Sánchez-Fuentes, L.J. and Salazar-Olivo, L.A. 2011. (Anatomy of Mexican species of the genera *Phoradendron* and *Psittacanthus*, endemic to the New World.) (in Spanish) Revista Mexicana de Biodiversidad 82(4): 1203-1218. [Detailed and beautifully illustrated descriptions of the anatomy of leaves, stems, fruits and pollen of *Phoradendron brachystachyum, P. carneum, P. forestierae, Psittacanthus calyculatus* and *Ps. palmeri*.)

Gong, L., Yang, Y.J. and Zhou, J. 2012. Genes involved in the synthesis and signaling pathway of strigolactone, a shoot branching inhibitor. Biologia Plantarum 56(2): 210-214. [A review.]

Gosline G. and Malécot V. 2012. A monograph of Octoknema (Octoknemaceae - Olacaceae s.l.). Kew Bulletin 66: 367-404. [A taxonomic revision of this African genus describes fourteen species, six of which are new]

Goto, R., Yamakoshi, G. and Matsuzawa, T. 2012. A novel brood-site pollination mutualism?: the root holoparasite *Thonningia sanguinea* (Balanophoraceae) and an

inflorescence-feeding fly in the tropical rainforests of West Africa. Plant Species Biology 27(2): 164-169. [Female flies of the families Muscidae and Calliphoridae as well as *Technomyrmex* ants are shown to be responsible for pollnation of *T. sanguinea* in Guinea. *Morellia* sp. (Muscidae) lays eggs on *T. sanguinea*, and the larvae feed only on the tissue of decaying male inflorescences.]

Greuter, W. and Raus, T. 2010. Med-Checklist Notulae, 29. Willdenowia 40(2): 189-204. [Including an item recording *Orobanche amethystea* ssp. *amethystea* on *Eryngium campestre* in Crete.]

Greuter, W. and Raus, T. 2011. Med-Checklist notulae, 30. Willdenowia 41(2): 311-328. [Including a note recording *Orobanche rosmarina* on *Rosmarinus officinalis* in Tunisia.]

Greuter, W. and von Raab-Straube, E. 2009. Euro+Med Notulae, 4. Willdenowia 39(2): 327-333. [The authors indicate that the molecular data are inconclusive regarding segregating *Phelipanche* from *Orobanche* and thus propose two new combinations, *O. shultzioides* and *O. tricholoba*.]

Grudnicki, M., Barbu, C. and Curelaru, C. 2010. The influence of mistletoe (*Viscum album* spp. *abietis*) attack on fir tree (*Abies alba*) in Solca forest arrondissement Suceava District. Lucrări Ştiinţifice, Universitatea de Ştiinţe Agricole Şi Medicină Veterinară "Ion Ionescu de la Brad" Iaşi, Seria Horticultură 53(1): 585-590. [In Romania, *V. album* reduces wood quality of fir and increases vulnerability to strong winds, heavy snow falls, and the attacks of insects and fungus.]

Guo Hui, Weiner, J., Mazer, S.J., Zhao ZhiGang; Du GuoZhen and Li Bo. 2012. Reproductive allometry in *Pedicularis* species changes with elevation. Journal of Ecology (Oxford) 100(2): 452-458. [Studying 24 *Pedicularis* spp. in Tibet and showing that the ratio of reproductive to vegetative growth decreases with increasing elevation.]

Guo Yu Zhao, JiangYan, Luan Na, Zhang Jing and Li Di. 2011. Antioxidant function of flavonoids from *Songaria cynomorium* Herb. Medicinal Plant 2(12): 14-16.

Hahn, V. and Wieckhorst, S., 2010. Mapping and tagging of simply inherited traits. In: Genetics, genomics and breeding of sunflower. Hu, J., Seiler, G. and Kole, C. (eds) 2010, 111-133. [With emphasis on breeding for resistance to *Orobanche cumana*.]

Haidar, M.G. and Askary, T.H. 2011. Management of plant parasitic nematodes through botanicals and growth of sugarcane (*Saccharum officinarum* L.). Annals of Plant Protection Sciences 19(2): 433-436. [*Cuscuta reflexa, Orobanche* (unspecified) and '*Loranthus*' (unspecified) among 'botanicals' failing to show useful activity against nematodes.]

Hajtó, T., Fodor, K., Perjési, P. and Németh, P. 2011. Difficulties and perspectives of immunomodulatory therapy with mistletoe lectins and standardized mistletoe extracts in evidence-based medicine. Evidence-based Complementary and Alternative Medicine 2011: Article ID 298972, 6 pp. [A review concluding that research on lectins from *Viscum album* needs new perspectives The advantages and disadvantages of purified and biologically better defined lectin preparations are also discussed.]

Hanumantha, M., Gunaga, R.P., Patil, R.S., Nagaraja and Biradar, S.S. 2012. Natural regeneration in *Santalum album* Linn: a case study from campus of Forest Training Institute, Gungargatti, Dharwad, Karnataka. Indian Forester 138(4): 386-389. [Discussing a variety of factors influencing regeneration of *S. album*.]

Hao YuanYuan, Yue LiJun, Kang JianJun and Wang SuoMin. 2012. (Research progress on "desert ginseng" - *Cistanche deserticola* and *Cynomeorium songaricum*.) (in Chinese) Acta Prataculturae Sinica 21(2): 286-293. [A general review on the biology and uses of *C. deserticola* and *Cynomorium songaricum*, with emphasis on the possibilities for artifical inoculation methods.]

Harbaugh-Reynaud, D.T. 2011. The International Sandalwood Foundation: A non-profit organization dedicated to scientific research and sustainable harvesting of sandalwood. Sandalwood Research Newsletter 26: 5-6.

Hassan, M.M., Abdelgani, M.E., Babiker, A.E. and Osman, M.G. 2010. Effect of *Klebsiella* spp. and different ethylene inhibitors on *Striga hermonthica* Benth. (Del.) seeds germination. Asian Journal of Agricultural Sciences 2(3): 94-98. [Silver nitrate and cobalt chloride, known inhibitors of ethylene biosynthesis, reduced germination of *S. hermonthica*. Volatiles from *Klebsiella* spp., presumed to be ethylene, promoted germination.]

Hayatu, M. and Bala, R. 2011. Effects of *Striga gesnerioides* on the growth and yield of some cowpea (*Vigna unguiculata* (L.) Walp) genotypes under water stress condition. Bayero Journal of Pure and Applied Sciences 4(2): 12-17' [Resistance to *S. gesnerioides* confirmed in varieties IT97K-499-35 and IT98K-205-8, apparently regardless of water stress.]

Henderson, R.C., Sultan, A. and Robertson, A.W. 2010. Scale insect fauna (Hemiptera: Sternorrhyncha: Coccoidea) of New Zealand's pygmy mistletoes (*Korthalsella*: Viscaceae) with description of three new species: *Leucaspis albotecta, L. trilobata* (Diaspididae) and *Eriococcus korthalsellae* (Eriococcidae). Zootaxa 2644: 1-24. [Apart from the new species referred to in the title, 10 other scale insects are listed as occurring on *Korthalsella clavata, K. lindsayi* and *K. salicornioides*.]

Heredia-Bobadilla, R.L., Gutiérrez-González, G., Franco-Maass, S. and Arzate-Fernández, A.M. 2012. Genetic variability of sacred fir (*Abies religiosa*) in the Nevado de Toluca National Park. International Journal of Biodiversity and Conservation 4(3): 130-136. [Noting that *A. religiosa* (in Mexico) is threatened by unspecified *Arceuthobium* spp.]

Hettiarachichi, D.S., Gamage, M. and Subasinghe, U. 2010. Oil content analysis of sandalwood: A novel approach to

core sample analysis. Sandalwood Research Newsletter 25: 1-4.

Hladni, N., Jocic´, S., Miklič, V., Sakač, Z. and Škoric´, D. 2010. Assessment of quality of new *Rf* inbred lines resistant to broomrape race E (*Orobanche cumana* Wallr.) developed from *H. deserticola* by interspecific hybridization. Helia 33(53): 155-164. [Discussing the development of sunflower varieties resistant to race E of *O. cumana* in Serbia and Romania.]

Hong ChangEui and Lyu SuYun. 2012. The antimutagenic effect of mistletoe lectin (*Viscum album* L. var. *coloratum* agglutinin). Phytotherapy Research, 26(5): 787-790. [Confirming broad ranging antimutagenic effects of *V. album* extracts on numerous mutagens in TA98 and TA100 *Salmonella typhimurium* strains.]

Höniges, A. and Pallag, A. 2011. Safety issues on spontaneous *Orobanche* species, in context global warming. Analele Universitaţji din Oradea, Fascicula: Protectja Mediului 16: 235-242. [Discussing the possible role of global warming in the decline of *Orobanche* populations in Romania and S. Germany and proposing means of conserving rare species.]

Höniges, A. and Pallag, A. 2011. Correlation soil pollution - developing of endangered *Orobanche* spp. Analele Universitaţji din Oradea, Fascicula: Protectja Mediului 16: 243-246. [Comparing soil conditions in areas of Romania and S. Germany for their influence on natural populations of *Orobanche*. Abstract inconclusive.]

Hossain, M.E., Kim GwiMan, Sun SangSoo, Firman, J.D. and Yang ChulJu. 2012. Evaluation of water plantain (*Alisma canaliculatum* A. Br. et Bouche) and mistletoe (*Viscum album* L.) effects on broiler growth performance, meat composition and serum biochemical parameters. Journal of Medicinal Plants Research 6(11): 2160-2169. [The addition of *V. album* to the diet of chickens (basal diet+0.5% mistletoe powder) in Korea caused some hepatotoxic effect and is not recommended.]

Huang, K., Whitlock, R., Press, M.C. and Scholes, J.D. 2012. Variation for host range within and among populations of the parasitic plant *Striga hermonthica*. Heredity 108(2): 96-104. [Identifying a small subset of AFLP markers which showed 'outlier' genetic differentiation among sub-populations of *S. hermonthica* attached to different rice cultivars, suggesting a genetic component to host range within populations of *S. hermonthica*.]

Hynson, N.A., Mambelli, S., Amend, A.S. and Dawson, T.E. 2012. Measuring carbon gains from fungal networks in understory plants from the tribe Pyroleae (Ericaceae): a field manipulation and stable isotope approach. Oecologia 169(2): 307-317. [Results suggest that *Chimaphila umbellata* is primarily an autotrophic understory plant, while *Pyrola picta* may be capable of partial mycoheterotrophy.]

Inácio, C.A., Araúz, K. and Piepenbring, M. 2012. A new genus of Parmulariaceae from Panama. Mycological Progress 11(1): 1-6. [A new species, *Antoniomyces loranthicola*, described from *Gaiadendron punctatum* (Loranthaceae.]

Inuwa, H.M., Aina, V.O., Ibrahim, S. and Ameh, D.A. 2012. Hypoglycaemic activity of *Globimetulla browni* (Loranthaceae) extracts in streptozotocin-induced diabetic Wistar rats during wet season. International Journal of Animal and Veterinary Advances 4(1): 16-18. [The antihyperglycemic activity of extracts of *G. brownie* was associated with an increase in plasma insulin level, suggesting an insulinogenic activity of the extract.]

Inuwa, H.M., Aina, V.O., Ibrahim, S. and Ameh, D.A. 2012. Hypoglycaemic activity of *Globimetulla browni* extracts in streptozotocin-induced diabetic Wistar rats during dry season. International Journal of Animal and Veterinary Advances 4(1): 19-21. [Abstract exactly as above. Only the titles differ in dry v. wet season.]

Iwalokun, B.A., Oyenuga, A.O., Saibu, G.M. and Ayorinde, J. 2011. Analyses of cytotoxic and genotoxic potentials of *Loranthus micranthus* using the *Allium cepa* test. Current Research Journal of Biological Sciences 3(5): 459-467. [*L. micranthus* (= *Ileostylus micranthus*) is used traditionally in Nigeria for the management of immuno-depressive illnesses such as diabetes mellitus, cancer and hypertension. This study showed that it is cytotoxic, mitodepressive and genotoxic to *A. cepa* roots and recommends caution in its use on humans.]

Iwashina, T. 2010. Flavonoids from two parasitic and achlorophyllous plants, *Aeginetia indica* and *Orobanche minor* (Orobanchaceae). Bulletin of the National Museum of Nature and Science. Series B, Botany 36(3): 127-132. [Eight flavonoids identified from *A. indica* and two from *O. minor*. Only 7-*O*-glucuronide occurred in both.]

Jacobo-Salcedo, M. del R. and 13 others. 2011. Antimicrobial and cytotoxic effects of Mexican medicinal plants. Natural Product Communications 6(12): 1925-1928. [*Phoradendron longifolium, P. serotinum* and *Psittacanthus calyculatus* included in anti-microbial and anti-cancer tests. *P. longiflorum* showed potent antimicrobial effects, while *P. serotinum* showed activity against several human cancer lines.]

Jamil, M., Charnikhova, T., Houshyani, B., van Ast, A. and Bouwmeester, H.J. 2012. Genetic variation in strigolactone production and tillering in rice and its effect on *Striga hermonthica* infection. Planta 235(3) 473-484. [Comparisons among a range of rice varieties confirmed a negative correlation between strigolactone production and tillering, and a corresponding tendency for lower infestation of *S. hermonthica* on high-tillering varieties.]

Jamil, M., Kanampiu, F., Karaya, H., Tatsiana Charnikhova and Bouwmeester, H., 2012. *Striga hermonthica* parasitism in maize in response to soil fertility. Field Crops Research 134: 1-10. [In a combination of greenhouse/lab and field experiments the paper shows that in the greenhouse, increasing availability of N and P

strongly reduce the exudation of strigolactones in maize which results in reduced infection with *Striga*. In the field the results are less consistent, particularly for P application, although N application did reduce *Striga* infection, probably because of physiochemical properties of the field soil.]

Janarthanam, B. and Sumathi, E. 2011. High frequency shoot regeneration from internodal explants of *Santalum album* L. International Journal of Botany 7(3): 249-254. [Describing the culture media and procedures for the successful generation of explants of *S. album* from internodal material.]

Jang JiYeon, Kim HaNeui, Kim YuRi, Choi YungHyun, Kim ByungWoo, Shin HwaKyoung and Choi ByungTae. 2012. Aqueous fraction from *Cuscuta japonica* seed suppresses melanin synthesis through inhibition of the p38 mitogen-activated protein kinase signaling pathway in B16F10 cells. Journal of Ethnopharmacology 141(1): 338-344. [Confirming that *C. japonica* seed preparation can reduce alpha-melanocyte-stimulating hormone (α-MSH)-induced melanogenesis via reduction of melanin synthesis and tyrosinase activity.]

Jeetendra Sainkhediya and Sudip Ray. 2012. Preliminary study of flowering plant diversity of Nimar region. Bioscience Discovery Journal 3(1) 70-72. [*Viscum articulatum* noted to be being depleted at an alarming rate in this area of Madhya Pradesh.].

Jerinic´-Prodanovic´, D. and Protic´, L. 2011. New data on true bug predators (Heteroptera: Miridae) of jumping plant-lice (Sternorrhyncha: Psylloidea) in Serbia. Acta Entomologica Serbica 16(1/2): 143-146. [Reporting *Hypseloeucus visci* as a predator of *Cacopsylla visci* [*Psylla visci*] on *Viscum album.*]

Jia YaMin, Guan QiuNong, Guo YuHai and Du CaiGan. 2012. Echinacoside stimulates cell proliferation and prevents cell apoptosis in intestinal epithelial MODE-K cells by up-regulation of transforming growth factor-β1 expression. Journal of Pharmacological Sciences 118(1): 99-108. [Suggesting that echinacoside is one of the ingredients in herbal *C. deserticola* improving mucosal tissue repair by stimulating intestinal epithelial cell proliferation and preventing cell death via up-regulation of TGF-β.]

Jin AiHua, Piao Long, Yin XueZhe and Quan JiShu. 2012. (Anti-tumor effect of iridoid glucosides from *Boschniakia rossica* in H_{22}-bearing mice.) (in Chinese) Zhongcaoyao = Chinese Traditional and Herbal Drugs 43(2): 332-335. [Glucosides from *B. rossica* had an inhibitory effect on the growth of transplanted H_{22} tumour, probably *via* the regulation of IL-2 and TNF-α expression as well as improvement of anti-oxidant capability of H_{22}-bearing mice.]

Jung JinHyuk, Kim YoungHoon, Song TaeJun, An HyoSun, Kim KyuDae, Kim InBo, Yoon TaekJoon and Kim JongBae. 2011. Adjuvant effect of Korean mistletoe lectin on mucosal immunity induction following intranasal immunization with hemagglutinin antigen. Food Science and Biotechnology 20(3): 629-634. [Confirming that lectin from *Viscum album* ssp. *coloratum* (KML-C) has the ability to serve as a mucosal adjuvant.]

Kanade, M.B. and Gham, S.K. 2011. Effect of acid scarification on seed germination and seedling growth in *Cuscuta reflexa* Roxb. Advances in Plant Sciences 24(2): 707-708. [No abstract available.]

Kang XinPing, An Zhe and Rena Kasmu. 2012. (Research progress of chemical constituents and content analysis of mark components of *Cynomorium songaricum* Rupr.) (in Chinese) Northwest Pharmaceutical Journal 27(1): 81-83. [A review noting that the main components of *C. songaricum* are catechin, ursolic acid, tannin and polysaccharide.]

Karanja, J., Nguluu, S. and Gatheru, M. 2012. Farm yard manure reduces the virulence of *Alectra vogelii* (Benth) on cowpea (*Vigna unguiculata*). African Journal of Plant Science 6(3): 130-136. [Field trials in Kenya showed farm yard manure at 5 or 10 t/ha reduced *A. vogelii* density by >50% and increased crop yield.]

Karaya, H., Njoroge, K., Mugo, S., Ariga, E.S., Kanampiu, F. and Nderitu, J.H. 2012. Determination of levels of *Striga* germination stimulants for maize gene bank accessions and elite inbred lines. International Journal of Plant Production 6(2): 209-224. [Screening of 420 maize lines for germination of *S. hermonthica* showed low stimulation in landraces CRIC 51, CUBA T-31, BRAZ 1758, BRAZ 1279 and VERA 217 and in CIMMYT lines CML 202 IR, CML 445 IR and CML 204 IR.

Karpavičius, J. and Karpavičius, J. 2011. (The features of European mistletoe (*Viscum album* L.) influence to the radial growth and state of *Populus* L. genus trees.) (in Lithuanian) Miškininkystė, 2(70): 49-57. [Showing that *V. album* infestation does not affect breast-height radial growth of *P. nigra* and *P. canadensis* but does seriously affect branch growth above points of attachment, resulting in death after 5-10 years and risk of fungal infection.]

Kawo, A.H., Suleiman, Z.A. and Yusha'u, M. 2011. Studies on the antibacterial activity and chemical constituents of *Khaya senegalensis* and *Ximenia americana* leaf extracts. African Journal of Microbiology Research 5(26): 4562-4568. [Extracts of *X. americana* failed to kill a range of wound bacteria, but chemical analysis showed the presence of potentially active compounds and suggested that higher doses could give results justifying their traditional use on wound infections in Nigeria.]

*Kester, M. 2012. Investigation trip to the United States of America to investigate golden dodder control options. Rural Industries Research and Development Corporation. https://rirdc.infoservices.com.au/items/12-009 [Describing the control measures used to control *Cuscuta campestris* on lucerne in USA, including paraquat plus burning, flaming, sulphuric acid spraying, crop rotation into cereals, and the herbicides trifluralin

and pendimethalin. Also the use of glyphosate on a recently released Round-up-resistant lucerne.]

Kgosi, R.L., Zwanenburg, B., Mwakaboko, A.S. and Murdoch, A.J. 2012. Strigolactone analogues induce suicidal seed germination of *Striga* spp. in soil. Weed Research 52(3): 197-203. [Describing 5 new strigolactone analogues which were apparently active in soil of neutral pH . One dericved from 1-tetralone was distinctly more active than the standard Nijmegen-1. The abstract refers to 'no noticeable signs of decomposition' but experimental evidence for this is not presented.]

Kim SanWoong, Yoo SeungHyeong, Lee HeeJae, Kim, K.D., Kim DoRim, Park SeongKyu and Chang MunSeog. 2012. *Cistanches herba* induces testis cytotoxicity in male mice. Bulletin of Environmental Contamination and Toxicology 88(1): 112-117. [At the doses used, extracts of *Cistanche* (presumably *C. deserticola* and/or *C. tubulosa*) induce cytotoxicity in the male reproductive system of mice, through inhibition of spermatogenesis, testicular damage, and limiting hormonal function.]

Koga, C., Mwenje, E. and Garwe, D. 2011. Response of tobacco cultivars to varying fertiliser levels in *Striga gesnerioides* infested soils in Zimbabwe. Agricultural Journal 6(6): 347-352. [Among 5 tobacco varieties, 2 landraces were severely damaged by *S. gesnerioides* while variety T66 was relatively tolerant. Parasite emergence, and damage to T66, was reduced by increasing N from 25 to 50 kg/ha.]

Komova, G.A. 2010. (Stand dynamics of some types of oak forests in southern Primorye [Maritime Province, Russian Far East]) (in Russian). Lesovedenie, 1: 22-30. [Discussing types of *Quercus mongolica* forest including *Melampyrum*/*Carex*.]

Kretzschmar, T., Kohlen, W., Sasse, J., Borghi, L., Schlegel, M., Bachelier, J.B., Reinhardt, D., Bours, R., Bouwmeester H.J. and Martinoia, E. 2012. A petunia ABC protein controls strigolactone dependent symbiotic signalling and branching. Nature 483: 341-346 [The authors cloned an ABC transporter from *Petunia* and show it is involved in strigolactone export. A mutant and transgenic knock-down plants secrete negligible amounts of strigolactones and have a (mild) branching phenotype. Intriguingly, the transporter seems to be expressed in specific cell-types in the root particularly, possibly in the hypodermal passage cells where AM fungi enter. Unexpectedly, the transporter is also expressed near the axillary buds.]

Kuijt, J. 2011. Two new species of *Oryctanthus* (Loranthaceae) from Colombia and French Guiana. Novon 21(4): 463-467. [*O. grammatus* desribed from Colombia and *O. guianensis* from French Guiana.]

Kuijt, J. 2011. Thirteen new species of neotropical Viscaceae (*Dendrophthora* and *Phoradendron*). Novon 21(4): 444-462. [Describing 2 new *Dendrophthora* spp., from Bolivia and Ecuador, 8 *Phoradendron* spp. from Peru, and 3 *Phoradendron* spp. from Venezuela.]

Kuijt, J. 2011. Loranthaceae Jussieu. 79. Eremolepdaceae Tiegh. ex Nakai,, in: C. Marticorena & R. Rodríguez (eds.) Flora de Chile 3(1): 9-24. [This treatment covers *Desmaria* (1 sp.), *Ligaria* (1 sp.), *Notanthera* (1 sp.) and *Tristerix* (3 spp.) for Loranthaceae. The concept of 'Eremolepidaceae' as a family is still being followed (modern works place these genera in Santalaceae) including *Antidaphne* (1 sp.) and *Lepidoceras* (1 sp.).]

Kuijt, Job. 2011. Monograph of the genus *Dendropemon* (Loranthaceae). Syst. Bot. Monogr. 92: 1-110. [The last comprehensive examination of this genus was in the late 1800s. This monograph describes 31 species distributed among the Caribbean islands.]

Kuijt, Job. 2011. A note on isophasic parasitism in *Phoradendron perredactum* (Viscaceae). Acta Bot. Mexicana 96: 7-9. [A short note comparing the isophasic nature of growth in this mistletoe to other parasites where this has also evolved (e.g. *Arceuthobium*, *Pilostyles*, etc.).]

Kuijt, Job. 2012. Viscaceae, in: Baldwin, B.G., Goldman, D.H., Keil, D.J., Patterson, R. and Rosatti T.J. (eds.) Jepson's Manual, 2nd. edition. University of California Press, Berkeley & Los Angeles, pp. 1275-1278. [The book, published in January, complements the Jepson Online Interchange and the Jepson eFlora. Herein Viscaceae includes *Arceuthobium* (12 spp.), *Phoradendron* (7 spp.), and *Viscum* (1 sp.).]

Kuijt, Job. 2012. Reinstatement and expansion of the genus *Peristethium* Tiegh. (Loranthaceae). Annals of the Missouri Bot. Garden 98(4): 542-577. [Generic boundaries in the neotropical small-flowered loranths are further redefined. The genus *Peristethium* Tiegh. is resurrected and now includes 15 mistletoe species, ten of which were formerly classified in *Struthanthus* and *Cladocolea*.]

Kulkarni, C.R., Joglekar, M.M., Patil, S.B. and Arvindekar, A.U. 2012. Antihyperglycemic and antihyperlipidemic effect of *Santalum album* in streptozotocin induced diabetic rats. Pharmaceutical Biology 50(3): 360-365. [Concluding that *S. album* pet ether fraction has potential antihyperlipidemic activity that can help in overcoming insulin resistance.]

Kutyna, I., Drewniak, E. and Młynkowiak, E. 2012. (Plant communities within xerothermic and psammophilous grasslands on the edge of the Oder river valley in Owczary.) (in Polish) Folia Pomeranae Universitatis Technologiae Stetinensis, Agricultura, Alimentaria, Piscaria et Zootechnica 293(21): 61-88. [Referring to *Orobanche lutea* under strict protection and *Thesium linophyllum* in danger of extinction (in Poland).]

Lamont, B.B., Downes, K.S., Lawes, M.J. and Clarke, P.J. 2011. Fire-stimulated flowering among resprouters and geophytes in Australia and South Africa. Plant Ecology 212(12): 2111-2125. [Including reference to mistletoes unspecified in the abstract.]

Lebesa, L.N., Khan, Z.R., Krüger, K., Bruce, T.J.A., Hassanali, A. and Pickett, J.A. 2012. Farmers' knowledge and perceptions of blister beetles, *Hycleus*

spp. (Coleoptera: Meloidae), as pest herbivores of *Desmodium* legumes in western Kenya. International Journal of Pest Management 58(2): 165-174. [*Hycleus* spp. reported to be important pests of *Desmodium* spp. by 75% of farmers in western Kenya (relevant to the use of *Desmodium* in control of *Striga* spp.). They also attack sweet potato.]

Lee MengShiou, Chen ChaoJung, Wan Lei, Koizumi, A., Chang WenTe, Yang MengJa, Lin WenHsin, Tsai FuuJen and Lin MingKuem. 2011. Quercetin is increased in heat-processed *Cuscuta campestris* seeds, which enhances the seed's anti-inflammatory and anti-proliferative activities. Process Biochemistry 46(12): 2248-2254. [Showing that the process of 'stir-baking' seeds of *C. campestris* increased levels of quercetin in the seeds and also increased anti-inflammatory and antiproliferative activities.]

Lee YunMi, Kim YoungSook, Lee YoungSeop, Kim JungHyun, Sun Hang, Kim JooHwan and Kim JinSook. 2012. Inhibitory activities of pancreatic lipase and phosphodiesterase from Korean medicinal plant extracts. Phytotherapy Research 26(5): 778-782. [*Viscum album* (whole plant) exhibited antilipase activity.]

Lemaitre, A.B., Troncoso, A.J. and Niemeyer, H.M. 2012. Host preference of a temperate mistletoe: disproportional infection on three co-occurring host species influenced by differential success. Austral Ecology 37(3): 339-345. [Discussing differences in the establishment of *Tristerix verticillatus* on hosts *Schinus montanus*, *Fabiana imbricata* and *Berberis montana* in Chile, depending on the seed source and behaviour of the bird disperser *Mimus thenca*.]

Li AiRong, Smith, S.E., Smith, F.A. and Guan KaiYun. 2012. Inoculation with arbuscular mycorrhizal fungi suppresses initiation of haustoria in the root hemiparasite *Pedicularis tricolor*. Annals of Botany 109(6): 1075-1080. [AM fungi had strong and direct suppressive effects on haustorium formation in *P. tricolor* in the presence or absence of host plants.]

Li Jing, Deng ShuYong and Wang JianHong. 2011. (Extracting technology of total flavonoids from China Dodder by uni-form design method.) (in Chinese) Journal of Liaoning University of Traditional Chinese Medicine 13(11): 53-54. [The optimal conditions for extraction from *Cuscuta chinensis* include extraction time of 60 min, temperature 80°C, ratio between solid and fluid 1:100 and concentration of ethanol 52%.]

Li TeMao, Huang HsinChih, Su ChenMing, Ho TinYun, Wu ChiMing, Chen WenChi, Fong YiChin and Tang ChihHsin. 2012. *Cistanche deserticola* extract increases bone formation in osteoblasts. Journal of Pharmacy and Pharmacology 64(6): 897-907. [Concluding that *C. deserticola* extract may be a novel bone formation agent for the treatment of osteoporosis.]

Lin HuiBin, Lu Ning and Lin JianQiang. 2012. (Influence of different hosts on quality in *Semen Cuscutae*.) (in Chinese) China Journal of Traditional Chinese Medicine and Pharmacy 27(3): 625-627. [Analysing 19 different samples of *Semen Cuscutae* based on *Cuscuta* spp. including *C. chinensis* and concluding that content of flavonoids varies according to the host on which the *Cuscuta* has grown.]

Liu MeiJie and 12 others. 2012. Therapeutic effects of radix dipsaci, pyrola herb, and cynomorium songaricum on bone metabolism of ovariectomized rats. BMC Complementary and Alternative Medicine 12: 67. [Results support the use of *C. songaricum* extract as an alternative therapeutic agent for postmenopausal osteoporosis.]

Liu Wei, and 15 others. 2011. Strigolactone biosynthesis in *Medicago truncatula* and rice requires the symbiotic GRAS-type transcription factors NSP1 and NSP2., Plant Cell 23(10): 3853-3865. [NODULATION SIGNALING PATHWAY1 (NSP1) and NSP2 are transcription factors that are essential for rhizobium Nod factor-induced nodulation. Using transgenic lines, the authors show that NSP1 and NSP2 are indispensable for strigolactone (SL) biosynthesis in *Medicago truncatula* and in rice. The disturbed SL
biosynthesis in nsp1 nsp2 mutant backgrounds correlates with reduced expression of DWARF27, a gene essential for SL biosynthesis.]

lo Gullo, M.A., Glatzel, G., Devkota, M., Raimondo, F., Trifilò, P. and Richter, H. 2012. Mistletoes and mutant albino shoots on woody plants as mineral nutrient traps. Annals of Botany 109(6): 1101-1109. [Showing that the higher levels of potassium, sulphur and zinc in *Scurrula elata* compared with those in the hosts *Citrus sinensis* and *Nerium oleander* (as in albino shoots of the latter) is due to the lack of phloem loading (and hence export from the foliage) rather than any selective transport via the haustorium.]

Lobo, R., Vijay Sodde, Nipun Dashora, Nilesh Gupta and Prabhu Kirti. 2011. Quantification of flavonoid and phenol content from *Macrosolen parasiticus* (L.) Danser. Journal of Natural Product and Plant Resources 1(4): 96-99. [Measuring total phenolic and flavonoid contents of *M. parasiticus* 'an important plant in the Indian system of medicine'.]

Lombardo, S., Longo, A. M G., lo Monaco, A. and Mauromicale, G. 2012. The effect of soil solarization and fumigation on pests and yields in greenhouse tomatoes. Crop Protection 37: 59-64. [Solarization was 'particularly valuable' for the suppression of *Orobanche ramosa* in tomato.]

Lu TzuLi, Chuang JingYuan, Yang JaiSing, Chiu ShauTing, Hsiao NaiWan, Wu MeiChen, Wu ShihHsiung and Hsu ChingHsiang. 2011. Production of active nonglycosylated recombinant B-chain of type-2 ribosome-inactivating protein from *Viscum articulatum* and its biological effects on peripheral blood mononuclear cells. Evidence-based Complementary and Alternative Medicine 2011: Article ID 283747, 9 pp. [Type-2 ribosome-inactivating proteins are composed of a toxic A-chain and lectin-like B-chain. This study

confirms the B-chain fragment as a potential immunomodulator.]

Ma YongQing, Dong ShuQi, Ren XiangXiang, An Yu and Lang Ming 2012. (Parasitic weed *Orobanche* spp. and perspective of its control methods.) (in Chinese) Chinese Journal of Biological Control 28(1): 133-138. [A general review with emphasis on the use of trap and catch crops.]

Ma YongQing, Lang Ming, Dong ShuQi, Shui JunFeng and Zhao JunXin. 2012. Screening of some cotton varieties for allelopathic potential on clover broomrape germination. Agronomy Journal 104(3): 569-574. [Describing varied activity (allelopathic apparently meaning stimulatory) of exudates from 6 varieties of cotton (*G. hirsutum* and *G. barbadense*) on *Orobanche minor* germination and confirming that the activity of extracts from the stem correlated with those from roots.]

Ma YongQing, Zhang Wei, Dong ShuQi, Ren XiangXiang, An Yu and Lang Ming. 2012. Induction of seed germination in *Orobanche* spp. by extracts of traditional Chinese medicinal herbs. Science China Life Sciences 55(3): 250-260. [Many species among 606 medicinal herbs stimulated germination of *O. cumana, O. aegyptiaca* and *O. minor*.]

Maguire, A.J. and Menges, E.S. 2011. Post-fire growth strategies of resprouting Florida scrub vegetation. Fire Ecology 7(3): 12-25. [Including data on recovery of *Ximenia americana* from fire.]

McPherson, S. 2012. *Rafflesia*: spectacular giants. Plantsman 11(1): 48-53. [The species of *Rafflesia* and their distribution, plant structure, growth cycle, habitat, conservation and cultivation are described.]

Madhulika Bhagat and Saxena, A.K. 2011. *In vitro* anti-proliferative, anti-bacterial potential and induction of DNA strand break of partially purified *Cuscuta reflexa* Roxb. International Journal of Green Pharmacy 5(4): 307-313.

Małecki, P.H., Rypniewski, W., Szyman´ski, M., Barciszewski, J. and Meyer, A. 2012. Binding of the plant hormone kinetin in the active site of Mistletoe Lectin I from *Viscum album*. Biochimica et Biophysica Acta, Proteins & Proteomics 1824(2): 334-338.

Mallory-Smith, C. and Colquhoun, J. 2012. Small broomrape (*Orobanche minor*) in Oregon and the 3 Rs: regulation, research, and reality. Weed Science 60(2) 277-282. [Infestations of *O. minor* occurred in 22 fields of red clover in 2001 and quarantine regulations were imposed, but then relaxed in 2003. Control is achieved using false host crops and imazamox but some small populations still occur. (see also Haustorium 59 pp 2-3).]

Mamontova, V.A. 2012. (New species of aphids of the family Lachnidae (Homoptera, Aphidoidea) from Ukraine and Russia.) Vestnik Zoologii 46(1): 37-44. [Describing *Trama orobanches* presumably occurring on *Orobanche* spp.?]

Martin, L.L., Friedman, C.R. and Smith, R.G. 2011. Callus culture of *Arceuthobium americanum* Nutt. ex Englem. and explant response to varying auxin and cytokinin concentrations. Journal of Plant Tissue Culture and Biotechnology (PTC&B) 21(1): 1-10. [*A. americanum* successfully cultured in White's medium. Manipulation of growth regulators show greater sensitivity to IAA than to cytokinin, suggesting reduced cytokinin sensitivity, consistent with the tendency for pariasitic plants to secrete high levels of cytokinin.]

Matsuda, Y., Okochi, S., Katayama, T., Yamada, A. and Ito, S. 2011. Mycorrhizal fungi associated with *Monotropastrum humile* (Ericaceae) in central Japan. Mycorrhiza 21(6): 569-576. [Results indicate that the genetic diversity of mycorrhizal fungi of *M. humile* was highly specific to the Russulaceae, but diverse within that family, and that the fungi associated with *M. humile* differ from those associated with *Monotropa uniflora*.]

Matsuo, Y. and Mimaki, Y. 2012. α-santalol derivatives from *Santalum album* and their cytotoxic activities. Phytochemistry 77: 304-311. [Seven derivatives identified including one with tumour-selective cytotoxicity.]

Mehrvarz, S.S., Shavvon, R.S. and Golmohammadi, N. 2012. Notes on the genus *Viscum* (Viscaceae) in Iran: a new combination based on morphological evidence. African Journal of Agricultural Research 7(11): 1694-1702. [Describing a new taxon: *V. album* subsp. *golestanicum.* The seed and fruit surfaces in *V. album* subsp. *album* are smooth while respectively wrinkled and furnished with platelet crystalloid ornamentations in the population from Golestan forest. Also the prophylls are two at the axils of each leaf in the former but four in the latter.]

Mei QiWen, Zhang XinHua and Ma GuoHua. 2011. (Influence of rhizospheric pH value of host on growth of Indian sandalwood and preference to host.) (in Chinese) Journal of Tropical and Subtropical Botany 19(6): 565-570. [Comparing the rhizospheric pH values of 61 hosts of *S. album* and concluding that the optimum for *S. album* is pH 5.5.]

Menkir, A., Franco, J., Adpoju, A. and Bossey, B. 2012. Evaluating consistency of resistance reactions of open-pollinated maize cultivars to *Striga hermonthica* (Del.) Benth under artificial infestation. Crop Science 52(3): 1051-1060. [Performance of 8 maize varieties compared over two sites over 5-6 years. 'The resistant cultivars had low average ranks for grain yield under infestation (i.e. yielded well?), *Striga* damage rating, and emerged *Striga* plant count whereas the reverse was true for both the tolerant and susceptible cultivars. Cultivars with stable resistance, which can be used directly for cultivation or as sources of resistance alleles for breeding, were identified in this study.']

Mignouna, D.B., Manyong, V.M., Rusike, J., Mutabazi, K.D.S., Senkondo, E.M., Wesseler, J.; Aerni, P. 2011. Determinants of adopting imazapyr-resistant maize technologies and its impact on household income in western Kenya. AgBioForum 14(3): 158-163. [Results of the survey confirm that the use of IRM for *Striga* control is a reasonable means to raise small-farm income

and reduce poverty in maize farming households. But noting that uptake continues to be low.]

Mohammed Rahmatullah, Azam, M.N.K., Zubaida Khatun, Syeda Seraj, Farhana Islam, Rahman, M.A., Sharmin Jahan and Aziz, M.S. 2012. Medicinal plants used for treatment of diabetes by the Marakh sect of the Garo tribe living in Mymensingh District, Bangladesh. African Journal of Traditional, Complementary and Alternative Medicines 9(3): 380-385. [*Cuscuta reflexa* among plants used traditionally for treatment of diabetes.]

Morales, J.M., Rivarola, M.D., Amico, G. and Carlo, T.A. 2012. Neighborhood effects on seed dispersal by frugivores: testing theory with a mistletoe-marsupial system in Patagonia. Ecology 93(4): 741-748. [A study on *Tristerix corymbosus* (Loranthaceae). Concluding that, as predicted by theory, plants in denser neighborhoods had greater fruit removal and shorter mean dispersal distances than more isolated plants.]

Moreno-Escobar, J.A., Bazaldúa, S., Villarreal, M.L., Bonilla-Barbosa, J.R., Mendoza, S. and Rodríguez-López, V. 2011. Cytotoxic and antioxidant activities of selected Lamiales species from Mexico. Pharmaceutical Biology 49(12): 1243-1248. [An extract from *Pedicularis mexicana* displayed 'remarkably selective cytotoxic activity.']

Moustapha, B., Gutiérrez-Avella, D.M., Fuentes-Ordaz, R., Castañeda-Moreno, R. and Martínez, M. 2011. Chemical constituents of the Mexican mistletoe (*Psittacanthus calyculatus*). Molecules 16(11): 9397-9403. [Identifying gallic acid, two flavonol-3-biosides and the non-protein amino acid *N*-methyl-*trans*-4-hydroxy-L-proline in extracts of *P. calyculatus* growing on *Prosopsis laevigata*.]

Munson, S.M., Webb, R.H., Belnap, J., Hubbard, J.A., Swann, D.E. and Rutman, S. 2012. Forecasting climate change impacts to plant community composition in the Sonoran Desert region. Global Change Biology 18(3): 1083-1095. [In the most xeric shrublands, the codominant species *Larrea tridentata* and its hemiparasite *Krameria grayi* decreased with a decrease in cool season precipitation and increased aridity, respectively.]

Murage, A.W., Obare, G., Chianu, J., Amudavi, D.M., Midega, C.A.O., Pickett, J.A. and Khan, Z.R. 2012.The effectiveness of dissemination pathways on adoption of "push-pull" technology in western Kenya. Quarterly Journal of International Agriculture 51(1): 51-71. [A survey of 491 farmers using *Desmodium* for control of *Striga hermonthica* suggested that field days, farmer field schools and farmer teachers were effective in promoting the technique, in that order.]

Murali, M., Puneetha, G.K., Thriveni, M.C., Niranjan, M.H., Shivamurthy, G.R., Niranjana, S.R., Prakash, H.S. and Amruthesh, K.N. 2011. Phytochemical screening and antioxidant activity of hemi-parasitic Indian mistletoe *Viscum nepalense* Sprengel. Journal of Pharmacy Research 4(10): 3348-3350. [Describing a range of components found in *V. nepalense* growing on *Cassia fistula.*]

Murray-Hudson, M., Combs, F., Wolski, P. and Brown, M.T. 2011. A vegetation-based hierarchical classification for seasonally pulsed floodplains in the Okavango Delta, Botswana. African Journal of Aquatic Science 36(3): 223-234. [Noting *Cycnium tubulosum* among components of the flora in 'Seasonal Aquatic Communities'.]

Nan YaYun, Wang ZongRen, Lu ZiFan, Liu ManLi, Ma Liang, Li Rui and Ma Jing. 2012. (Expression of P450arom CYP19 gonadal hormone levels and influence of the number of spermium in the testis of infertile rats with kidney-yang deficiency after treated by extractive of Cuscuta.) (in Chinese) Journal of Liaoning University of Traditional Chinese Medicine 14(2): 20-25. [*Cuscuta ?chinensis* useful in treatment of infertility in rats with kidney-yang deficiency?]

Nautiyal, O.H. 2010. Subcritical carbon dioxide and conventional extractiontechniques of sandalwood oil: an industry project. Sandalwood Research Newsletter 25: 5-7.

Ndambi, B., Cadisch, G., Elzein, A. and Heller, A. 2012. Tissue specific reactions of sorghum roots to the mycoherbicide *Fusarium oxysporum* f. sp. *strigae* versus the pathogenic *F. proliferatum.* Biocontrol Science and Technology 22(2): 135-150. [Confirming that the safety of *F. oxysporum* f. sp. *strigae* ('Foxy 2') as a biocontrol agent against *Striga* spp. in sorghum is due to its lack of ability to penetrate and/or spread within the central stele, associated with enhanced levels of phenolics in the host tissue, which do not occur with *F. proliferatum* which freely penetrates and damages the sorghum.]

Nelson, D.C., Flematti, G.R., Ghisalberti, E.L., Dixon, K.W. and Smith, S.M. 2012. Regulation of seed germination and seedling growth by chemical signals from burning vegetation. Annual Review of Plant Biology 63: 107-130. [A general review of karrikins, a family of butenolides that are present in smoke. Karrikins stimulate seed germination and influence seedling growth. They are also active in species not normally associated with fire, and in *Arabidopsis* they require the F-box protein MAX2, which also controls responses to strigolactone hormones. The authors hypothesize that chemical similarity between karrikins and strigolactones provided the opportunity for plants to employ a common signal transduction pathway to respond to both types of compound.]

Nethathe, B.B. and Ndip, R.N. 2011. Bioactivity of *Hydnora africana* on selected bacterial pathogens: preliminary phytochemical screening. African Journal of Microbiology Research 5(18): 2820-2826. [Confirming the presence of alkaloids, tannins, flavonoids, saponins and steroids with potential therapeutic activity in extracts of *H. africana* that could justify their traditional use for treatment of diarrhoea, dysentery, and kidney and bladder complaints.]

Nhat Hao Tran Le, Malterud, K.E., Diallo, D., Paulsen, B.S., Nergård, C.S. and Wangensteen, H. 2012. Bioactive polyphenols in *Ximenia americana* and the traditional use among Malian healers. Journal of Ethnopharmacology 139(3): 858-862. [A range of compounds identified which could provide the rationale for the traditional use of *X. americana* against throat infections, amenorrhea, as a tonic, for wound healing and against pain.]

Nickrent, D.L. 2012. Justification for subspecies in *Arceuthobium campylopodum* (Viscaceae). Phytoneuron 51: 1-11. [13 taxa previously considered species in section *Campylopoda* were considered ecotypes of *A. campylopodum*; these entities are treated nomenclaturally as subspecies.]

Njunge, J.T. and Mugo, J.M. 2011. Composition and succession of the woody flora of South Nandi Forest, Kenya. Research Journal of Botany 6(3): 112-121. [Observing that *Croton megalocarpus* currently the most dominant top canopy species is losing dominance to other species including *Strombosia scheffleri* (Olacaceae).]

Nwaigwe, C.U., Madubunyi, I.I., Udem, S.C. and Nwaigwe, C.O. 2012. Methanolic root extract of *Olax viridis* protects the liver against acetaminophen-induced liver damage. Journal of Medicinal Plant 6(5): 395-405.

Nwankwo, N.E. and Cemaluk, E.A.C. 2011. Phytochemical and antimicrobial activity of petroleum ether extract of the African Mistletoe (*Loranthus micranthus* Linn) leaves. International Research Journal of Pharmacy and Pharmacology 1(9): 211-214. [Showing antimicrobial activity of extracts of *L. micranthus* (= *Ileostylus micranthus*) parasitic on *Kola acuminata* in Nsukka, Eastern Nigeria.]

Oja, T. and Talve, T. 2012. Genetic diversity and differentiation in six species of the genus *Rhinanthus* (Orobanchaceae). Plant Systematics and Evolution 298(5): 901-911. [Detailed isozyme studies on *R. rumelicus*, *R. osiliensis*, *R. wagneri*, *R. alectorolophus*, and *R. angustifolius* from sect. *Cleistolemus* and *R. minor* from sect. *Rhinanthus* 'call into question the monophyly of section *Cleistolemus* and the taxonomic position of *R. alectorolophus*.']

Omeje, E.O., Osadebe, P.O., Nworu, C.S., Nwodo, J.N., Obonga, W.O., Kawamura, A., Esimone, C.O. and Proksch, P. 2011. A novel sesquiterpene acid and an alkaloid from leaves of the Eastern Nigeria mistletoe, *Loranthus micranthus* with potent immunostimulatory activity on C57BL6 mice splenocytes and CD69 molecule. Pharmaceutical Biology 49(12): 1271-1276. [Identifying lupinine and a novel sesquiterpene in extracts of *L. micranthus* (= *Ileostylus micranthus*) which could be responsible in part, for the immunostimulatory activities already established for this Eastern Nigeria species.]

Omoigui, L.O., Ishiyaku, M.F., Ousmane, B., Gowda, B.S. and Timko, M.P. 2011. Application of fast technology for analysis (FTA) for sampling and recovery of deoxyribonucleic acid (DNA) for molecular characterization of cowpea breeding lines for *Striga* resistance. African Journal of Biotechnology 10(85): 19681-19686. [Demonstrating that the application of marker-assisted selection using FTA technology can speed up the breeding process and increase the efficiency of breeding activities.]

Omoigui, L.O., Kamara, A.Y., Ishiyaku, M.F. and Boukar, O. 2012. Comparative responses of cowpea breeding lines to *Striga* and *Alectra* in the dry savanna of northeast Nigeria. African Journal of Agricultural Research 7(5): 747-754. [Confirming resistance of B301, IT03K-338-1 and IT99K-573-2-1 to both *S. gesnerioides* and *A. vogelii* while IT98K-1092-1 and IT97K-205-8 resisted *S. gesnerioides* but allowed some attack by *A. vogelii*.]

Osadebe, P.O., Abba, C.C. and Agbo, M.O. 2012. Antimotility effects of extracts and fractions of Eastern Nigeria mistletoe (*Loranthus micranthus* Linn). Asian Pacific Journal of Tropical Medicine 5(7): 556-560. [Inhibition in gastrointestinal transit was greater in extracts of '*L. micranthus*' (= *Ileostylus micranthus*) growing on *Pentacletra macrophylla* than on 5 other host trees.]

Padrón Soroa, J.V. 2005. Regional regulated invasive plant species, an approach to the Cuban list. XVII Congreso de la Asociación Latinoamericana de Malezas (ALAM) I Congreso Iberoamericano de Ciencia de las Malezas, IV Congreso Nacional de Ciencia de Malezas, Matanzas, Cuba, 8 al 11 de noviembre del 2005:17-30. [Listing regulated invasive weeds for Mexico, Florida U.S.A., Cuba, Chile, Costa Rica and Brazil. *Striga* listed in all, *Orobanche* and *Cuscuta* in all but Brazil, and, for Cuba, *Cassytha* spp., *Phoradendron robustissimum* and *Psittacanthus calyculathus*.]

Parada Quintero, M. 2012. (Comparative analysis of seed rain of *Gaiadendron punctatum* (Ruiz & Pavón) G. Don (Loranthaceae) y *Ternstroemia meridionalis* Mutis ex L.f. (Theaceae) at Natural Municipal Park Rancheria (Boyacá), Colombia.) (in Spanish) Acta Biológica Colombiana 17(1): 159-172. [Recording that *G. punctatum* had the higher seed rain of 169/m^2]

Park KwanHa and Choi SangHoon. 2012. The effect of mistletoe, *Viscum album coloratum*, extract on innate immune response of Nile tilapia (*Oreochromis niloticus*). Fish & Shellfish Immunology 32(6): 1016-1021. [Suggesting that *V. album* extract enhances immunity in tilapia, increasing its resistance to bacterial infection by *A. hydrophila*.]

Parker, C. 2012. Parasitic weeds: a world challenge. Weed Science 60(2): 269-276. [The continuing problems from *Striga*, *Orobanche*, *Cuscuta* and mistletoes species are outlined, including their extent, the degrees of damage caused, and the difficulties in their control. While some are being successfully controlled by a range of techniques, others may even be spreading or intensifying. The challenges they present are emphasised. (see also Haustorium 59 pp 2-3).]

Parvathy, M., Anupama, C. and Balasundaran, M. 2011. Molecular characterization of the differences between *Santalum album* L. and its adulterant, *Osyris wightiana* Wall. ex Wight using RAPD markers. Journal of Non-Timber Forest Products 18(2): 91-94. [Successfully applying RAPD markers to distinguish between *S. album* and *O. wightiana* (Santalaceae).]

Pattanayak, S.P., Mazumder, P.M. and Sunita, P. 2012. Total phenolic content, flavonoid content and *in vitro* antioxidant activities of *Dendrophthoe falcata* (L.f.) Ettingsh. Research Journal of Medicinal Plant 6(2): 136-148. [Results indicate that *D. falcata* extracts can be a potential source of natural antioxidant with strong antiradical capacity.]

Paulino, R.da C., Henriques, G.P.de S.A., Moura, O.N.S. Coelho, M. de F.II and Azevedo, R.A.B. 2012. Medicinal plants at the Sítio do Gois, Apodi, Rio Grande do Norte State, Brazil. Revista Brasileira de Farmacognosia 22(1): 29-39. [*Ximenia americana* among the 4 most frequently quoted medicinal plants in the region.]

Pawar, B.T. 2011. Antifungal activity of some stem extracts against seed-borne pathogenic fungi. Journal of Phytology 3(12): 49-51. [Failing to show any anti-fungal activity from extracts of *Santalum album*]

Pérez-Gutiérrez, S., Sánchez-Mendoza, E., Martínez-González, D., Zavala-Sánchez, M.A. and Pérez-González, C. 2012. Kramecyne - a new anti-inflammatory compound isolated from *Krameria cytisoides*. Molecules 1(2): 2049-2057. [Kramecyne exhibited good anti-inflammatory activity against oedema in mouse and rat.]

Péron, T., Véronési, C., Mortreau, E., Pouvreau, J.B., Thoiron, S., Leduc, N., Delavault, P. and Simier, P. 2012. Role of the sucrose synthase encoding *PrSus1* gene in the development of the parasitic plant *Phelipanche ramosa* L. (Pomel). Molecular Plant-Microbe Interactions 25(3): 402-411. [Highlighting the role of *PrSus1* in the utilization of host-derived sucrose in meristematic areas and in cellulose biosynthesis in *P. aegyptiaca* and showing evidence that its activity in xylem maturation is controlled by host-derived auxin.]

Pervin, M., Paeng, N., Yasui, K., Imai, S., Isemura, M., Yokogoshi, H. and Nakayama, T. 2012. Effects of *Lens culinaris* agglutinin on gene expression of gluconeogenic enzymes in the mouse intestine. Journal of the Science of Food and Agriculture 92(4): 857-861. [Concluding that lectin from *V. album* given intragastrically affected cytokine gene expression in the mouse intestine in such a way as to increase the risk of colon cancer.]

Petcu, E., Joiţa-Pacureanu, M., Emilia, P., Năstase, D. and Pricop, S. 2011. (Testing of sunflower hybrids against new broomrape races (*Orobanche cumana* Wallr.).) (in Romanian) Analele Institutului Naţional de Cercetare-Dezvoltare Agricolă Fundulea 79(1):171-179. [Reviewing the programme of breeding for sunflower resistance to *O. cumana* and reporting the outbreak in 2008 of a virulent race of the parasite in Romania overcoming all sources of resistance so far.]

Petcu, E. and Pâcureanu, J.M. 2011. Developing drought and broomrape resistant sunflower germplasm utilizing wild *Helianthus* species. Helia 34(54): 1-8. [Describing a breeding programme involving crosses between sunflower and the wild species *Helianthus argophyllus* and *H. maximiliani* aimed at developing resistance to *Orobanche cumana* and to drought.]

Pieme, C.A., Ngogang, J. and Costache, M. 2012. *In vitro* antiproliferative and anti-oxidant activities of methanol extracts of *Urena lobata* and *Viscum album* against breast cancer cell lines. Toxicological and Environmental Chemistry 94(5): 987-999. [*V. album* extracts demonstrated significant antiproliferative and antioxidant properties on MB-MDA435 cell lines.]

Piwowarczyk, R. 2012. A revision of distribution and historical analysis of preferred hosts of *Orobanche ramosa* (Orobanchaceae) in Poland. Acta Agrobotanica 65(1): 53-62.

Piwowarczyk, R. 2011. *Orobanche mayeri* (Suess. & Ronniger) Bertsch & F. Bertsch - a species new to Poland. Acta Societatis Botanicorum Poloniae 80(3): 179-183. [Two new records of *O. mayeri* reported from the Pieniny Mts in southern Poland.]

Piwowarczyk, R. 2012. A revision of distribution and the ecological description of *Orobanche picridis* (Orobanchaceae) at the NE limit of its geographical range from Poland and Ukraine. Acta Agrobotanica 65(1): 91-106. [Reporting two new localities for *O. ramosa* in Poland.]

Plakhine, D., Tadmor, Y., Ziadne, H. and Joel, D.M. 2012. Maternal tissue is involved in stimulant reception by seeds of the parasitic plant *Orobanche*. Annals of Botany 109(5): 979-986. [In an elegant experiment the authors show that the dependence on external chemical stimulation for seed germination in *Orobanche* seeds is genetically controlled. The genetic control is expressed in a seed tissue with maternal origin (presumably the perisperm that originates from the nucellus) and genetic variation for this trait exists in *Orobanche* species.]

Pouteau, R., Meyer, J.Y., Taputuarai, R. and Stoll, B. 2012. Support vector machines to map rare and endangered native plants in Pacific islands forests. Ecological Informatics 9: 37-46. [Concerning the distribution of *Santalum insulare* var. *raiateense* on the island of Moorea (French Polynesia, South Pacific).]

Preston, A.L., An Min and Watson, D.M. 2010. Chemical profile differences in endemic parasitic weeds: a study of host-parasite chemical profiles in select mistletoe and eucalypt species. 17th Australasian weeds conference. In: Zydenbos, S.M. (Ed.) New frontiers in New Zealand: together we can beat the weeds. Christchurch, New Zealand, 26-30 September, 20103: 73-374. [Content of essential oils in *Amyema pendula* and *A. miquelii* showed little variation across a range of *Eucalyptus* hosts. *A. quandang* yielded no oil, perhaps due to it being restricted to *Acacia* hopsts?]

Pricop, S.M., Cristea, S. and Petcu, E. 2011. Results on the virulence of the *Orobanche cumana* Wallr. populations in Dobrogea, Romania. Romanian Agricultural Research 28: 237-242. [*O. cumana* is serious in sunflower in SE Romania and tending to spread to the west, while virulence is increasing with evidence for races F and G, and hybrid PR64E71 (race G resistant) also showing some limited attack. The susceptible variety Performer shows 37% yield loss.]

Rahmawati, S.I. and Hayashi, N. 2012. The effects of batch reactor extraction on antioxidant activity from *Scurulla atropurpurea*. American Journal of Applied Sciences 9(3): 337-342. [Optimum 'batch reactor extraction' from *Scurrula atropurpurea* was with 30% ethanol at 100°C for 10 min. giving better results than a traditional extract (known as 'benalu teh' in Indonesia) in terms of yield, radical scavenging activities and total phenolics.]

Rai, I.D., Adhikari, B.S., Rawat, G.S. and Kiran Bargali. 2012. Community structure along timberline ecotone in relation to micro-topography and disturbances in Western Himalaya. Notulae Scientia Biologicae 4(2): 41-52. [Noting occurrence of *Balanophora involucrata* at the timberline in Uttarakhand, NW India.]

Raka Kamal, Sunita Yadav, Manas Mathur and Pawan Katariya. 2012. Antiradical efficiency of 20 selected medicinal plants. Natural Product Research 26(11): 1054-1062. [Including results for *Santalum album*.]

Ramasamy Harikrishnan, Chellam Balasundaram and Heo MoonSoo. 2012. Korean mistletoe enriched diet enhances innate immune response in kelp grouper, *Epinephelus bruneus* against *Philasterides dicentrarchi*. Veterinary Parasitology 183(1/2) 146-151. [Confirming that a 1 or 2% supplementation of the diet of the fish *E. bruneus* with extract of *Viscum album* positively enhances the innate immune response against infection by the histophagous ciliate *P. dicentrarchi*.]

Ramírez-Cisneros, M.Á., Rios, M.Y., Déciga-Campos, M. and Aguilar-Guadarrama, A.B. 2012. Phytochemical study and anti-inflammatory, antidiabetic and free radical scavenger evaluations of *Krameria pauciflora* methanol extract. Molecules 17(1): 861-872. [Extracts of *K. pauciflora* exhibited radical scavenger activity supporting their traditional use as an anti-inflammatory. Anti-diabetic effects were less clear-cut.]

Ramsfield, T.D., Shamoun, S.F. and van der Kamp, B.J. 2012. Histopathology of the endophytic system and aerial shoots of *Arceuthobium americanum* infected by *Colletotrichum gloeosporioides*. Botany 90(1): 43-49. [Failing to confirm that *C. gloeosporioides* infected the endophytic system of *A. americanum* parasitizing *P. contorta* var. *latifolia*, although xylem continuity between the aerial and endophytic systems was observed.]

Ransom, J., Kanampiu, F., Gressel, J., de Groote, H., Burnet, M. and Odhiambo, G. 2012. Herbicide applied to imidazolinone resistant-maize seed as a *Striga* control option for small-scale African farmers. Weed Science 60(2): 283-289. [Reporting that imazapyr- and pyrithiobac-coated imidazolinone-resi stant (IR)-resistant maize seed prior to planting, at rates of 30 to 45 g/ha can provide near season long control of *S. hermonthica* and increase maize yields three- to fourfold under ideal conditions, but may be less successful under excessively wet or dry conditions. Risk of herbicide resistance developing in the parasite is discussed. (see also Haustorium 59 pp 2-3).]

Rawsthorne, J., Watson, D.M. and Roshier, D.A. 2012. The restricted seed rain of a mistletoe specialist. Journal of Avian Biology 43(1): 9-14. [Concluding that the specialist mistletoe bird *Dicaeum hirundinaceum* intensifies infestations of *Amyema preissii* locally but is not responsible for long-distance dispersal.]

Reinhardt, C.F. and Tesfamichael, N. 2011. Nitrogen in combination with *Desmodium intortum* effectively suppress *Striga asiatica* in a sorghum-*Desmodium* intercropping system. Journal of Agriculture and Rural Development in the Tropics and Subtropics 112(1): 19-28. [Apparently publishing results reported by Tesfamichael at IWSS Congress in Durban in 2004. Pot experiments confirmed that *S. asiatica* is suppressed by *D. intortum*, yet to be confirmed in the field.]

Ruyter-Spira, C., 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 on Delaux et al. in the same issue – see above]

*Rodrigues, A.G., Colwell, A.E.L., Stefanovic´, S. 2012. Development and characterization of polymorphic microsatellite markers for *Conopholis americana* (Orobanchaceae). American Journal of Botany 99(1): e4-e6. (http://www.amjbot.org/content/99/1/e4.long) [Identifying microsatellite markers of potential use in obtaining estimates of population-level genetic diversity and phylogeographic studies of *C. americana*.]

Rodriguez-Cabal, M. A and Branch, L.C. 2011. Influence of habitat factors on the distribution and abundance of a marsupial seed disperser. Journal of Mammalogy 92(6): 1245-1252. [Distribution of the marsupial *Dromiciops gliroides* in Patagonia is dictated primarily by the presence of bamboo, but secondarily by presence of its important food source, *Tristerix corymbosus*.]

Roh HyunSik, Park KyeChung and Park ChungGyoo. 2012. Repellent effect of santalol from sandalwood oil against *Tetranychus urticae* (Acari: Tetranychidae). Journal of Economic Entomology 105(2): 379-385' [Among 34 essential oils tested for repellency against *T. urticae*, only α- santalol and β-santalol, the main components of oil from unspecified *Santalum* sp., showed effective activity, lasting 5 hours.]

Román, B., Die, J.V., Nadal, S. and González-Verdejo, C.I. 2011. Broomrape (*Orobanche* spp.). In: Perez de la Vega, M., Torres, A.M., Cubero, J.I. and Kole, C. (eds) Genetics, genomics and breeding of cool season grain legumes, pp. 380-406. [Revieweing the progress, or lack of it, in breeding for resistance to *Orobanche* spp. and noting that molecular mapping of *Orobanche*-resistance

QTLs together with the development of MAS techniques are promising approaches to rapidly improving crop resistance.]

Ronse, A. 2011. Stinsen plants and other deliberate introductions in the (semi-) natural zones of the Botanic Garden. In: Hoste, I. (Ed.) The spontaneous flora of the National Botanic Garden of Belgium (Domein van Bouchout, Meise), pp. 67-75. [*Lathraea clandestina* and *Rhinanthus minor* among species introduced to the Botanic Garden.]

Rothe, S.P., Muratkar, G.D. and Kokate, U.R. 2011. Occurrence and diversity in host by Mistletoes from fire families in East Melghat Forest. Current Botany 2(9): 19-21. [Recording a range of hosts for *Macrosolen parasitica* and *Viscum articulatum*. Also noting *Scurrula parasitica*, *V. nepalense* and *V. articulatum* as hyperparasites on *Dendrophthoe falcata.*]

Rubiales, D. and Fernández-Aparicio, M. 2012. Innovations in parasitic weeds management in legume crops. A review. Agronomy for Sustainable Development 32(2): 433-449. [A general review with emphasis on resistant varieties and herbicides in the control of *Orobanche* spp.]

Rubiales, D., Fernández-Aparicio, M. and Sillero, J.C. 2011. Broomrape. In: Chen, W., Sharma, H.C. and Muehlbauer, F.J. (eds) Compendium of chickpea and lentil diseases and pests. American Phytopathological Society (APS Press), St. Paul, USA: 94-97. [Reviewing the problems from *Orobanche* spp. in the two crops, *O. crenata* in lentil and winter-sown chickpea, *O. foetida* in chickpea in Tunisia, and *O. aegyptiaca* in both lentil and spring-sown chickpea. Control depends on integration of agronomic methods and imidazolinone herbicides. Varietal resistance not yet fully available in either crop.]

Rubiales, D., Fernández-Aparicio, M. and Sillero, J.C. 2011. Dodder. In: Chen, W., Sharma, H.C. and Muehlbauer, F.J. (eds) Compendium of chickpea and lentil diseases and pests. American Phytopathological Society (APS Press), St. Paul, USA: 98. [Noting occasional occurrence of *Cuscuta campestris* in lentil and chickpea in the Mediterranean region. Control involves the use of clean seed, spot spraying with non-selective herbicide, selective herbicide pendimethalin in either crop; also pronamide or propyzamide in chickpea.]

Rzedowski, J. and de Calderón Rzedowski, G. 2011. (Viscaceae.) (in Spanish) Flora del Bajío y de Regiones Adyacentes, Bulletin 170: 57 pp. [Describing six species of *Arceuthobium* (*A. abietis-religiosae, A. gillii, A. gillii* ssp. *nigrum, A. pendens, A. vaginatum* and *A. globosum*), and 20 species of *Phoradendron* (in Mexico).]

Rzedowski, J., & G. Caldero'n de R. 2011. Dos especies notables de Phoradendron. (Viscaceae) de la Mixteca Oaxacaquen~a (Me'xico), una nueva y una complementada. Acta Bot. Mexicana 96: 3-10. [*Phoradendron perredactum* is described and is one of the most remarkable members the genus owing to its isophasic development on *Bursera*. The description of *P. olae* Kuijt is complemented with data on hosts and male plants.]

Rzymowska, Z. and Skrajna, T. 2011. Associations and communities of cereal crops of the Łuków Plain Part I. Light soil associations. Acta Agrobotanica 64(4) 243-250. [Noting the occurrence of *Rhinanthus serotinus* in cereals on light soils in this region of Poland.]

Sangüesa-Barreda, G., Linares, J.C. and Camarero, J.J. 2012. Mistletoe effects on Scots pine decline following drought events: insights from within-tree spatial patterns, growth and carbohydrates. Tree Physiology 32(5): 585-598. [Concluding that *Viscum album* causes growth decline and increases the sensitivity of *Pinus sylvestris* to drought stress (in Spain).]

Santiago, L.S., Wright, S.J., Harms, K.E., Yavitt, J.B., Korine, C., Garcia, M.N. and Turner, B.L. 2012. Tropical tree seedling growth responses to nitrogen, phosphorus and potassium addition. Journal of Ecology (Oxford) 100(2): 309-316. [*Heisteria concinna* (Olacaceae) among 5 species showing benefit from fertilization, especially K, in deep-shade forest in Panama.]

Sárpataki, O., Sevastre, B., Olah, N.K., Hanganu, D., Taulescu, M., Mă̆nă̆lă̆chioae, R., Că̆toi, C. and Marcus, I. 2011. Antitumor effects of *Viscum album* L. on Ehrlich ascites carcinoma *in vivo*. Bulletin of University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca. Veterinary Medicine 68,(1): 320-327. [Extracts of *V. album* showed anti-proliferative effects on Ehrlich Ascites Carcinoma in mice.]

Satish, K., Gutema, Z., Grenier, C., Rich, P.J. and Ejeta, G. 2012. Molecular tagging and validation of microsatellite markers linked to the low germination stimulant gene (*lgs*) for *Striga* resistance in sorghum [*Sorghum bicolor* (L.) Moench]. TAG Theoretical and Applied Genetics 124(6): 989-1003. [In a mapping study, the sorghum low germination stimulation locus was fine-mapped. This yields new, more reliable markers for marker-assisted selection of low germination inducing germplasm. With the sorghum genome sequence at hand a list of candidate genes for this trait could also be drafted.]

Satish Patel, Vikas Sharma, Chauhan, N.S. and Dixit, V.K. 2012. An updated review on the parasitic herb of *Cuscuta reflexa* Roxb. Journal of Chinese Integrative Medicine 10(3): 249-255. [Reviewing the literature on pharmacognosy, phytochemistry and traditional and biological medicinal uses of *C. reflexa.*]

Scarpa, G.F. and Montani, M.C. 2011. Medical ethnobotany of "ligas" (Loranthaceae *sensu lato*) among indigenous and criollo people of Argentina. Dominguezia 27(2): 5-19. [Recording traditional medical uses of 8 species of Loranthaceae (*s.l.*), most relating to *Struthanthus uraguensis*, *Tripodanthus acutifolius*, *Phoradendron bathyoryctum*, and *Ligaria cuneifolia*. Suggesting further studies on *S. uranguaensis.*]

Schapowal, A. 2011. Phytotherapy of conjunctivitis. Zeitschrift für Phytotherapie 32(6): 255-259. [Including

Euphrasia (unspecified) among species that have proved valuable in treating conjunctivitis.]

Schmidt, H.U. 2010. (Might the mistletoe (*Viscum album* spp. *album*) be a problem (not only) for the deciduous trees of the city of Berlin?) (in German) Julius-Kühn-Archiv 428: 362-363. [Discussing the possible reasons for increased incidence of *V. album* on a range of trees in Berlin, the difficulties of mechanical control, and suggesting the planting of trees which would be less susceptible.]

Schuh, R.T. and Menard, K. 2011. Santalalean-feeding plant bugs: ten new species in the genus *Hypseloecus* Reuter from Australia and South Africa (Heteroptera: Miridae: Phylinae): their hosts and placement in the Pilophorini. Australian Journal of Entomology 50(4): 365-392. [Describing 8 new species of *Hypseloecus* from Australia and two from South Africa, documented as using species of *Amyema*, *Dendrophthoe* and *Lysiana* in Australia and *Viscum* and *Tapinanthus* in South Africa.]

Seegmüller, S. 2012. (Scots pine mistletoe viscotoxin 1-PS-regional comparison and ecophysiological hints.) (in German) Allgemeine Forst- und Jagdzeitung 183(1/2): 33-43. [The concentration of viscotoxin in *Viscum album* ssp. *austriacum* on *Pinus sylvestris* across a range of sites in Germany and Switzerland varied widely with soil and climatic factors, being negatively correlated to host leaf nitrogen and sulfur status and highest under drought or irradiance stress.]

Şekeroğlu, N., Koca, U. and Meraler, S.A. 2012. (A traditional folk medicine: IKSUT.) (in Turkish) Yüzüncü Yil Üniversitesi Journal of Agricultural Sciences 22(1): 56-61. [Identifying the main component of 'IKSUT', used traditionally in one part of Turkey for treatment of liver disease, and infant and mothers' physiological hepatitis, as a *Cuscuta* sp.]

Şekeroğlu, Z.A. and Şekeroğlu, V. 2012. Effects of *Viscum album* L. extract and quercetin on methotrexate-induced cyto-genotoxicity in mouse bone-marrow cells. Mutation Research, Genetic Toxicology and Environmental Mutagenesis 746(1): 56-59. [Suggesting that *V. album* extract may play a role in reducing cyto-genotoxicity induced by anti-neoplastic drugs during cancer chemotherapy.]

Semerci̇, A., Kaya, Y., Sahi̇n, I. and Ci̇tak, N. 2010. Determination of the performances and adoption levels of sunflower 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.]

Seregin, A.P. 2011. (*Pedicularis palustris* and *P. sceptrum-carolinum* (*Orobanchaceae*) in Vladimir Region and Middle Russia: dynamics and causes of extinction.) (in Russian) Botanicheskiĭ Zhurnal 96(12) 1561-1574. [The rapid decrease of *P. palustris* and *P. sceptrum-carolinum* over the past century is attributed to poor seed regeneration, genetic isolation of fragmented populations, change of land use, eutrophication, etc.]

Sevastre, B., Olah, N.K., Hanganu, D., Sárpataki, O., Taulescu, M., Mănălăchioae, R., Marcus, I. and Cătoi, C. 2012. *Viscum album* L. alcoholic extract enhance the effect of doxorubicin in Ehrlich carcinoma tumor cells. Romanian Biotechnological Letters 17(1): 6975-6981.

Sharma Sakshy, Hullatti, K.K., Sachin Kumar and Tiwari, B.K. 2012. Comparative antioxidant activity of *Cuscuta reflexa* and *Cassytha filiformis*. Journal of Pharmacy Research 5(1): 441-443. [Showing greater anti-oxidant activity in *C. reflexa* than in *C. filiformis*.]

Shave, P.A., Ter-Rumum, A. and Enoch, M.I. 2012. Effects of time of intercropping of mucuna (*Mucuna cochinchinensis*) in maize (*Zea mays*) for weed and soil fertility management. International Journal of Agriculture and Biology 14(3): 469-472. [Field trials in Nigeria showed that intercropping of *Mucuna* reduced the density of weeds (including *Striga hermonthica*?) by 52% and 16% when introduced at 6 and 9 weeks after planting without significantly affecting the yield of maize.]

Sillero, J.C., Rojas-Molina, M.M., Avila, C.M. and Rubiales, D. 2012. Induction of systemic acquired resistance against rust, ascochyta blight and broomrape in faba bean by exogenous application of salicylic acid and benzothiadiazole. Crop Protection 34: 65-69. [Confirming the suppression of *Orobanche crenata* on faba bean by SA and BTH, but mainly exploring their effect on fungal diseases.]

Simard, S.W., Beiler, K.J., Bingham, M.A., Deslippe, J.R., Philip, L.J. and Teste, F.P. 2012. Mycorrhizal networks: mechanisms, ecology and modelling. Fungal Biology Reviews 26(1): 39-60. [A detailed review including discussion of the types, amounts and mechanisms of interplant material transfer in autotrophic, mycoheterotrophic or partial mycoheterotrophic plants, with particular focus on carbon transfer.]

Soliman, M.M., Abdallah, N.G., Bakheit, M.A., Raslan, M.A. and Abd-El-Haleem, S.H.M. 2012. Directional selection in faba bean (*Vicia faba* L.) under infestation of *Orobanche crenata*. World Applied Sciences Journal 16(8): 1074-1081. [Reporting good results from a breeding programme in Egypt involving the cultivar Giza-843 which effectively shared in transmitting its properties of high yield and high resistance to *O. crenata*.]

Start, A.N. 2011. Some observations on an urban mistletoe Dendrophthoe pentandra (L.) Miq. (Loranthaceae) in Thailand. Natural History Buletin of the Siam Society 57: 81-86. [In a survey of urban trees in Central and N.Thailand *D. pentandra* was recorded on hosts from 24 families, 40 genera and more than 40 species; Common hosts included *Mangifera indica, Casuarina equisetifolia, Tectona grandis* and several species of *Lagerstroemia*.].

Štech, M. 2012. Changes of seasonal characters in populations of *Melampyrum sylvaticum* along an altitudinal gradient. Verhandlungen der Zoologisch-Botanischen Gesellschaft in Österreich 148/149: 137-144. [A study in Czeck Republic concludes that seasonal characters are not sufficiently reliable to be the basis for sub-specific taxa.]

Steers, R.J. and Allen, E.B. 2011. Fire effects on perennial vegetation in the Western Colorado Desert, USA. Fire Ecology 7(3): 59-74. [*Krameria grayi* among species failing to recover after fire in creosote bush vegetation.]

Su HueiJiun, Murata, J. and Hu JerMing. 2012. Morphology and phylogenetics of two holoparasitic plants, *Balanophora japonica* and *Balanophora yakushimensis* (Balanophoraceae), and their hosts in Taiwan and Japan. Journal of Plant Research 125(3): 317-326. [Refining the distinctions between *B. japonica*, *B. yakushimensis*, and *B. laxiflora* which form a well-supported clade within *Balanophora*. Also confirming that *B. japonica* parasitizes *Symplocos* spp., while *B. yakushimensis* parasitizes *Distylium racemosum* in Japan and *Schima superba* in Taiwan.]

Sultan, A., Johnston, P.R., Park, D. and Robertson, A.W. 2011. Two new pathogenic ascomycetes in *Guignardia* and *Rosenscheldiella* on New Zealand's pygmy mistletoes (*Korthalsella*: *Viscaceae*). Studies in Mycology 68: 237-247. [*G. korthalsellae* and *R. korthalsellae* are described from *Korthalsella salicornioides*, *K. clavata* and *K. lindsayi*. *R. korthalsellae* is a member of the *Mycosphaerellaceae s.s.*]

Sun ZhiYing, Song JingYuan, Yao Hui and Han JianPing. 2012. Molecular identification of Cistanches Herba and its adulterants based on nrITS2 sequence. Journal of Medicinal Plants Research 6(6): 1041-1045. [Confirming that ITS2 can be used as a DNA barcode to distinguish 'genuine' 'Cistanches Herba' (based on *Cistanche deserticola* and *C. tubulosa*) from possible adulterants including *C. salsa*, *C. sinensis Orobanche pycnostachya*, *O. coerulescens*, *Boschniakia rossica*, and *Cynomorium songaricum*.]

Sundararaj, R. and Gaurav Sharma. 2010. Studies on the floral composition in the six selected provenances of sandal (*Santalum album* Linnaeus) of south India. Biological Forum 2(2): 73-77. [Recording 76 spp. of various families associated with *S. album*.]

Sunita Shailajan, Sasikumar Menon and Harshvardhan Joshi. 2011. Microwave-assisted extraction of lupeol from *Cuscuta reflexa* Roxb. growing on different hosts and its quantitation by high-performance thin layer chromatography. International Journal of Green Pharmacy 5(3): 212-215. [The method is a good alternative to conventional extraction techniques.]

Surya, N.W., Idris, M., Wong, K.M., Leong-Škorničková, J., Lee, S. and Low, Y.W. 2011. A preliminary study on *in vitro* seed germination and rooted callus formation of *Tetrastigma rafflesiae* (Vitaceae). Gardens' Bulletin (Singapore) 63(1/2): 499-505. [Reporting successful culture of *T. rafflesiae* as part of a programme for conservation of *Rafflesia* spp. in Indonesia.]

Tag, H., Kalita, P., Dwivedi, P., Das, A.K. and Namsa, N.D. 2012. Herbal medicines used in the treatment of diabetes mellitus in Arunachal Himalaya, northeast, India. Journal of Ethnopharmacology 141(3): 786-795. [*Cuscuta reflexa* among 11 species reported to have anti-diabetic activity.]

Tamla, H.T., Cornelius, J.P. and Page, T. 2012. Reproductive biology of three commercially valuable *Santalum* species: development of flowers and inflorescences, breeding systems, and interspecific crossability. Euphytica 184(3): 323-333. [Studies involving *S. lanceolatum*, *S. album* and *S. austrocaledonicum* confirmed that although normally geographically separated, hybridisation between them can occur, suggesting potential for use of interspecific hybridization in genetic improvement.]

Tan, A.S. 2010. Sunflower (*Helianthus annuus* L.) researches in the Aegean Region of Turkey. Helia 33(53): 77-84. [Reviewing research in Turkey, including work on resistance to *Orobanche cumana*.]

Terzic´, S., Dedic´, B., Atlagic´, J., Jocic´, S. and Tančic´, S. 2010. Screening wild sunflower species and F_1 interspecific hybrids for resistance to broomrape. Helia 33(53): 25-30. [Recording the discovery in Serbia of new potential sources of resistance to *Orobanche cumana* in wild *Helianthus* species and their interspecific hybrids.]

Tibe, O., Pernthaner, A., Sutherland, I., Lesperance, L. and Harding, D.R.K. 2012. Condensed tannins from Botswanan forage plants are effective priming agents of γδ T cells in ruminants. Veterinary Immunology and Immunopathology 146(3/40: 237-244. [Extracts from *Tapinanthus oleifolius* showed moderate activity while effects of *Viscum rotundifolium* and *V. verrucosum* were minimal.],

Timko, M.P., Huang, K. and Lis, K.E. 2012. Host resistance and parasite virulence in *Striga*-host plant interactions: a shifting balance of power. Weed Science 60(2): 307-315. ['The recent cloning and functional characterization of a race-specific R gene from cowpea encoding a canonical coiled-coil (CC)-nucleotide binding site (NBS)-leucine-rich repeat (LRR) type R-protein opens the door for further exploration of the mechanism of host resistance to *S. gesnerioides* in cowpea, and provides a focal point for studies aimed at uncovering the molecular and genetic factors underlying parasite virulence and host selection.' (see also Haustorium 59 pp 2-3).]

Toh, S., Kamiya, Y., Kawakami, N., Nambara, E., McCourt, P. and Tsuchiya, Y. 2012. Thermoinhibition uncovers a role for strigolactones in *Arabidopsis* seed germination. Plant and Cell Physiology 53(1): 107-117. [High temperatures can inhibit germination in *Arabidopsis*. Strigolactone biosynthetic and signaling mutants in *Arabidopsis* showed increased sensitivity to this so-called thermo-inhibition. The synthetic strigolactone GR24 rescued germination of thermo-inbibited

biosynthetic mutant seeds but not of a signaling mutant. Hormone analysis revealed that strigolactones alleviate thermo-inhibition by modulating levels of the two plant hormones, GA and ABA. Hormone analysis in germinating *Striga hermonthica* seeds suggests a common mechanism of hormonal regulation of germination in the parasitic and non-parasitic seeds.]

Torres, A.M., Avila, C.M., Stoddard, F.L., Cubero, J.I., 2011. Faba bean. In: Perez de la Vega, M., Torres, A.M., Cubero, J.I. and Kole, C. (eds) Genetics, genomics and breeding of cool season grain legumes, pp. 50-97. [Including reference to the continuing need for the development of resistance to *Orobanche crenata.*]

Ukwueze, S.E. and Osadebe, P.O. 2012. Determination of anti-fungal properties of the African mistletoe species: *Loranthus micranthus* L. International Journal of Pharma and Bio Sciences 3(1): P-454-P-458. [Concluding that the folkloric use of *L. micranthus* (= *Ileostylus micranthus*) extracts in the treatment of fungal infections in Nigeria may not be scientifically founded.]

*U. S. Fish and Wildlife Service. 2010 Draft Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California. 377 pp. http://ecos.fws.gov/docs/recovery_plan/TMRP/Chapter%20II%20Species%20Accounts.pdf [Including a section on the endangered *Cordylanthus maritimus* ssp. *maritimus* (Orobanchaceae) with detailed information on taxonomy, ecology, distribution etc. and factors threatening its survival. Hosts not identified but it is associated with *Sarcocornia pacifica, Distichlis spicata, Frankenia salina, Limonium californicum* and occasionally *Cuscuta salina.*]

Varga, I., Keresztes, B. and Poczai, P. 2012. (Data to the Hungarian insect fauna of European mistletoe (*Viscum album*).) (in Hungarian) Növényvédelem 48(4): 153-164. [Identifying 22 insect species on *V. album*, of which *Cacopsylla visci, Carulaspis visci, Hypseloecus visci, Pinalitus viscicola, Ixapion variegatum, Liparthrum bartschti, Synanthedon loranthi* and *Celypha woodiana* are restricted to it. Those with some potential for biocontrol are the psyllid (*Caco. visi*), the mistletoe scale (*Caru. visci*), the mistletoe bug, *H. visci*, the clearwing moth, *S. loranthi* and the bark beetle, *L. bartschti*.]

Varga, I., Taller, J., Baltazár, T., Hyvönen, J. and Poczai, P. 2012. Leaf-spot disease on European mistletoe (*Viscum album*) caused by *Phaeobotryosphaeria visci*: a potential candidate for biological control. Biotechnology Letters 34(6): 1059-1065. [*P. visci* can completely destroy *V. album* by infecting its branches, leaves and berries (in Hungary).]

Velasco, L., Pérez-Vich, B., Yassein, A.A.M., Jan ChaoChien, Fernández-Martínez, J.M. 2012. Inheritance of resistance to sunflower broomrape (*Orobanche cumana* Wallr.) in an interspecific cross between *Helianthus annuus* and *Helianthus debilis* subsp. *tardiflorus*. Plant Breeding 131(1): 220-221. [Establishing that resistance to *O. cumana* race G in *H. debilis* ssp. *tardiflorus* is controlled by dominant alleles at a single locus.]

Vicas, S.I., Rugina, D., Sconta, Z., Pintea, A. and Socaciu, C. 2011. The *in vitro* antioxidant and anti-proliferative effect and induction of phase II enzymes by a mistletoe (*Viscum album*) extract. Bulletin of University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca. Agriculture 68(2): 482-491. [Extracts of *V. album* growing on apple show inhibition of adherent epithelial human ovarian tumor cells A2780 proliferation, and general anti-oxidant properties.]

Vurro, M. and Yoneyama, K. 2012. Strigolactones - intriguing biologically active compounds: perspectives for deciphering their biological role and for proposing practical application. Pest Management Science 68(5): 664-668. [A review with emphasis on the potential for exploiting better understanding of the role of strigolactones towards control of parasitic weeds.]

Wan Jing, Xu Jun, Yang MingYan, Yang ZhenDe, Huang QingHe and Zhao ShuFang. 2012. (Effects of three plant extracts on growth and development of dodder and soybean and on protective enzymes of host.) (in Chinese) Genomics and Applied Biology 31(1): 63-69. [Describing apparently non-selective damage from extracts of *Melia azedarach*, *Eucalyptus robusta* and *Sapium sebiferum* on both *Cuscuta chinensis* and soyabean.]

Wang Jing, Pu XiaoPeng, Cao ZhiZhong, Cao WenXia, Feng Xiao, Duan MingXuan and Qiu ZhiHe. 2011. (Study on grassland type and productivity of Tanzi pasture in Danchang County.) (in Chinese) Pratacultural Science 28(3): 420-425. [One of the grassland types – a 'sedge group' - described from Gansu Province, China, includes *Pedicularis* spp.]

Wang ZhengHui, Wu BaoJun, Zhang XiangHong, Xu Min, Chang HuiMin, Lu XiaoYun and Ren XiaoYong. 2012. Purification of a polysaccharide from *Boschniakia rossica* and its synergistic antitumor effect combined with 5-fluorouracil. Carbohydrate Polymers 89(1): 31-35. [Results showed that the polysaccharide from *B. rossica* combined with 5-fluorouracil had synergistic effects on antitumour activity in tumour bearing mice.]

Waters, M.T., Nelson, D.C., Scaffidi, A., Flematti, G.R., Sun, Y.M.K., Dixon, K.W. and Smith, S.M. 2012. Specialisation within the DWARF14 protein family confers distinct responses to karrikins and strigolactones in *Arabidopsis*. Development (Cambridge) 139(7): 1285-1295. [The *Arabidopsis* DWARF14 orthologue, AtD14, is – just as in rice - necessary for strigolactone response while the AtD14 paralogue KARRIKIN INSENSITIVE 2 (KAI2) is specifically required for responses to karrikins, and not to strigolactones. The expression patterns of AtD14 and KAI2 are consistent with the capacity to respond to either strigolactones or karrikins at different stages of plant development. They propose that AtD14 and KAI2 are necessary for the separate regulation of karrikin and strigolactone signalling by MAX2.]

Wedlich, K.V., Rintoul, N., Peacock, S., Cape, J.N., Coyle, M., Toet, S., Barnes, J. and Ashmore, M. 2012. Effects of ozone on species composition in an upland grassland. Oecologia 168(4): 1137-1146. [Elevated ozone significantly decreased *Rhinanthus minor*]

Wester, P. 2011. Nectar feeding by the Cape rock elephant-shrew *Elephantulus edwardii* (Macroscelidea) - a primarily insectivorous mammal pollinates the parasite *Hyobanche atropurpurea* (Orobanchaceae). Flora (Jena) 206(12): 997-1001. [Observed in Western Cape, South Africa.]

Weston, K.A., Chapman, H.M., Kelly, D. and Moltchanova, E.V. 2012. Dependence on sunbird pollination for fruit set in three West African montane mistletoe species. Journal of Tropical Ecology 28(2): 205-213. [*Globimetula braunii*, *Agelanthus brunneus* and *A. djurensis* in Nigeria, are self-compatible but are normally pollinated by four species of sunbird (*Cyanomitris* spp., *Cinnyris* spp.) and a small social wasp.]

Westwood, J.H., de Pamphilis, C.W., Das, M., Fernández-Aparicio, M., Honaas, L.A., Timko, M.P., Wafula, E.K., Wickett, N.J. and Yoder, J.I. 2012. The Parasitic Plant Genome Project: new tools for understanding the biology of *Orobanche* and *Striga*. Weed Science 60(2): 295-306. [The Project is sequencing transcripts from *Triphysaria versicolor*, *Striga hermonthica*, *Orobanche aegyptiaca* and the related but non-parasitic *Lindenbergia philippensis* and is expected to provide abundant molecular markers for understanding population dynamics, the biology of parasitism, parasite virulence, host resistance mechanisms, target sites for herbicide action and possibilities for trans-specific gene silencing (see also Haustorium 59 pp 2-3).]

Wiens, D. and Calvin, C.L. 2011. Two epiparasitic species of *Phoradendron* (Viscaceae) from Honduras: one new and for the other a range extension and host determination. Aliso 29(2): 119-123. [Describing the new species, *Phoradendron mathiasenii*, growing as a hyper-parasite on *Psittacanthus angustifolius*. *Ph. tikalense* is also recorded from one site in Honduras, again hyper-parasitic on *Ps. angustifolius*.]

Wong ZinHua, Habsah Abdul Kadir and Ling SuiKiong. 2012. Bioassay-guided isolation of neuroprotective compounds from *Loranthus parasiticus* against H_2O_2-induced oxidative damage in NG108-15 cells. Journal of Ethnopharmacology 139(1): 256-264. [*L. parasiticus* (= *Scurrula parasitica*) is used traditionally in China for treatment of schizophrenia, bone, brain, kidney, liver complaints and to treat 'wind-damp', and prevent miscarriage. Results of the study support the use of *L. parasiticus* in the treatment of neurological disorders where oxidative stress is implicated, thanks to the presence of proanthocyanidins.]

Wright, M.A.R., Ianni, M.D. and Costea, M. 2012. Diversity and evolution of pollen-ovule production in *Cuscuta* (dodders, Convolvulaceae) in relation to floral morphology. Plant Systematics and Evolution 298(2): 369-389. [The authors surveyed 128 species in each of the three subgenera looking at the ratio of pollen to ovules. While four ovules are present in the flowers of each species, the relationship of pollen to ovules varied widely among species. Outcrossing seems to be the rule with no species with established selfing.]

Xie An, Li ShiWei, Li Long and Kuang Ling. 2011. (Effects of *Cistanche* and *Epimedium* on development of early mouse embryo.) (in Chinese) Acta Agriculturae Universitatis Jiangxiensis 33(5]: 955-959. [Some benefits reported.]

Xiaojin, L., Daping, X., Zengjiang, Y., Ningnan, Z. and Lijun, Y. 2011. Preliminary analysis of growth and oil composition from a 6-year-old sandal (*Santalum album* L.) plantation in Gaoyao, Guangdong, south China. Sandalwood Research Newsletter 26, 1-5.

Xu Rong, Chen Jun, Zhou Feng, Yu Jing and Liu TongNing. 2011. (Study on rapid determination technique of *Cistanche deserticola* seed viability.) (in Chinese) Seed 30(5): 24-28. [Defining the optimum technique for determining seed viability in *C. deserticola* as pH 6.4 and TTC solution concentration of 0.3-1.0%, at 38°C.]

Yagi, S., Chrétien, F., Duval, R.E., Fontanay, S., Maldini, M., Piacente, S., Henry, M., Chapleur, Y. and Laurain-Mattar, D. 2012. Antibacterial activity, cytotoxicity and chemical constituents of *Hydnora johannis* roots. South African Journal of Botany 78: 228-234. [In Sudan, the roots of *H. johannis* are traditionally used for the treatment of dysentery, diarrhoea, cholera and swelling tonsillitis, but the work reported here does not fully support these uses and suggests much more study needed.]

Yamato, M., Yagame, T., Shimomura, N., Iwase, K., Takahashi, H., Ogura-Tsujita, Y. and Yukawa, T. 2011. Specific arbuscular mycorrhizal fungi associated with non-photosynthetic *Petrosavia sakuraii* (Petrosaviaceae). Mycorrhiza 21(7): 631-639. [Studies on *P. sakuraii* associated with Japanese cypress (*Chamaecyparis obtuse*) in Honshu, Japan, indicate that particular AM fungi are selected by *P. sakuraii* from diverse indigenous AM fungi. The same AM fungi can colonize both plant species, and photosynthates of *C. obtusa* may be supplied to *P. sakuraii* through a shared AM fungal mycelial network.]

Yang BeiFen and Li JunMin. 2012. Effect of parasitic plant *Cuscuta australis* R. Br. on growth of three invasive plants. Journal of Zhejiang University (Agriculture and Life Sciences) 38(2): 127-131. [Measuring the effects of *Cuscuta australis* on a range of parameters of *Erigeron annuus*, *Chenopodium ambrosioides* and *Bidens pilosa*. Total biomass reduced by 47, 82 and 65% respectively and root:shoot ratio increased in all.]

Yang YongSheng, Ma ChunJie, Lei Li, Dong Ping and Li JianMing. 2012. (Effects of *Cynomorium songaricum* polysaccharide on experimental gastric ulcer in rats by acetic acid.) (in Chinese) Chinese Archives of Traditional Chinese Medicine 30(2): 385-387.

[Confirming that polysaccharide from *C. songaricum* has anti-ulcer effect in rats.]

Yoneyama, K., Xie XiaoNan, Kim HyunIl, Kisugi, T., Nomura, T., Sekimoto, H., Yokota, T. and Yoneyama, K. 2012. How do nitrogen and phosphorus deficiencies affect strigolactone production and exudation? Planta 235(6): 1197-1207. [A detailed discussion on the varied responses of a range of crops to N and P deficiencies in promoting strigolactone exudation. Confirming that in general, P deficiency promotes strigolactone exudation in all species while N deficiency promotes exudation only in non-legumes (as legumes acquire N without AM fungi). And proposing explanations for the anomalous behaviour of tomato in which only P deficiency promotes exudation. Distinct reductions in shoot P levels were observed in the plants grown under N deficiency, except for tomato, in which shoot P level was increased by N starvation, suggesting that the P status of the shoot regulates SL exudation.]

Yoneyama, K., Xie XiaoNan, Kisugi, T., Nomura, T., Sekimoto, H., Yokota, T. and Yoneyama, K. 2011. Characterization of strigolactones exuded by Asteraceae plants. Plant Growth Regulation 65(3): 495-504. [Orobanchyl acetate and orobanchol were detected in root exudates from most of the 13 Asteraceae studied. 5-deoxystrigol and 7-hydroxyorobanchyl acetate were also detected in several.]

Yu WenBin, Li DeZhu and Wang Hong .2012. Highly efficient pollination by bumblebees ensures seed production in *Pedicularis lachnoglossa* (Orobanchaceae), an early-flowering Himalayan plant. Journal of Systematics and Evolution 50(3): 218-226. [Involving *Bombus friseanus* and *B. yunnanicola*.]

Zhang LinQi and Sun Wei. 2011 Treatment of chronic kidney disease with tonifying the kidney and promoting blood circulation and clearing away the damp-heat by professor SUN Wei. China Journal of Traditional Chinese Medicine and Pharmacy 26(12): 2900-2902. [Including reference to use of unspecified *Scurrula* and *Cuscuta* spp.]

Zhang QiuHong, Wang WenBiao, Li Jin, Chang YanXu, Wang YueFei, Zhang JiShu, Zhang BoLi and Gao XiuMei. 2012. Simultaneous determination of catechin, epicatechin and epicatechin gallate in rat plasma by LC-ESI-MS/MS for pharmacokinetic studies after oral administration of *Cynomorium songaricum* extract. Journal of Chromatography, B 880: 168-171.

Zhang RenBo and Dou QuanLi. 2011. GC-MS analysis on volatile components in mucilage from *Christisonia hookeri*. Medicinal Plant 2(10): 35-36. [Mucilage from between calyx and corolla of *C. hookeri* contained potentially useful volatiles 2-(2-butoxyethoxy) ethanol and methyl n-butyl sulfoxide, but mainly polysaccharides.]

Zhang XinHua, da Silva, A.T., Duan Jun, Deng RuFang, Xu XinLan and Ma GuoHua. 2012. Endogenous hormone levels and anatomical characters of haustoria in *Santalum album* L. seedlings before and after attachment to the host. Journal of Plant Physiology 169(9): 859-866. [Studying the endogenous hormones involved in the haustorial development of *S. album* on its host *Kuhnia rosmarinifolia*. A high auxin-to-cytokinin ratio contributed to haustorial development.]

Zhang XinHua, da Silva, J.A.T., Jia YongXia, Zhao JieTang and Ma GuoHua. 2012. Chemical composition of volatile oils from the pericarps of Indian sandalwood (*Santalum album*) by different extraction methods. Natural Product Communications 7(1): 93-96. [Identifying palmitic and oleic acids and a range of other compounds in the pericarp oil from *S. album*.]

Zhang XinHua, da Silva, J.A.T. and Ma GuoHua. 2011. Karyotype analysis of *Santalum album* L. Caryologia 63(2): 142-148. [Reporting diploid (2n=20) and tetraploid (2n=40) individuals in *S. album* while some meristems showed 'mixaploid' character.]

Zhang XinXian, Zhang XinZhi, Lin RiYang, Huang Di, Li Jie, Wu Feng, Liu NanNan and He LiQun. 2012. (Study on the intervention of reproductive function in GTW induced mice by Chinese herbs with the hormone changes.) (in Chinese) Journal of Liaoning University of Traditional Chinese Medicine 14(2): 37-39. [Supporting the potential for *Cistanche* spp. in promoting kidney yang and nourishing kidney yin.]

Zheng QianqQing, Li Ming, Li PengCheng, Wang JingJing and Jiang JiYuan. 2012. Study on the spatial distribution characteristics of sandy *Cistanche deserticola* soil moisture under the drip irrigation. Medicinal Plant 3(1): 9-12. [Abstract no clearer than the title.]

Zheng Wei, Tan XingQi, Guo LiangJun, Kong FeiFei, Lu Pin, Ni DongJie and Wang Ping. 2012. Chemical constituents from *Monochasma savatieri*. Chinese Journal of Natural Medicines 10(2): 102-104. [Identifying eight compounds from *M. savatieri* (Orobanchaceae).]

Zhao, Y.L., Wang, X.Y., Sun, L.X., Fan, R.H., Bi, K.S. nd Yu, Z.G. 2012. Cytotoxic constituents of *Viscum coloratum*. Zeitschrift für Naturforschung. Section C, Biosciences 67(3/4): 129-134. [Identifying 19 compounds in *V. coloratum* in China, including 2 with cytotoxic activity against human tumour cell lines.]

Zweifel, R., Bangerter, S., Rigling, A. and Sterck, F.J. 2012. Pine and mistletoes: how to live with a leak in the water flow and storage system? Journal of Experimental Botany 63(7): 2565-2578. [Studies in Switzerland show that stomata of *Pinus sylvestris* infested by *Viscum album* close but still suffer water loss and also suffer reduced photosynthesis. A tree with more than 10-20% of its total leaf area attributable to *V. album* is at the threshold of keeping a positive carbon balance. Increasing mistletoe abundance, due to increasing mean annual temperatures, is accelerating pine decline in many dry inner-Alpine valleys.]

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