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PRESIDENT'S/EDITOR'S MESSAGE

Dear IPPS Members,

It is an honour and a pleasure to start my term as President of the IPPS and I look forward to working with new and existing members of the Executive Committee and everyone involved in parasitic plant research. I hope that together we can take the society forward and continue the excellent work of Koichi Yoneyama.

On behalf of the society I would like to thank Koichi for all the time and hard work he has committed to the IPPS over the last eight years as Vice President and then President of the Society. During his time as President, Koichi oversaw the elections to the Executive committee, the Parasitic Plant Congress in Kunming, China in 2015, which was a huge success and he dealt with the general business of the society very effectively. Finally, I would like to say a personal thank you to Koichi, as I have very much enjoyed working with him during the last four years and learning how the society works.

One of my first and easy tasks is to encourage everyone to attend the 14th World Congress on Parasitic Plants (WCPP) 'From Genome to Field', which will be held at the Asilomar Conference Center, Pacific Grove, California from Sunday June 25th to Friday June 30th 2017. The Further details of the venue, the scientific program, which is currently being put together, and details about registration can be found on the website (www.WCPP14.org).

There are two more meetings of interest to parasitic plant researchers, the Second International Legume Society Conference which will be held in Tróia, Portugal, from the 11th -14th October, 2016 and the 2nd International Congress on Strigolactones, which will take place in Turin, Italy from the 27th – 30th of March 2017. Further information about both conferences is provided on page 10 of Haustorium.

I look forward to seeing everyone in Asilomar!

Best wishes,

Julie Scholes, IPPS President
J.Scholes@Sheffield .ac.uk

MEETING REPORTS

THE 6TH INTERNATIONAL INTERDISCIPLINARY MISTLETOE SYMPOSIUM, 12-14 November 2015, Nonnweiler, Saarland, Germany

Over 100 scientists and doctors from a variety of scientific disciplines and therapeutic approaches met at the European Academy in Otzenhausen for the 6th International, Interdisciplinary Mistletoe Symposium, entitled 'Mistletoe in Tumour Therapy – Basic Research and Clinical Practice'. The symposium was coordinated by Dr. Rainer Scheer and organised by numerous medical and pharmaceutical professional associations together with the Karl and Veronica Carstens Foundation .

Over the 3 days, the latest results from research and clinical medicine were presented, discussed and compared in 46 lectures, producing a multidimensional and comprehensive picture of the current state of scientific knowledge on mistletoe extracts. The specific areas dealt with included manufacture and testing as well as regulatory assessment of mistletoe preparations, the effects of various ingredients, *in vitro* and *in vivo* pre-clinical studies, studies on immunology and cytotoxicity, clinical results obtained in various applications and tumour entities in both human and veterinary medicine, reports from medical practice and clinical studies designed to demonstrate specific effects, the efficacy, the safety and tolerance of mistletoe preparations. Oncological guidelines and the treatment of pancreatic and gastro-intestinal tumours were chosen as a topic for special attention and also dealt with in depth in a podium discussion. A particular focus was placed on the results of the pioneering Phase III study conducted by Galun and Tröger, as well as the controversial debate this has kindled in the literature.

The organisers hope that in future the Mistletoe Symposia will prove to be a forum for scientific exchange and discussion of questions relating to safe and reliable use of mistletoe in tumour therapy between professional associations and representatives not only of complementary, but also of conventional oncology.

All the abstracts from the symposium are published in English in Phytomedicine 22 (2015) Supplement 1 and are freely available on the Internet at www.ScienceDirect.com. (http://www.sciencedirect.com/science/journal/09447113/22/supp/S1)

The summary papers that are still in stock are available on request from the author of this article. It is again planned

to make the full texts of all contributions to the symposium available in a book published by KVC-Verlag, Essen. The print and online version will probably be available by the end of 2016.

The Mistletoe Symposia have been held every 4 years since 1995. This year's participants again rated the congress as important and stimulating in terms of the results presented, the quality of the lectures, the discussions, the opportunity for individual conversations as well as the possibility to establish contacts. This was further underscored by the harmonious atmosphere as well as the excellent culinary, spatial and technical setting of the venue throughout the symposium.

It is planned to continue this fruitful exchange at the 7th Mistletoe Symposium in 2019, again at the European Academy in Otzenhausen and again with simultaneous interpretation into English. For more information about this and previous Mistletoe Symposia visit www.mistelsymposium.de.

Dr. Rainer Scheer, Carl Gustav Carus-Institut, Am Eichhof 30, 75223 Niefern-Öschelbronn; Tel. +49 (0)7233 68418; email: rainer.scheer@carus-institut.de

7TH INTERNATIONAL WEED SCIENCE CONGRESS, 19-25 June, 2016, Prague, Czeck Republic.

At the 7th International Weed Science Congress a total of 35 papers on parasitic weeds were presented. The studies presented at the meeting, excluding the country-specific species inventory studies, covered 9 species of parasitic plants. The studies on broomrapes (*Orobanche cumana*, *O. cernua*, *O. coerulescens*, *Phelipanche ramosa*) were dominating. Other species were *P. aegyptiaca*, *Cuscuta campestris*, *Viscum album*, *Striga asiatica*, *S. hermonthica* and *Rhamphicarpa fistulosa*.

Against *O. cernua* in tobacco in India, an integrated management approach, using pre-emergence herbicide and plant hole application of neem cake was recommended. In sunflower in Hungary, genetic variation in resistance against *O. cumana* was observed among 32 commercial varieties. In Israel the resistance mechanism against *O. cumana*, was characterized in sunflower variety EMEK 3 and it was found that the parasite intrusive cells are stopped during the penetration attempt, indicating a 'post-attachment' mechanism. Control of this broomrape species in sunflower can be enhanced by exogenously applied salicylic acid, which is shown to trigger a defence response in the host plant. A combination of *O. cumana*-tolerant sunflower variety Emeq 5 with one foliar application of imazapic at 3.6 g ha^{-1} applied at the 6-leaf stage, was sufficient to decrease parasite infection and increase sunflower seed yield from 630 kg ha^{-1} to 2,500 kg ha^{-1}. In Greece, *O. cumana* in sunflower was effectively controlled by Herbicide Resistant Crop (HRC) technologies ExpressSun® and especially Clearfield®.

In Texas, USA, a new outbreak of *P. ramosa* was observed in 2015 after a containment programme had stopped in 2008. A taskforce was set-up that will work on increased awareness on the re-occurrence of this weed and on ways to prevent further spread. In France, a cropping systems model, called PHERASYS, was developed to identify entry points for control of *P. ramosa*. Simulations showed that burying seeds by tillage may not be efficient to deplete the parasite seed bank, because of low seed mortality, but delaying crop sowing could reduce crop infestation due to the parasite seed dormancy characteristics. For Egyptian broomrape, *P. aegyptiaca*, a decision support system, called PICKIT, was developed for affected tomato growers in Israel, based on chemical control. This support system is now being adopted by commercial growers. To optimize this system, a molecular marker approach has been developed and tested to quantify broomrape seeds in soil samples, that could be used to map the within-field distribution, with the aim to conduct more site-specific herbicide applications. Another approach to support such site-specific chemical control was by early recognition of broomrape parasitism in an existing crop, that works through narrow-band spectral signatures of broomrape-infected plats.

The mechanism of control by glyphosate in a glyphosate-tolerant tomato variety has been studied. Glyphosate prevents self-production of aromatic amino acids in *P. aegyptiaca* by inhibition of the enzyme 5-enolpyruvylshikimate-3-phosphate synthase. In Iran, the genetic diversity of *P. aegyptiaca* has been studied, both on the molecular basis, as well as on the host preference and sensitivity to sulfosulfuron herbicide. In Turkey, rimsulfuron herbicide application to control *P. ramosa* in tomato was most effective following three applications via chemigation at 15, 30, and 45 DAP. Another approach tested in Turkey was to graft tomato varieties. Combinations of commercial varieties Newton/King Kong, Beril/Yedi, Selin/Kemerit reduced the number of broomrape plants and tubercles, and this method could be further explored as a solution for growers.

The use of a bio-herbicide to control *O. cumana* in sunflower was studied in Turkey. Amino acid salt, applied both to the soil and on the parasitic weed, was effective for control and could be recommended for organic sunflower farming where broomrape is problematic. A bio-control option to control broomrapes was also studied (*in vitro*) in Italy. Strains of fungi *Trichoderma harzianum* and *Fusarium oxysporum* proved to metabolize strigolactones, particularly 5-deoxystrigol and 4-deoxyorobanchol (around 73 and 69 %, respectively). In Israel, stimulant-dependent host

specificity of *Phelipanche* and *Orobanche* spp. was investigated for sunflower and tomato. *O. cernua* response to the strigolactones orobanchol, 2'epiorobanchol, 5-deoxystrigol and fabacyl acetate was highly specific, matching the tomato, as well as other Solanaceae spp. profile. No *O. cernua* response was observed after exposure of dehydrocostus-lactone and costunolide, coming from sunflower roots, the exact opposite of the *O. cumana* response to these compounds. *P. egyptiaca* proved to have the widest host range.

A study carried out in Poland provided the first evidence of host-to-parasite mitochondrial gene transfer in *Orobanche coerulescens* belonging to the section Inflatae which also contains the weedy species *O. cumana* and *O. cernua*.

On *Cuscuta* spp., studies on species distribution have been conducted in Russia and in Turkey. In Russia, 17 species of *Cuscuta* were identified and in Turkey (East Anatolia), through a combination of DNA extraction, cloning and sequencing from herbarium specimen, 8 species have been found. *C. campestris* was reported as an alien invasive species in sugar beet, while *C. polygonorum* was observed as a weed in apple orchards. In Serbia a study on the effects of *C. campestris* on sugar beet plant physiology showed that both the chlorophyll content and a number of chlorophyll fluorescence parameters were negatively affected by infection. In Israel, for control of *C. campestris* in water melon and chickpea, application of granular pendimethalin ('Corral' 2.68%, G) proved effective, as it prevented the parasite from attaching to its host stem. In the USA, integrated management of *Cuscuta* in cranberry using an AHP (Analytical Hierarchy Processing) model, was tested with growers with an objective to design farm-specific dodder management programs. AHP proved a useful decision support tool for growers.

A pot experiment with sorghum and different seed densities of *S. hermonthica* was conducted to parameterize a simulation model to investigate the density-dependent population regulation. Density dependence as well as inverse density dependence was observed depending on the life-cycle stage. The resulting overall fitness of *S. hermonthica* was not seed density dependent, as the population growth rate was constant over the range of densities. In India, for the control of *S. asiatica* in sugar cane, a combination of pre-emergence herbicide (atrazine) and trash mulching proved effective. Tolerance to *S. asiatica* has been identified in mutant rice varieties in Madagascar and these are being further tested in farmers' fields. Against *S. asiatica* and *S. hermonthica*, resistance has been identified in wild sorghum types. Profiles of differentially expressed genes between *S. hermonthica* infecting wild and cultivated sorghum and between *S. hermonthica* and *S. asiatica* infecting cultivated sorghum have been compared. Identified genes/loci will provide a platform for enhancing resistance of sorghum to *Striga* spp. using a genetic modification (GM) or a non-GM approach. Promising advances were also reported on bio-control of *S. hermonthica*, with a technology that actually seems feasible and effective in farmers' fields. The strategy entails primary inoculum delivery of the *S. hermonthica*-controlling fungus *F. oxysporum* f.sp. *strigae* on lab-prepared toothpicks, provided to farmers, and secondary inoculum, by the farmer him/herself, through boiled rice applied in the maize planting whole. The approach has resulted in average on-farm maize yield increases of 42-57% in western Kenya. A technology based on placing imazapyr herbicides within so-called sub-granules (30 to 60 μm) pressed into 2 to 4 mm conventionally dimensioned granules (for ease of application), applied with ALS resistant maize seeds, proved efficient to control *Striga*. Advantage of this method is the slow release o the herbicide and therefore a prolonged efficacy.

On another parasitic weed that parasitizes cereal hosts, the facultative parasite *Rhamphicarpa fistulosa* (rice vampireweed), results on studies on its distribution and host-parasite interactions were presented. It occurs in 28 rain-fed rice producing countries in Africa causing annual losses of 204,000 tons of milled rice worth US $82 million. Simulation studies showed that non-responsiveness to rice root exudates represents an opportunistic strategy, which is advantageous in combination with some important life history characteristics of this facultative parasite.

In Turkey, an inventory of the presence of *Viscum album* was conducted in two provinces (Aydin and Denizli) in Turkey. It was found on wild pear, pear, apricot, almond, black pine, poplar, willow and acacia trees. The survey showed that 33% to 76% farmers (depending on the province) had knowledge of this weed.

Jonne Rodenburg

Papers and posters presented:

Tal Shilo *et al.* - Aspects of glyphosate mechanism in Egyptian broomrape control

Hanan Eizenberg *et al.* - Assimilating a decision support system 'PICKIT' for Egyptian broomrape (*Phelipanche aegyptiaca*) control in processing tomato in Israel

Noam Ariel *et al.* - Molecular markers for identification and quantification of broomrape (*Orobanche* and *Phelipanche* spp.) seeds in a soil sample

Steven M. Runo *et al.* - *Striga*/sorghum arms race during domestication as revealed by Dual RNA-seq

Mihály Zalai *et al.* - Greenhouse and open-field testing methods for infection and virulence of broomrape (*Orobanche cernua*) in sunflower (*Helianthus annuus*)
Amnon Cochavi *et al.* - Early recognition of broomrape parasitism by physiological measurements and narrow-band spectral signatures
Oz Bendavid *et al.* - Integrated approach for alleviating the injury of sunflower broomrape (*Orobanche cumana*) in sunflower
Paula R. Westerman *et al.* - Density-dependent population regulation in the hemi-parasite, *Striga hermonthica*, on sorghum
Chinnagounder Chinnusamy - Integrated management of parasitic weed *Orobanche cernua* infesting transplanted tobacco in red sandy loamy soils
Chinnagounder Chinnusamy - Management of *Striga asiatica* in early planted sugarcane in red gravel soil fields of Southern India
Dana S., Eizenberg *et al.* - Genetic characterization of resistance of sunflower (*Helianthus annuus* L.) to sunflower broomrape (*Orobanche cumana* W.)
Denis L. Belkin - Distribution and impact of the genus *Cuscuta* L. in Russia
Fatma Keskin *et al.* - Determination of phylogenetic relations of species belonging to the genus dodder (*Cuscuta* spp.) that problem in agricultural and non-agricultural lands in eastern Anatolia (Turkey)
Lammert Bastiaans *et al.* - *Rhamphicarpa fistulosa*, an emerging parasitic weed problem in rain-fed lowland rice production systems in sub-Saharan Africa.
Manoa Raharivelo *et al.* - In vitro screening of Malagasy rain fed mutant rice lines F154 and B22, tolerant to *Striga asiatica*
Marija M. Saric-Krsmanovic *et al.* - The effect of field dodder (*Cuscuta campestris* Yunk.) on chlorophyll fluorescence and chlorophyll content parameters of alfalfa and sugar beet plants
Muthukumar Bagavathiannan *et al.* - Branched broomrape (*Orobanche ramosa*): A serious threat to Texas vegetable industry
Dina Plakhine *et al.* - Stimulant dependent host specificity of root parasitic weeds (*Phelipanche* and *Orobanche* spp.)
Chong Yang *et al.* - Alleviation of root holoparasitic *Orobanche cumana* infection by exogenously applied salicylic acid in host crop *Helianthus annuus*
Magdalena Denysenko *et al.* - The evidence of the host-to-parasite gene transfer in *Orobanche*
Angela Boari *et al.* - Biological control of parasitic weeds by using strigolactone-degrading fungi
David C Sands *et al.* - *Striga* biocontrol: A readily deployable and inexpensive method for smallholder farmers
Yaakov Goldwasser *et al.* - *Cuscuta campestris* control with granular pendimethalin in chickpea and watermelon
On Rabinovitz *et al.* - *Phelipanche aegyptiaca* control in processing tomatoes by weekly drip chemigation of imazapic at low application rates
Noushin Nezamabadi *et al.* - Investigating broomrape (*Phelipanche aegyptiaca*) populations genetic diversity, host preferring and response to herbicides and benzothiadiazole
Olivia Pointurier *et al.* - Modelling cropping system effects on branched broomrape dynamics in interaction with weeds
Martin Reisser *et al.* - Novel high capacity slow release herbicide formulations with new uses
Selvinaz Karabacak *et al.* - Broomrape (*Orobanche* spp.) control with some organic herbicides in sunflower
Emre E. Muslu *et al.* - Controlling broomrape in tomato with rimsulfuron
Ilhan Uremis *et al.* - Grafting attempts for broomrape management
Nurcan Büyükkurt *et al.* - Alien species in sugar beet fields in Turkey
Bilal Esitmez - The role of soil parameters on weed distribution in apple orchards
Hilary A Sandler - Using analytic hierarchy processing and grower feedback to promote adoption of integrated management strategies for dodder (*Cuscuta* spp.) in cranberry
Petros Vahamidis *et al.* - Spatial and temporal changes on weed flora and *Orobanche cumana* abundance in sunflower fields: An impact assessment of environmental, management and site factors

INTERNATIONAL CONFERENCE ON PULSES.
Marrakesh, Morocco, 13-15 April, 2016

Papers/posters presented included:

Diego Rubiales - Integrated management of parasitic weeds to reclaim pulses area in Mediterranean region
Fouad Maalouf *et al.* - Breeding for post-emergence herbicide tolerance in cool-season food legumes
Joseph Mbasani Mans *et al.* - Assessment of tolerance level of Moroccan lentil genotypes against *Orobanche crenata*
Mounia Ennami *et al.* - Host differentiation and variability of *Orobanche crenata* populations from legume species in Morocco as revealed by cross infestation and molecular analysis
Mounia Ennam *et al.* - *In vitro* culture of *Orobanche crenata*
Aziza M Hassanine *et al.* - *Orobanche crenata* effect on some faba bean genotypes and the genetic variation between three *Orobanche* isolates
Rifai Mohammed, *et al.* - Screening of lentil germplasm to identify the sources of resistance against *Orobanche crenata*

Fatima Zahra Briache *et al.* - Screening of faba bean genotypes for resistance to *Orobanche crenata* under field and controlled conditions
Girma T Kassie *et al.* - Economic impact of broomrape (*Orobanche crenata*) on pulse crop production in northeastern Ethiopia
Rind Balech *et al.* - Identification of faba bean lines tolerant to high dosage of glyphosate
Teklay Abebe *et al.* - Genotype by environment interaction of some faba bean genotypes under diverse broomrape environments of Tigray, Ethiopia
Dahbia Tabt *et al.* - Mutation induction in lentil
Moez Amri1 *et al.* - Achievements of the national chickpea (*Cicer arietinum* L.) breeding program in Tunisia
Moez Amri *et al.* - Achievements of the national faba bean (*Vicia faba* L.) breeding program in Tunisia
MSM Soliman *et al.* - Faba bean integrated pest/disease management in demonstration platform in Egypt
A Bouaziz1 *et al.* - *Vicia faba* cultivation as seen by farmers: diversity of practices in two Moroccan regions

PRESS REPORTS

Wildlife photographer Jim Thomson takes a look at the elusive Mistletoebird.

The Mistletoebird *(Dicaeum hirundinaceum)*, is a very attractive and interesting bird. During all my years watching and photographing bird life I have only once been able to get them at the nest. I did find a nest at Walka Water Works at one stage but unfortunately it did not survive – it was right at the side of the walking track. The one I did get in the nest was at Vacy. I had found it during one of my many bird watching trips and the nest was low down making it quite easy to get the shot – set up the camera, short lens with the flash on short duration and triggered by remote control.

The distribution of the Mistletoebird in Australia is determined by the distribution of parasitic mistletoe upon which it largely depends for food. In Tasmania we have no mistletoe plants and no Mistletoebirds. The bird lives in a very wide range of habitats. It is as much at home in the Mulga scrub of arid central Australia, as it is in the dense tropical rainforest.

The male Mistletoebird at its nest with hungry chicks demanding attention.

Its appearance in any area is governed by the fruiting of mistletoe. The Misletoebird in turn helps to spread the plant due to the large quantity of mistletoe berries that passes through the bird, which in turn regenerates new plants. It seems ironic then that while the Mistletoebird has evolved into an extremely efficient local distributor of mistletoe seeds, the bird needs the mistletoe but the mistletoe certainly does not need the bird. Aside from the mistletoe berries these birds feed on berries of other plants, as well as insects. During the first few days of life the female incubates the eggs alone.

Mistletoebirds are usually seen flying very rapidly from tree to tree, gaining their power of strong swift flight from long, narrow wings.

Maitland Mercury, May 6, 2016.

Vampire vine helps to destroy alien European weeds in Australia

Let the plant wars begin. A parasitic vine that sucks the life out of feral weeds is being billed as a promising new agent for biocontrol.

Cassytha pubescens, or devil's twine, is the first native plant to be investigated as a weapon against invasive weeds introduced to Australia by European settlers in the early 1800s. Robert Cirocco of the University of Adelaide says the vine is able to kill all the 'major baddies' – gorse, Scotch broom and blackberry – by attaching small suckers to the plants' stems and extracting their water and nutrients. 'This is important because these weeds cost us millions of dollars annually to eradicate, not to mention their incalculable costs to our native biodiversity,' he says.

The most notorious of these alien weeds, European gorse (*Ulex europaeus*), costs more than A$7 million (US$5.5 million) each year to clear from natural habitats and farmland with a mixture of herbicides, mechanical removal and burning. Cirocco and his colleagues showed that devil's twine can destroy gorse by reducing its water and nutrient intake, which in turn harms photosynthesis. 'Less photosynthesis translates to less carbohydrate, and less carbohydrate translates to less growth,' says Cirocco. The gorse plants that the researchers studied were in the Mount Lofty Ranges in South Australia, where many had been naturally infected with *C. pubescens* in the area. 'You could see a *Cassytha* infection front that was leaving dead gorse in its wake,' says Cirocco.

The work was presented at the Natural Resource Management Science Conference in Adelaide last week. According to Cirocco, the biggest advantage of *C. pubescens* as a potential biocontrol agent is that it already occurs naturally across large tracts of eastern Australia. As a result, there is little danger that the vine will itself become a menace, as with the cane toads introduced to Australia in 1935 to control beetles that devastated sugar-cane crops. *C. pubescens* also fulfils the brief of being far more toxic to non-native than native plants.

'*Cassytha* is not the smartest thing – it will pretty much go for anything it can get its suckers on, including barbed wire,' says Cirocco. 'But research shows that *Cassytha* has a much greater effect on invasive weeds, perhaps because native plants have co-evolved with it, so they have likely developed mechanisms of resistance or tolerance.'

Cirocco says the next step will be to conduct field trials to confirm the effectiveness of *C. pubescens* against gorse in a variety of natural habitats. '*Cassytha* continues to show promise as an effective native biocontrol against major invasive weeds, so it's definitely worth exploring,' he says.

The strategy makes sense from an ecological point of view, but the success of biocontrols is very difficult to predict, says Roger Cousens of the University of Melbourne. 'You never can tell with biocontrol agents. You carefully select them and do all the work but quite often they just don't do the job,' he says. 'But when they do work, it's fantastic.'

Leslie Weston of the Charles Sturt University in Wagga Wagga, New South Wales, agrees that the strategy has potential. 'The issue is how you manage the *Cassytha* itself once it's established because it's obviously not something you want to be extended past its natural range,' she says. 'Although *Cassytha* might not have an as adverse effect on the natives, it can still have an effect.' 'Usually when you pick a biocontrol organism, you pick one that is incredibly specific to the host you're trying to decimate. This is a non-specific option so it would have to be very carefully managed,' says Weston.

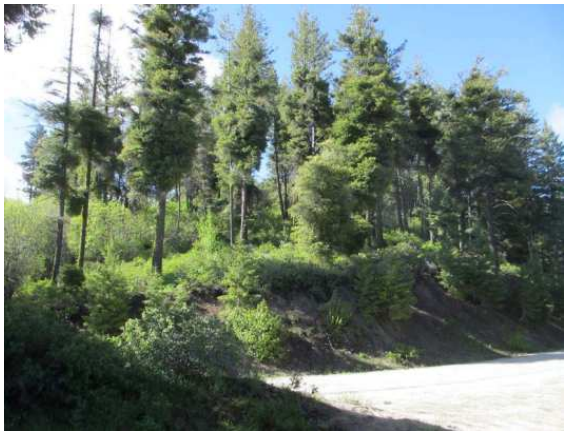
Alice Klein, New Scientiist 30 April 2016.

Boise National Forest Seeks Public Comment on Bogus Basin Forest Health Project

The forest surrounding Bogus Basin Mountain Recreation Area is sick. Many of the large conifer trees are plagued with dwarf mistletoe (*Arceuthobium*) infection and Douglas-fir beetles. Scores of trees are already dead, left standing and ready to fall at anytime—threatening Bogus Basin's chairlifts, towers and mountain users. 'Due to ongoing incidence of tree mortality, a large number of standing dead trees are present in the Bogus Basin developed recreation area,' stated the Boise National

Forest in its Bogus Basin Forest Health Project plan. ‘Large brooms (dense clumps of branches) on trees infected with dwarf mistletoe may fall, especially under the weight of heavy snow. These trees present a safety hazard to the public on alpine and Nordic ski trails and roads, as well as recreation facilities.’ Standing dead trees are normal in any forest, but Boise National Forest officials state, ‘in recent years there has been a dramatic increase in the number of trees killed by dwarf mistletoe, Douglas-fir beetle and Western bark beetle.

In 2007, the Forest Health Protection Department within the U.S. Forest Service reported Douglas-fir dwarf mistletoe infected almost 80 percent of all stands within the Bogus Basin area. Dwarf mistletoe infected trees are likely to have their branches collapse under heavy snow, posing a risk to nearby skiers and snowboarders. The seriousness of the forest's ill health came to a head two years ago, when Idaho Gov. C.L. ‘Butch’ Otter submitted a request to U.S. Agriculture Secretary Tom Vilsack, asking for landscape-scale treatments to national forests throughout Idaho. Chief of the U.S. Forest Service Tom Tidwell gave Otter his blessing to treat the areas needing help because of the high risk of insect and disease mortality. Bogus Basin is one of 50 landscape areas throughout the state in need of heavy treatment. A plan was crafted between the Boise Forest Coalition—made up of citizens with a diverse set of perspectives on forest management—and the Boise National Forest.



Douglas fir damaged by *Arceuthobium douglasii*

The project focuses on 3,700 acres of Bogus Basin, which operates on a special use permit under the Boise National Forest, except for a small chunk of private land owned by the resort. It will encompass the thinning of 775 acres of Douglas-fir stands, 800 acres of ponderosa pine stands, hazard tree felling on 725 acres, prescribed burning and thinning of wildfire fuel on 2,828 acres, and fill-in planting of alternative tree species on almost 500 acres. In order to complete the project, the Forest Service will need to build almost five miles of temporary roads and improve nine miles of ski area maintenance roads for commercial timber harvesting. It will also focus on strategies to deter noxious weed growth, protect and enhance wildlife habitat, clear pathways for skiers and snowboarders in between runs, and coordinate with Ridge to Rivers for trail improvements.

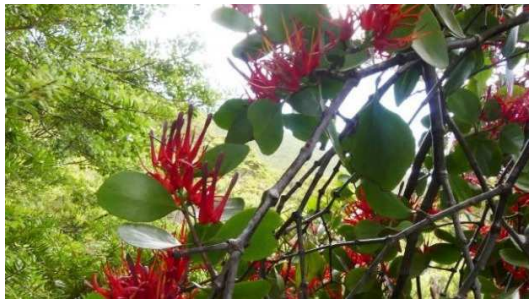
According to the plan, ‘The desired condition for the proposed project is a healthy forest that facilitates and enhances public recreation and is resilient to natural disturbances such as insects, disease and wildfire.’ Treatments are slated to begin in fall 2016 or summer 2017. Some treatments may need to be repeated every five to 10 years to continue removing dwarf mistletoe-infected trees and beetle-killed trees that pose a hazard on the ski resort.

Jessica Murri, Boise Weekly, 10 March, 2016.

Appeal for sightings of rare mistletoe in Abel Tasman National Park

The public have been asked to keep an eye out for scarlet mistletoe in the Abel Tasman National Park (New Zealand). The at risk plant is declining and has flowers that are an important source of nectar for birds like tui, kaka and bellbird.

Scarlet mistletoe or *Peraxilla colensoi*, has bright red explosive flowers that are an important source of nectar for birds like tui, kaka and bellbird.



The mistletoe is rarely seen in the national park and is classified as at risk and declining. A 2013 survey by the Department of Conservation found only 16 plants in the Canaan area of the park. The mistletoe is seen as one of the parks indicator species as it is very susceptible to possum browsing. This month, Project Janszoon botanist Dr Philip Simpson found another, previously unknown, site where the mistletoe is growing near Canaan.

‘No one can appreciate how rare the sight of a red flowered mistletoe is nowadays. I noticed that the bases of all the branches of the trees nearby were smoothed and horizontal, suggesting a long history of possums climbing up, using the tree to gain entry to the succulent mistletoe leaves above,’ Simpson said. ‘It is likely that long term and sustained 1080 (sodium fluoroacetatepoisoning has saved this plant from certain death.’

There are three species of mistletoe in the park, *Peraxilla colensoi* and *Peraxilla tetrapetala* have red flowers while *Alepis flavida* which has orange and yellow flowers has only been found once in the park.

Simpson is asking visitors to the park to report any sightings of mistletoe. ‘Now is a great time to try to locate these and get an idea of how others are doing. These elusive beautiful plants are a treat to see and to have one beside the track and only just above eye level gives truly a wonderful experience,’ he said. As well as looking for the flowers another good way to spot mistletoe is to look for the bright red petals on the ground.

If you find a mistletoe please take a photo and note the location, preferably with GPS coordinates and notify Project Janszoon at info@janszoon.org

Uganda: NARO makes breakthrough on sorghum

National Semi-Arid Resources Research Institute (NaSARRI) has developed five sorghum types that are tolerant to *Striga* and drought. This was revealed by Dr. Michael Ugen, director of research, NaSARRI, while meeting farmers in Mayuge and Namatumba districts during a participatory sorghum variety selection exercise.

Striga and drought are key production constraints in sorghum production with a potential to cause up to 100 per cent yield loss in sorghum particularly in the north, north-eastern and eastern Uganda where sorghum production is prominent. The two constraints to production are highly reinforced by low soil fertility and weather variability. ‘Climate change has highly affected sorghum production in many parts of the country but this breakthrough is a ray of hope to Uganda's sorghum farmers’, said Dr Ugen. The candidate varieties are earmarked to address food security and improve household income since they are resilient to *Striga* and drought and also high yielding.

The sorghum genotypes which are scheduled for release in 2017 are the result of more than two years of research. ‘Sorghum is a major crop in the main producing areas and NaSARRI is determined to always provide reliable seed to farmers through research,’ said Johnnie Ebiyau, a senior research officer, NaSARRI. ‘The sorghum lines are high yielding giving up to 3,000 kilogrammes per hectare.’

Sorghum is the third most important staple cereal crop after maize and millet and its production in Uganda is estimated to be at 376,000 metric tonnes annually. Steven Koma, the chairperson, Ntalinga farmers' group, Mayuge District, reiterated the urgent need for better sorghum varieties if the required production is to be attained. ‘We are excited to have participated in the evaluation of these genotypes and can't wait to have them in this region for production,’ added Paul Magemeso, a farmer in Nakalama Village, Iganga district. ‘Most of us depend on sorghum for food and income but *Striga* was frustrating us,’

Besides food, sorghum is gaining importance in the manufacturing industry for production of beverages, medicine, feeds, paper, ethanol, and food dyes.

NaSARRI is one of the research institutes under NARO and is based in Serere District.

Umar Kyeyune
AllAfrica, 25 May, 2016.

Help ‘Believe Big’ and Johns Hopkins Sidney Kimmel Cancer Center Kiss Cancer Goodbye

One last push in funding is needed for the Premiere U.S. Mistletoe Clinical Trial.

Due to the fundraising efforts of Believe Big, Johns Hopkins is preparing to begin a clinical trial on Mistletoe Extract to help ‘Kiss Cancer Goodbye.’ Not only has mistletoe (*Viscum album*) been found to diminish tumor-related pain, increase the immune response, prevent reoccurrence during the watchful waiting period, but it also offsets the harsh side affects of chemotherapy: nausea, vomiting, and lack of appetite.

Most clinical trials are typically funded by pharmaceutical companies, but because mistletoe is a natural substance, this is not an option. This is truly historic because this clinical trial is entirely patient driven and is being entirely funded by private donations. Even though mistletoe is used all over the world and proven effective in treating cancer, until a clinical trial is done here in the United States, oncologists cannot offer this treatment as standard of care. Currently only 50 physicians are trained to treat with mistletoe in the US. ‘We have been able to raise over $395,000 to start the clinical trail,’ said Ivelisse Page, Executive Director & Co-founder of Believe Big. While European oncologists have used extracts of mistletoe for

the past 90 years, it is not available through oncologists in the U.S. Currently, 1 out of every 3 oncologists in Germany prescribes mistletoe.

Believe Big is a non-profit organization formed in 2011 to help bridge the gap between conventional and complementary medicine for fighting cancer. Now Believe Big and Johns Hopkins are collaborating on a mistletoe clinical trial that brings the conventional and complementary medical communities together. Johns Hopkins researchers say mistletoe treatment could change the way doctors go after cancer. Believe Big founder, Ivelisse Page was healed of stage 4 colon cancer using mistletoe Extract, surgery, and a high alkaline diet. She is now 7 years cancer free and the health advocate that began this effort. Dr. Luis Diaz, professor of oncology and senior researcher at Johns Hopkins, and Dr. Peter Hinderberger, expert in complementary medicine, both treated Ivelisse and are helping to lead the clinical trial at Johns Hopkins along with Dr. Channing Paller. Dr. Hinderberger has used mistletoe in his practice successfully for over three decades. The clinical trial team is hoping that with this study, mistletoe will be included in the standard of care treatment protocol for cancer.

For more information about Believe Big and to find a physician who is currently treating with mistletoe, visit http://www.believebig.org. Anyone wishing to be a part of this historic event can make a tax-deductible donation for this trial by visiting: www.believebig.org/Donate.html

PRD Press Release Distribution
Glyndon, Maryland - April 4, 2016

FORTHCOMING MEETINGS

Second International Legume Society Conference, Tróia, Portugal, 11-14 October, 2016. For more information see: http://www.itqb.unl.pt/meetings-and-courses/legumes-for-a-sustainable-world.

2nd International Congress on Strigolactones, 27-30 March 2017, Turin Italy, For further information, visit: www.strigolactones2017.it

14th IPPS World Congress on Parasitic Plants. Asilomar Conference Grounds in Pacific Grove California, USA, June 25-30, 2017. Details available via the Congress website - www.WCPP14.org (site still under development)

GENERAL WEB SITES

For individual web-site papers and reports see LITERATURE

* these websites may need copy and paste.

For information on the International Parasitic Plant Society, past issues 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 14th IPPS World Congress on Parasitic Plants. ,June 25-30, 2017. see: www.WCPP14.org
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 new Frontiers Journal 'Advances in Parasitic Weed Research' see: http://journal.frontiersin.org/researchtopic/3938/advances-in-parasitic-weed-research
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 COST/STREAM 2nd Interrnational Congress on Strigolactones; http://www.strigolactones2017.it/
For information on the EWRS Working Group 'Parasitic weeds' see: http://www.ewrs.org/parasitic_weeds.asp
For a description and other information about the *Desmodium* technique for *Striga* suppression, see: http://www.push-pull.net/
For information on the work of the African Agricultural Technology Foundation (AATF) on *Striga* control in Kenya, including periodical 'Strides in *Striga* Management' and 'Partnerships' newsletters, see: http://www.aatf-africa.org/
For Access Agriculture (click on cereals for videos on *Striga*) see: http://www.accessagriculture.org/ *
For information on future Mistel in derTumortherapie Symposia see: http://www.mistelsymposium.de/deutsch/-mistelsymposien.aspx
For a compilation of literature on *Viscum album* prepared by Institute Hiscia in Arlesheim, Switzerland, see: http://www.vfk.ch/informationen/literatursuche (in German but can be searched by inserting author name).
For the work of Forest Products Commission (FPC) on sandalwood, see: http://www.fpc.wa.gov.au (Search *Santalum*)

For 6th Mistletoe Symposium, Germany, November 2015 see: http://www.sciencedirect.com/science/journal/09447113/22/supp/S1

LITERATURE

***indicates web-site reference only**

Items in bold selected for special interest

Items in blue relate to therapeutic uses of parasitic plants

Acar, O., Demırbas, S., Uludağ, A., Trichkova, T., Rat, M. and Tomov, R. 2014. The role of antioxidants in the *Orobanche*-cultivated plants interaction and broomrape invasion. Proceedings, 4th ESENIAS Workshop: International Workshop on IAS in Agricultural and Non-Agricultural Areas in ENESIAS Region, Çanakkale, Turkey, 16-17 December 2013: 65-66. [Reviewing the possibility that higher antioxidant content may confer resistance to *Orobanche* and *Phelipanche spp.* but no conclusions presented.]

Aflitto, N., DeGomez, T., Hofstetter, R., Anhold, J., McMillin, J., Wagner, M. and Schneider, E. 2015. Pine bark beetle and dwarf mistletoe infestation in a remnant old-growth stand. Western North American Naturalist 75(3): 281-290. [Finding some correlation between the proportion of ponderosa pine infected with *Arceuthobium vaginatum* subsp. *crytopodum* and that infested by bark beetle, but no direct relationship confirmed.]

Ahamide, I.D.Y., Tossou, M.G., Adomou, A.C., Houenon, J.G., Yedomonhan, H. and Akoegninou, A. 2015. (Diversity, impacts and uses of Loranthaceae growing on *Cola nitida* (Vent.) Schott. & Endl. in Southern Benin.) (in French) International Journal of Biological and Chemical Sciences 9(6): 2859-2870. [Recording that 53% of cola trees were infested with mistletoes including *Globimetula braunii, G. cupulata, Phragmanthera capitata, Tapinanthus bangwensis, T. belvisii* and *T. globiferus* and noting that these are widely used medicinally for barrenness, miscarriage and menstrual disorders.]

Ahmad, M., Habak, H. and El-Rahban, B. 2016. Preliminary evaluation of releasing *Phytomyza orobanchia* Kalt. for controlling *Orobanche ramosa* under muslin cages in tomato fields. Arab Journal of Plant Protection 34(1): 36-41. [Releasing 3-9 adult *P. orobanchia* per plant resulted in 28-60% reduction in *O. ramosa* seed production.]

Ahn HyoYeong, Cho JeongSu, Kim YeongDae, I HoSeok, Kim YeonJi, Kim AhRong and Lee ChangHun. 2015. Efficacy of mistletoe for chemical pleurodesis in rats without malignancy. Open Medicine 10: 346-351. [Using *Viscum album*.]

*Ahoua, A.R.C., Konan, A.G., Bonfoh, B., Koné, M.W. 2015. Antimicrobial potential of 27 plants consumed by chimpanzees (*Pan troglodytes verus* Blumenbach) in Ivory Coast. BMC Complementary and Alternative Medicine 15: 383. (http://bmccomplementalternmed.biomedcentral.com/articles/10.1186/s12906-015-0918-7) [*Coula edulis* consumed by chimpanzees but not among speciesd with high activity against bacteria and yeasts]

Akça, A. and Işık, D. 2016. (Determination of weeds species in sugar beet (*Beta vulgaris* L.) cultivation areas in Kayseri.) (in Turkish) Bitki Koruma Bülteni 56(1): 115-124. [*Cuscuta* (unspecified) recorded in 46% of fields in this region of Central Turkey.]

Akhtouch, B., del Moral, L., Leon, A., Velasco, L., Fernández-Martínez, J.M. and Pérez-Vich, B. 2016. Genetic study of recessive broomrape resistance in sunflower. Euphytica 209(2): 419-428. [Crosses between the *Orobanche cumana* Race F-resistant lines K-96 and P-96 and the susceptible P-21 suggest that the resistance is mainly controlled by a dominant-recessive epistasis at two loci. Five QTL on LG 2, 3, 4, 5, and 6 were associated with broomrape resistance traits. Concluding that K-96 and P-96 have complementary QTL with minor effect on broomrape resistance. They are, therefore, good donor sources for marker-assisted pyramiding programmes.]

Aksoy, E., Arslan, Z.F., Tetik, Ö. and Eymirli, S. 2016. Using the possibilities of some trap, catch and Brassicaceaen crops for controlling crenate broomrape a problem in lentil fields. International Journal of Plant Production 10(1): 53-62. [Results suggest that lentil could be useful as a catch crop and flax as a trap crop, for reduction of *Orobanche crenata*. Broccoli also had some beneficial effect but methodology not clear.]

Al-Babili, S. and Bouwmeester, H.J. 2015. Strigolactones, a novel carotenoid-derived plant hormone. Annual Reviews in Plant Biology 66: 161-186. [An excellent review of strigolactones as plant hormones, describing their chemistry, biosynthesis, and biological functions. The definition and nomenclature of strigolactones proposed in this review have been accepted by many scientists. Due to very rapid progress in this research area, new important findings need to be added.]

Al-Fatimi, M., Ali, N.A.A., Kilian, N., Franke, K., Arnold, N., Kuhnt, C., Schmidt, J. and Lindequist, U. 2016. Ethnobotany, chemical constituents and biological activities of the flowers of *Hydnora abyssinica* A.Br. (Hydnoraceae). Pharmazie 71(4): 222-226. [Identifying acetic acid, ethyl acetate, sabinene, α-terpinene, (+)-D-limonene and γ-terpinene as volatiles from dried flowers. Solvent extracts of the flowwers showed activity against Gram-positive bacteria as well as remarkable radical scavenging activities in a DPPH assay, apparently justifying some of its traditional use in South Yemen.]

Alakesh Phukan, Bolin Chetia, Handique, J.G. and Devid Kardong. 2016. Antimicrobial, antioxidant activities and

RP-HPLC analysis of three edible medicinal plants *Olax acuminata*, *Gnetum gnemon* and *Rhaphidophora hongkongensis*.National Academy Science Letters 39(2): 99-102. [The strongest antibacterial activity was recorded for the ethanolic extract of *O. acuminata* against *S. aureus*.]

Almeida, M.L.B., Freitas, W.E.de S., de Morais, P.L.D., Sarmento, J.D.A. and Alves, R.E. 2016. Bioactive compounds and antioxidant potential fruit of *Ximenia americana* L. Food Chemistry 192: 1078-1082. [Antioxidant activity of *X. americana* associated with extractable polyphenols, yellow flavonoids, total anthocyanins and antioxidant enzymes.]

Amon, D.E.A., Soro, D. and Traore, D. 2015. (Evaluation of the infestation of wood Loranthaceae on agroecosystems of the Sud-Comoé region (Côte d'Ivoire).) (in French) International Journal of Biological and Chemical Sciences 9(4): 1822-1834. [Seven mistletoe species identified on 115 different hosts, by far the the commonest being *Tapinathus bangwensis*.]

An Yu, Ma YongQing, Shui JunFeng and Zhong WenJin. 2015. Switchgrass (*Panicum virgatum* L.) has ability to induce germination of *Orobanche cumana*. Journal of Plant Interactions 10(1): 142-151. [Concluding from laboratory testing of various extracts of *P. virgatum* varieties at different stages of growth that it may be useful as a trap crop for *O. cumana* but without confirmation from appropriate field experiment.]

Angoni, H. 2015. Non-timber forest products and their contributions on the income of local residents in the Douala-Edea Wildlife reserve of Cameroon. Journal of Ecology and the Natural Environment 7(10): 263-270. [Recording significant quantities of *Coula edulis* (Olacaceae) nuts being sold in local markets.]

Anon. 2016. An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants: APG IV. Botanical Journal of the Linnean Society 181(1): 1-20. [Focusing just on features that relate to parasitic plants, the following changes were made. Cynomoriaceae were placed in Saxifragales (in agreement with Nickrent et al. 2005). Apodanthaceae were classified in Cucurbitales (in agreement with Nickrent et al. 2004 and Filipowicz & Renner 2010). Hydnoraceae were lumped into Aristolochiaceae (see Naumann et al. 2013 - justified?). Santalales are now part of a clade called Superasterids. The familial classification within the sandalwood order proposed by Nickrent et al. (2010) was not followed. Moreover, in contrast to Hu et al. (2015), Balanophoraceae are monophyletic and placed in Santalaceae based on an unpublished study by J. W. Byng.]

Araujo, A.C.M., da Silva, A.N.F. and de Almeida Júnior, E.B. 2016. (Structural characterization and conservation status of the herbaceous stratum at Praia de São Marcos dunes, Maranhão State, Brazil.) (in Portuguese) Acta Amazonica 46(3): 247-257. [Noting occuerrence of *Cassytha filiformis*.]

Artuso, E., Ghibaudi, E., Lace, B., Marabello, D., Vinciguerra, D., Lombardi, C., Koltai, H., Kapulnik, Y., Novero, M., Occhiato, E.G., Scarpi, D., Parisotto, S., Deagostino, A., Venturello, P., Mayzlish-Gati, E., Bier, A. and Prandi, C. 2015. Stereochemical assignment of strigolactone analogues confirms their selective biological activity. Journal of Natural Products 78(11): 2624-2633. [Reporting on the synthesis of a series of strigolactone analogues, with known absolute configuration and confirming the importance of their stereochemistry. Analogues bearing the *R*-configured butenolide moiety showed enhanced biological activity.]

Asghar Ali, Lal Badshah, Farrukh Hussain and Shinwari, Z.K. 2016. Floristic composition and ecological characteristics of plants of Chail Valley, District Swat, Pakistan. Pakistan Journal of Botany 48(3): 1013-1026. [Noting the presence of *Cuscuta reflexa*, *C. europaea* and *Viscum album*.]

*Atefehalsadat Seyedan, Mohammed Abdullah Alshawsh, Mustafa Ahmed Alshagga, Sanaz Koosha and Zahurin Mohamed 2015. Medicinal plants and their inhibitory activities against pancreatic lipase: a review. Evidence-based Complementary and Alternative Medicine 2015: Article ID 973143. (http://www.hindawi.com/journals/ecam/2015/973143/) [Reviewing the literature on a large number of medicinal plants, including one reference to high anti-lipase activity of *Viscum album*..]

Attar, R. and ten others 2015. Natural products are the future of anticancer therapy: preclinical and clinical advancements of *Viscum album* phytometabolites. Cellular and Molecular Biology 61(6): 62-68. [A thoughtful review of the use of *Viscum album* in cancer therapy.]

Badu-Apraku, B., Fakorede, M.A.B., Oyekunle, M. and Akinwale, R.O. 2016. Genetic gains in grain yield under nitrogen stress following three decades of breeding for drought tolerance and *Striga* resistance in early maturing maize. Journal of Agricultural Science 154(4): 647-661. [Assessing 50 early-maturing varieties of maize developed over the past 3 decades, for tolerance of low nitrogen conditions and confirming that varieties developed for *Striga*- and dought-tolerance had concomitant tolerance of low N.]

Badu-Apraku, B., Fakorede, M.A.B., Talabi, A.O., Oyekunle, M., Akaogu, I.C., Akinwale, R.O., Annor, B., Melaku, G., Fasanmade, Y. and Aderounmu, M. 2016. Gene action and heterotic groups of early white quality protein maize inbreds under multiple stress environments. Crop Science 56(1): 183-199. [Having been tested under conditions of drought, low soil N and *Striga hermonthica*, TZEQI 44 × TZEQI 4, TZEQI 35 × TZEQI 39, TZEQI 35 × TZEQI 59, TZEQI 6 × TZEQI 35, and TZEQI 45 × TZEQI 33 'were the most stable and highest-yielding hybrids across

environmentsand should be commercilaised for improved nutrition and food security in sub-Saharan Africa'.]

Bai Yun, Chen Lei, Zhu NingBo, Li XueWu, Cairang DanZhou, Wu YouLin and Tian ChengMing. 2016. (Genetic diversity and population genetic structure of *Arceuthobium sichuanense*.) (in Chinese) Acta Botanica Boreali-Occidentalia Sinica 36(3): 458-466. [Nuclear ribosomal ITS-1 sequences were generated for 9 populations showing high (48.6%) variation among populations.]

Bakoush, S.M.M., Yaacob, W.A., Adam, J.H. and Nazlina Ibrahim. 2015. Effects of aqueous extract of *Rafflesia cantleyi* bud on aphrodisiac activity in male Sprague Dawley rats. International Journal of Pharmacology 11(8): 938-943. [Good news! 'The present study demonstrates that water extract of *R. cantleyi* bud increases testosterone level and enhances sexual behavior in male rats. The dose taken must be cautiously monitored.']

Baltazár, T., Pejchal, M. and Varga, I. 2015. Modelling of the distribution of European mistletoe (*Viscum album*) with dependence on local factors in the Castle Park in Lednice. Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis 63(3): 1441-1452. [Recording a range of factors influencing the occurrence of *V. album* on *Acer campestre*, *A. platanoides*, *A. pseudoplatanus*, *Crataegus monogyna*, *C. pedicellata*, *Juglans nigra*, *Robinia pseudoacacia*, *Tilia cordata* and *T. platyphyllos*. *J. nigra* had the heaviest infestations.]

Baltazár, T., Varga, I. and Pejchal, M. 2015. (The impact of the European mistletoe (*Viscum album* L.) on woody host-plants: a study of the relationship between infection intensity and tree vitality.) (in Hungarian) Erdészettudományi Közlemények 5(1): 101-118. [Studying the impact of *V. album* on 9 host species and suggesting least impact on *Acer campestre* and greratest on walnut.]

Barbosa, J.M., Sebastián-González, E., Asner, G.P., Knapp, D.E., Anderson, C., Martin, R.E. and Dirzo, R. 2016. Hemiparasite-host plant interactions in a fragmented landscape assessed via imaging spectroscopy and LiDAR. Ecological Applications 26(1): 55-66. [Using aerial techniques to survey distribution of unspecified *Phoradendron* sp. in oak woodland in California. Showing little correlation with host tree height but increased infestation in low canopy density situations and along forest edges.]

Barksdale, V., Newell, M, and Duran, K.L. 2015. Nuclear intergenic DNA sequence divergence in a Texas dwarf mistletoe (*Arceuthobium divaricatum*) population. BIOS (Ocean Grove) 86: 47-52. [The Guadalupe Mt. population of *A. divaricatum* differed from neighboring populations by 3.8% suggesting it may merit recognition as a separate subspecies.]

*Bastin, J.F. and 10 others. 2015. Wood specific gravity variations and biomass of central African tree species: the simple choice of the outer wood. PLoS ONE 10(11): e0142146. (http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0142146) [Including data on *Strombosia pustulata* (Olacaceae).]

Beccarisi, L,; Marinò, F., Medagli, P., Zizzi, T. and Minonne, F. 2015. (Inventory of the vascular flora of the Natural Reserve of Torre Guaceto (Apulia, Italy).) (in Italian) Thalassia Salentina 37: 11-56. [Noting that species in danger of extinction include *Cytinus ruber*.]

Bello, T.T., Mohammed, S.G., Kamara, A.Y., Gashua, A.G., Kurawa, I.A. and Adamu, U.A. 2015. Effect of imazapyr treated maize on *Striga* infestation and time of intercropping cowpea in Samaru, Nigeria. Bayero Journal of Pure and Applied Sciences 8(1): 84-88. [Confirming that IR (imidazolinone-resistant) maize hybrids ASII28-1, ASII28-2, ASII28-3 and ASII28-4 were undamaged by imazapyr seed treatment and there was 100% suppression of *Striga hermonthica*. Cowpea inter-planted from 2 weeks later was undamaged.]

Biyon, J.B.N., Dibong, S.D., Taffouo, V.D., Ondoua, J.M. and Bilong, P. 2015. Parasitism of rubber trees by *Loranthaceae* in the South-west region of Cameroon. Journal of Applied Biosciences 96: 9055-9062. [Recording up to 65% infestation of rubber trees by *Phragmanthera capitata* with some variation across clones but otherwise a lack of adequate control methods.]

Blagojevic´, M., Konstantinovic´, B., Samardžic´, N., Popov, M. and Konstantinovic´, B. 2014. Biological characteristics of some parasitic flowering plants. Herbologia 14(2): 71-80. [A general review, including mention of work confirming the existence of chlorophyll A and B in very small quantities in *Cuscuta campestris* in a ratio of 2.5:1.]

Blažek, P., Lepš, J., Fajmon, K., Těšitel, J. and Wesselingh, R. 2016. Response of two hemiparasitic Orobanchaceae species to mowing dates: implications for grassland conservation and restoration practice. Plant Ecology and Evolution 149(1): 31-38. [Experiments in Czech Republic showed that populations of *Rhinanthus major* (=*R. angustifolius*) and *Melampyrum nemorosum* are susceptible to early (June) mowing, while mowing in July was not a problem.]

*Boly, R., Franck, T., Kohnen, S., Lompo, M., Guissou, I.P., Dubois, J., Serteyn, D. and Mouithys-Mickalad, A. 2015. Evaluation of antiradical and anti-inflammatory activities of ethyl acetate and butanolic subfractions of *Agelanthus dodoneifolius* (DC.) Polhill & Wiens (Loranthaceae) using equine myeloperoxidase and both PMA-activated neutrophils and HL-60 cells. Evidence-based Complementary and Alternative Medicine 2015: Article ID 707524. (http://www.hindawi.com/journals/ecam/2015/707524/) ['The results provide evidence that *A. dodoneifolius* (= *Tapinathus dodoneifolius*) subfractions may represent potential sources of natural antioxidants and of antimyeloperoxidase compounds.']

Bougandoura, A., D'Abrosca, B., Ameddah, S., Scognamiglio, M., Mekkiou, R., Fiorentino, A., Benayache, S. and Benayache, F. 2016. Chemical constituents and in vitro anti-inflammatory activity of *Cistanche violacea* Desf. (Orobanchaceae) extract. Fitoterapia 109: 248-253. [Identifying a range of compounds in *C. violacea* in Algeria which it is though could contribiute to anti-inflammatory activity.]

Bouraoui, M., Abbes, Z., Rouissi, M., Abdi, N., Hemissi, I., Kouki, S. and Sifi, B. 2016. Effect of rhizobia inoculation, N and P supply on *Orobanche foetida* parasitising faba bean (*Vicia faba minor*) under field conditions. Biocontrol Science and Technology 26(6): 776-791. [In field trials a *Rhizobium* strain 'Mat' reduced *O. foetida* by 50% and increased faba bean yield three-fold. Yields reduced 95% in controls. No mention in abstract of the effects of a second *Rhizobium*, nor of N and P.]

Brandão-Costa, R.M.P., Araújo, V.F., Neves, E., Correia, M.T.S., Porto, A.L.F. and Carneiro-da-Cunha, M.das G. 2016..Sub-chronic effects of a *Phthirusa pyrifolia* aqueous extract on reproductive function and comparative hormone levels in male rats. Asian Pacific Journal of Tropical Biomedicine 6(3): 202-210. [High levels of flavonoids in the extract of *P. pyrifolia* may be responsible for its hepato-protective effects and a possible decrease in the libido and reproduction in rats.]

Briem, F., Eben, A., Gross, J. and Vogt, H. 2016. An invader supported by a parasite: mistletoe berries as a host for food and reproduction of Spotted Wing Drosophila in early spring. Journal of Pest Science 89(3): 749-759. [Confirming the feeding of *Drosophila suzukii* on berries of *Viscum album* ssp. *laxum* in Germany.]

Cabrera, A., Celis, R. and Hermosín, M.C. 2016. .Imazamox-clay complexes with chitosan- and iron(III)-modified smectites and their use in nanoformulations. Pest Management Science 72(7): 1285-1294. [A natural smectite modified with the biopolymer chitosan or with Fe^{3+} cation was used to create controlled release formulations of imazamox for control of unspecified *Orobanche* spp. Results suggested full activity and much reduced loss by leaching.]

Caires, C.S. and de Azevedo, C.O. 2015. *Peristethium phaneroneurum* (Loranthaceae): a new combination expands the distribution of the genus from Honduras to Brazil. Rodriguésia 66: 859-861. [A new combination, *Peristethium phaneroneurum*, is proposed, based on *Struthanthus phaneroneurus*, described from Honduras in 1940 by Paul C. Standley. This new combination extends the geographical distribution of the genus from Honduras to the ecotone Amazon-Cerrado region of Brazil.]

Caires, C.S. and Proença, C.E.B. 2015. Typification of two neotropical names of *Loranthus* Jacq. (Loranthaceae). Candollea 70: 197-199. [The original specimens of *Loranthus cucullaris* Lam. (≡ *Psittacanthus cucullaris*) were located in Paris and the former neotypification proposal for this name is thus rejected. The identity and typification of *Loranthus bracteatus* (= *Loranthus cucullaris*) and *Loranthus florulentus* (≡ *Oryctanthus florulentus*), are discussed.]

Callmander, M.W, Luino, .I, Da-Giau, S., Rakotovao, C. and Gautier, L. 2014. A synoptic revision of the Malagasy endemic genus *Socratina* Balle (Loranthaceae). Candollea 69: 65-73. [The genus *Socratina* endemic to Madagascar was revised and three species are recognized, including a new one, *Socratina phillipsoniana* Callm. & Luino.]

Cannon, P.G., Angwin, P. and MacKenzie, M. 2016. Diseases of conifers in California. In Paine, T.D and Lieutler, F. (eds) Insects and diseases of Mediterranean forest systems. Springer International Publications: 549-582. [California has 52 native conifers and these are impacted by three genera of 'heavy hitting' pathogens: *Arceuthobium*, *Heterobasidion*, and *Leptographiium*.]

Caponero, A. 2016. (A specific herbicide opens new perspectives: the *Orobanche* of tomato.) (in Italian) Colture Protette 45(4): 56-57. [Noting the extension of use of rimsulfuron for the control of *O. ramosa* in tomato in Italy.]

***Carlón, L., Gomez Casares, G, Laíínz, M, Moreno Moral, G., Sánchez Pedraja, O. and Schneeweiss, G.M. 2016. Index of Orobanchaceae. (http://www.farmalierganes.com/Otrospdf/publica/Orobanchaceae%20Index.htm) [This web page provides nomenclatural information for all genera and species of Orobanchaceae. This up-to-date treatment provides links between accepted names and synonyms with extensive referencing. A massive effort that resulted in an extremely valuable resource!]**

Castagneri, D., Bottero, A., Motta, R. and Vacchiano, G. 2015. Repeated spring precipitation shortage alters individual growth patterns in Scots pine forests in the Western Alps. Trees: Structure and Function 29(6): 1699-1712. [The influence of mistletoe (presumably *Viscum album*) was also included in the study but apparently less important than drought.]

Catteau, L., van Bambeke, F., Quetin-Leclercq, J., Garcia-Viguera, C., Gil-Izquierdo, A., Moreno, D.A., Baenas, N. 2015. Preliminary evidences of the direct and indirect antimicrobial activity of 12 plants used in traditional medicine in Africa. Phytochemistry Reviews 14(6): 975-991. [Methanol extracts of *Tapinanthus bangwensis* were active against *Staphylococcus aureus* MRSA ATCC33591 and improved the activity of ampicillin on that organism.]

Celedon, J.M., Chiang, A., Yuen, M.M.S., Diaz-Chavez, M.L., Madilao, L.L., Finnegan, P.M., Barbour, E.L. and Bohlmann, J. 2016. Heartwood-specific transcriptome and metabolite signatures of tropical sandalwood (*Santalum album*) reveal the final step of (Z)-santalol fragrance biosynthesis. Plant Journal 86(4): 289-299. [Suggesting potential for the bioengineering of microbial systems using the multi-substrate P450 *SaCYP736A167*, combined with santalene/bergamotene synthase for

development of alternative industrial production systems for sandalwood oil fragrances.]

*Chai Min, Zhu XiaoPei, Cui HongXia, Jiang ChuangDao and Zhang JinZheng. 2015. Lily cultivars have allelopathic potential in controlling *Orobanche aegyptiaca* Persoon. PLoS ONE 10(11): e0142811. (http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0142811) [Reporting on pot and laboratory experiments which showed germination stimulation from a range of different extracts of *Lilium longiflorum* hybrids, and also, perhaps more significantly, from soils in which the lilies had grown.]

Chai YangYang and Zhao Min. 2016. Purification, characterization and anti-proliferation activities of polysaccharides extracted from *Viscum coloratum* (Kom.) Nakai. Carbohydrate Polymers 149: 121-130. [Three polysaccharides isolated from *V. coloratum* are characterised and shown to have anti-proliferation ability against HepG2 cells and HepG2.2.15 tumour cells]

*Chen, J., Xie, Q.H., McErlean, C.S.P., Zhi, J.H., Ma, Y.Q., Jia, X.T, Zhang, M. and and Ye, X.X. 2016. Biocontrol potential of the antagonistic microorganism *Streptomyces enissocaesilis* against *Orobanche cumana.* BioControl April 2016. (http://link.springer.com/article/10.1007/s10526-016-9738-z) [Showing that a culture filtrate of *Streptomyces enissocaesilis* can reduce germination of *O. cumana* and reduce infestation in pots by 40%.]

Chen, J., Yan, Y.X. and Guo, Z.G. 2015. Identification of hydrogen peroxide responsive ESTs involved in phenylethanoid glycoside biosynthesis in *Cistanche salsa* cell culture. Biologia Plantarum 59(4): 695-700. [Confirming that hydrogen peroxide induces synthesis of phenylethanoid glycosides in *C. salsa* via upregulation of key genes.]

Chen QingLiang, Guo YuHai, Jiang Yong and Tu PengFei. 2016. Mechanism of fluridone-induced seed germination of *Cistanche tubulosa.* Pakistan Journal of Botany 48(3): 971-976. [Concluding that GAs and ABA play key roles in the seed germination of *C. tubulosa* and that fluridone inhibits ABA biosynthesis but increases the concentration of GAs in seeds. Fluridone may initiate other processes associated with germination.]

Chen, Q.L. and Jiang, Y. 2016. A convenient and accurate seed germination assay for root parasitic plants. Seed Science and Technology 44(1): 212-217. [Describing a prodedure for seed conditioning and germination of *Striga* and *Orobanche* in the same Petri dish involving an inverted filter paper method. This provides a 'platform' for the seeds and does not involve the use of Whatman glass fibre filter paper, thereby reducing costs.]

Chinsembu, K.C. 2016. Ethnobotanical study of medicinal flora utilised by traditional healers in the management of sexually transmitted infections in Sesheke District, Western Province, Zambia. Revista Brasileira de Farmacognosia 26(2): 268-274. [*Ximenia caffra* one of the more frequent of 52 species used traditionally to treat sexual diseases in this region.]

Chivandi, E., Moyo, D., Dangarembizi, R. and Erlwanger, K. 2016. Effect of dietary *Ximenia caffra* kernel meal on blood and liver metabolic substrate content and the general clinical biochemistry of Sprague Dawley rats. Journal of Animal Physiology and Animal Nutrition 100(3): 471-477. [Confirming that soyabean meal could be replaced by *X. caffra* without compromising blood glucose and cholesterol homeostasis, liver and kidney function and the general clinical biochemistry of growing male Sprague Dawley rats.]

Chlumský, J., Koutecký, P., Plačková, I. and Štech, M. 2016. Is genetic diversity congruent with morphological diversity across the distributional range of the *Melampyrum subalpinum* group (Orobanchaceae)?Flora (Jena) 220: 74-83. [High differentiation among populations of *M. subalpinum* suggests that current gene flow between populations is limited. The high inbreeding coefficient in some populations indicates some level of selfing within the populations. The pollination experiment does not contradict the possibility of autogamy. In general, the data are congruent with the central-marginal model with more variable Austrian populations and less variable isolated and probably partly inbreeding Czech and Slovak populations.]

*Cho WonBum Choi InSu and Choi ByoungHee. 2015. Development of microsatellite markers for the endangered *Pedicularis ishidoyana* (Orobanchaceae) using next-generation sequencing. Applications in Plant Sciences 3(12) 1500083.(http://www.bioone.org/loi/apps) [The study identifies microsatellite markers which are expected to be useful for studies of the population genetics of *P. ishidoyana* in Korea.]

Choudhury, P.R., Choudhury, M.D., Ningthoujam, S.S., Abhijit Mitra, Deepa Nath and Talukdar, A.D. 2015. Plant utilization against digestive system disorder in Southern Assam, India. Journal of Ethnopharmacology 175: 192-197. [*Cuscuta reflexa* among species mostly commonly used against digestive system disorder.]

Cirocco, R.M., Facelli, J.M. and Watling, J.R. 2016. Does light influence the relationship between a native stem hemiparasite and a native or introduced host? Annals of Botany 117(3): 521-531. [Growth of the host *Leptospermum myrsinoides* was unaffected by parasitism from the Australian native *Cassytha pubescens* while that of *Ulex europaeus*, was reduced. In neither case was the effect altered under low light, but the growth of the parasite was slightly reduced on *U. europaeus*.]

Cirocco, R.M., Facelli, J.M. and Watling, J.R. 2016. High water availability increases the negative impact of a native hemiparasite on its non-native host. Journal of Experimental Botany 67(5): 1567-1575. [Results suggest that increased growth of *C. pubescens* under wet conditions, perhaps associated with high stomatal conductance resulted in a larger demand for resources

from the host, *Ulex europaeus*, leading to poorer host performance.]

Cirocco, R.M., Waterman, M.J., Robinson, S.A., Facelli, J.M. and Watling, J.R. 2015. Native hemiparasite and light effects on photoprotection and photodamage in a native host. Functional Plant Biology 42(12): 1168-1178. [Infection of *Leptospermum myrsinoides* with *C. pubescens* significantly decreased all foliar pigment concentrations (except chlorophyll *b*) in *L. myrsinoides* in both high and low light. Xanthophyll cycle (violaxanthin, antheraxanthin, zeaxanthin; VAZ) and chlorophyll (Chl) pigments decreased in parallel in response to infection, hence the VAZ/Chl ratio in the host was unaffected and photodamage avoided.]

Cochavi, A., Rubin, B., Smirnov, E., Achdari, G. and Eizenberg, H. 2016. Factors affecting Egyptian broomrape (*Orobanche aegyptiaca*) control in carrot. Weed Science .64(2): 321-330. [Glyphosate applied 3 times at up to 108 g/ha can provide selective control of *O. aegyptiaca* in carrot, but is damaging to carrot at $28/22^0$ C day/night temperatures. Imazapic and imazamox were not selective.]

Cocoletzi, E., Angeles, G., Ceccantini, G., Patrón, A. and Francisco Ornelas, J. 2016. Bidirectional anatomical effects in a mistletoe-host relationship: *Psittacanthus schiedeanus* mistletoe and its hosts *Liquidambar styraciflua* and *Quercus germana*. American Journal of Botany 103(6): 986-997. [The phloem of *P. schiedeanus* has larger sieve elements, companion cells, and sieve plate areas when it is parasitizing *L. styraciflua* than *Q. germana*; however, the parasite produces systemic effects on the phloem of its hosts, reducing the size of phloem in *L. styraciflua* but increasing it in *Q. germana*.]

Conn, C.E., Bythell-Douglas, R., Neumann, D., Yoshida, S., Whittington, B., Westwood, J.H., Shirasu, K., Bond, C.S., Dyer, K.A. and Nelson, D.C. 2015. Convergent evolution of strigolactone perception enabled host detection in parasitic plants. Science (Washington) 349: 6247, 540-543. [[The the α/β-hydrolase receptors KAI2, but not D14, is present at higher copy numbers in parasitic species than in nonparasitic relatives. KAI2 paralogs in parasites are distributed into three phylogenetic clades. It is suggested that KAI2 paralogs D14 and KAI2d underwent convergent evolution of strigolactone recognition, enabling developmental responses to strigolactones in angiosperms and host detection in parasites.]

Costea, M., García, M.A., Baute, K. and Stefanovic´, S. 2015. Entangled evolutionary history of *Cuscuta pentagona* clade: a story involving hybridization and Darwin in the Galapagos. Taxon 64(6): 1225-1242. [Discussing the evolution of *C. pentagona* and its relationship to *C. campestris* and other species in somewhat more detail than provided in the article in Haustorium (issue 68 pp. 4-6.). Also discussing the apparent occurrence of *C. gymnocarpa* (= *C. campestris*) in Galapagos, and describing a new species, *C. modesta*.]

Costea, M., Stefanović, S., García, M.A., Cruz, S.de la, Casazza, M.L. and Green, A. J. 2016. Waterfowl endozoochory: an overlooked long-distance dispersal mode for *Cuscuta* (dodder). American Journal of Botany 103(5): 957-962. [Several hundred seeds of *C. campestris* and (?)*C. pacifica* were identified from the guts of pintail ducks, with over 50% germination capacity, helping to explain past long-distance movemenr of *Cuscuta* spp. prior to those assisted by man.]

Crichton, R.J., Dalrymple, S.E., Woodin, S.J. and Hollingsworth, P.M. 2016. Conservation genetics of the annual hemiparasitic plant *Melampyrum sylvaticum* (Orobanchaceae) in the UK and Scandinavia. Conservation Genetics 17(3): 547-556. [Scattered populations of *M. sylvaticum* in UK have less genetic variability than more continuous populations in Scandinavia. Natural inbreeding ensures short-term stability but less resilience in the light of climate change.]

Cuevas Guzmán, R., Santana Michel, F.J., Sánchez Rodríguez, E.V. and Núñez López, N.M. 2016. (Cervantesiaceae: new record of a naturalized family for the Flora of Mexico.) (in Spanish) Acta Biológica Colombiana 21(2): 431-436. [Recording for the first time in Mexico the naturalized species *Acanthosyris glabrata*, and hypothesising how it mnay have been introduced from Ecuador.]

Cui QingLing, Pan YingNi, Xu XiaoTong, Zhang WenJie, Wu Xiao, Qu ShouHe and Liu XiaoQiu. 2016. The metabolic profile of acteoside produced by human or rat intestinal bacteria or intestinal enzyme in vitro employed UPLC-Q-TOF-MS. Fitoterapia 109: 67-74. [Identifying a range of metabolites of acteoside from *Cistanche deserticola* created in the gut or in gut bacteria, some of which may have equal or more activity compared with the parent compound.]

Cui SongKui, Wakatake, T., Hashimoto, K., Saucet, S.B., Toyooka, K., Yoshida, S. and Shirasu, K. 2016. Haustorial hairs are specialized root hairs that support parasitism in the facultative parasitic plant *Phtheirospermum japonicum*. Plant Physiology 170(3): 1492-1503. [Usimg *haustorial hair defective* (*hhd*) mutants of *P. japonicum* to confirm that haustorial hairs assist in, but are not essential for, the attachment and penetration of the haustorium.]

Cusimano, N. and Wicke, S. 2016. Massive intracellular gene transfer during plastid genome reduction in nongreen Orobanchaceae. New Phytologist 210(2): 680-693. [Plastid genomes (plastomes) analyses of Orobanchaceae indicate that the first functional gene losses occurred within 10 Myr of the transition to obligate parasitism (~50 Myr?). Nonessential DNA appears to be eliminated much faster in the plastomes of nonphotosynthetic parasites than in their other cellular genomes.]

da Silva, J.A.T., Kher, M.M., Deepak Soner and Murugan Nataraj. 2016. African sandalwood or Nepalese sandalwood: a brief synthesis. Notulae Scientia Biologicae 8(1): 57-61. [This mini-review focuses on the

general biology, traditional uses, phytochemical properties, propagation for conservation, and hemiparasitism of *Osyris lanceolata*.(= *Osyris wightiana* var. *rotundifolia*.]

da Silva, J A.T.a, Kher, M.M., Soner, D., Page, T., Zhang XinHua, Nataraj, M. and Ma GuoHua. 2016. Sandalwood: basic biology, tissue culture, and genetic transformation. Planta.243(4): 847-887. [A general review of *Santalum album* and *S. spicatum*, summarizing traditional methods of sandalwood production with complementary and more advanced in vitro technologies to provide a basis for researchers, conservationists and industry to implement sustainable programmes of research and development of the genus.]

Dakskobler, I. 2016. (New localities and phytosociological characteristics of sites of selected vascular plants in Slovenia.) (in Slovenian) Hladnikia 37: 72-93. [Including reference to *Orobanche hederae* in the Julian Alps.]

Daňková, I., Žemlička, M., Švajdlenka, E., Bartl, T. and Šmejkal, K. 2016. The chemotaxonomic significance of phenylethanoid glycosides of *Lathraea squamaria* L. (Orobanchaceae). Biochemical Systematics and Ecology 64: 53-56,. [Describing two isomeric phenylethanoid glycosides, acteoside and isoacteoside, not previously described in this plant. Also, unsubstituted benzoic acid, and the iridoid glycoside aucubin. Their chemotaxonomic significance is discussed.]

Das, S.C. and Jagatpati Tah. 2016. Effect of host plants on growth and survival of sandalwood (*Santalum album* L.) in West Bengal.Indian Forester 142(2): 193-195. [No abstract available.]

Dawoud, D.A. and Sauerborn, J. 2015. Efficiency of some crops in inducing suicidal germination of the parasitic weed, *Striga hernonthica* Del Benth. Egyptian Journal of Biological Pest Control 25(3): 735-738. [Of 12 species tested in a root chamber study, *Abelmoschus esculentus* (okra) *Hibiscus. sabdariffa* and *Lablab purpureus* caused germination comparable to that from a susceptible sorghum vatriety.]

de Souza, G.L.C., de Oliveira, L.M.F., Vicari, R.G. and Brown, A. 2016. A DFT investigation on the structural and antioxidant properties of new isolated interglycosidic O-(1 → 3) linkage flavonols. Journal of Molecular Modeling 22(4): 100. [Reporting studies on derivatives of quercetin and kaempferol isolated from unspecified Loranthaceae.]

*de Vargas, F.S., Almeida, P.D.O., de Boleti, A.P.A., Pereira, M.M., de Souza, T.P., de de Vasconcellos, M.C., Nunez, C.V., Pohlit, A.M. and Lima, E.S. 2016. Antioxidant activity and peroxidase inhibition of Amazonian plants extracts traditionally used as anti-inflammatory. BMC Complementary and Alternative Medicine 16: 83, (27 February 2016). (http://bmccomplementalternmed.biomedcentral.com/articles/10.1186/s12906-016-1061-9) [*Ptychopetalum olacoides* showed only moderate antioxidant activity.]

de Vasconcelos, G.C.L, Caires, C.S. and de Melo, J.I.M.. 2015. (Flora of Paraíba, Brazil: *Santalaceae* R. Br.) (in Portuguese) Iheringia, Série Botânica 70(2): 203-215. [Recording 9 species of genera *Dendrophthoe* and *Phoradendron*, of which *D. warmingi, P. dipterum* and *P.* quadrangulare were new to the region. No data on hosts.]

deBruyn, R.A.J., Paetkau, M., Ross, K.A., Godfrey, D.V. and Friedman, C.R. 2015. Thermogenesis-triggered seed dispersal in dwarf mistletoe. Nature Communications 6 : 1-5. [Dwarf mistletoe fruits display an anomalous increase in surface temperature by an average of 2.1±0.8°C over an average time of 103±29s before explosive dehiscence. Scanning calorimetry show an exothermic event in the non-reversible heat flow just prior to discharge. These results support thermogenesis-triggered seed discharge, never before observed in any plant.]

Delavault, P. 2016. Knowing the parasite: biology and genetics of *Orobanche*. 2016. Helia 38(62): 15-29. [A detailed general review.]

Demırbas, S., Acar, O., Sen, B., Gorkem, H.N., Uludağ, A., Trichkova, T., Rat, M. and Tomov, R. 2014. A field trip to Musaköy for observation of broomrape infestation [Conference poster]. Proceedings, 4th ESENIAS Workshop: International Workshop on IAS in Agricultural and Non-Agricultural Areas in ENESIAS Region, Çanakkale, Turkey, 16-17 December 2013:70-71. [Observing serious infestation of tomato, pepper and eggplant by *Phelipanche aegyptiaca* in this area of northern Turkey, with some additional infestation of tomato by unspecified *Cuscuta* sp.]

Dev Prakash, Katiyar, N.S. and Singh, A.P. 2016. A study on anti-ulcer activity of stem extracts of *Cuscuta reflexa* (Roxb) against pylorus ligation induced gastric ulcer in rats.World Journal of Pharmaceutical Research 5(3): 1461-1470. [Oral administration of alcoholic and aqueous extracts of *C. reflexa* exhibited non-toxic dose-dependent protection in the pylorus ligation induced peptic ulcerated animals.]

Devi, T.S. and Das, A.K. 2016. Some rare and threatened vascular plants of Senapati district, Manipur, north east India. Flora and Fauna (Jhansi) 22(1): 29-32. [Including *Aeginetia indica*.]

Díaz-Limón, M.P., Cano-Santana, Z. and Queijeiro-Bolaños, M.E. 2016. Mistletoe infection in an urban forest in Mexico City. Urban Forestry & Urban Greening 17: 126-134. [*Cladocolea loniceroides* occurred extensively on 7 host tree species,while , *Phoradendron brachystachyum* occurred only on the exotic *Fraxinus uhdei*.]

Disciglio, G., Lops, F., Carlucci, A., Gatta, G., Tarantino, A., Frabboni, L., Carriero, F. and Tarantino, E. 2016. Effects of different methods to control the parasitic weed *Phelipanche ramosa* (L.) Pomel in processing tomato crops. Italian Journal of Agronomy 11(1): 39-46. [Among 12 treatments tested in pots for control of *P. ramosa*, those providing some reductrion of the parasite included Radicon® biostimulant, compost activated with *Fusarium*

oxysporum, nitrogen and sulphur mineral fertilisers, Enzone™ soil fumigant (sodium tetrathiocarbonate) and a resistant tomato genotype. Chlorophyll levels were reduced in infected tomatoes.]

Divakara, B.N. 2015. Ethnomedicinal importance of invasive alien flora of Latehar and Hazaribagh districts: Jharkhand. Indian Forester 141(11): 1172-1175. [Including mention of *Cuscuta reflexa*.]

Dlama, T.T., Oluwagbemileke, A.S. and Enehezeyi, A.R. 2016. Mistletoe presence on five tree species of Samaru area, Nigeria. African Journal of Plant Science 10(1): 16-22. [*Acacia lebbeck* was infected by *Tapinanthus dodoneifolius, T. globiferus, Globimetula braunii, G. oreophila, Englerina lecardii* and *Tapinanthus belvisii*. Other trees affected by one or more mistletoe species were *Citrus grandis, Khaya senegalensis, Terminalia mantaly* and *Terminalia catappa*.]

Dor, E., Smirnov, E., Galili, S., Guy, A. and Hershenhorn, J. 2015. Characterization of the novel tomato mutant HRT, resistant to acetolactate synthase-inhibiting herbicides. Weed Science 64(2): 348-360 . [Describing development of the tomato mutant line HRT, obtained by ethyl methanesulfonate seed mutagenesis from the commercial tomato line M82. Line HRT proves highly resistant to imazamox, imazapic, and imazapyr, but does not differ from M82 in its response to the sulfonylurea herbicides trifloxysulfuron, sulfosulfuron and chlorsulfuron. Complete control of *O. aegyptiaca* achieved with 2-3 post-emergence applications of imazapic.]

Doweld, A.B. 2015. (2391) Proposal to conserve the name *Razumovskia* Vologdin ex Krasnop. (fossil Cyanophyceae (vel Cyanobacteria)) against *Razoumovskya* Hoffm. (Angiospermae: Loranthaceae). Taxon 64: 1062-1063. [The cyanobacterial fossil name *Razumovskia* is proposed for conservation over *Razoumovskya*, a synonym of *Arceuthobium* (Viscaceae, not Loranthaceae).]

Edewor, T.I., Owa, S.O., Ologan, A.O. and Akinfemi, F. 2016. Quantitative determination of the saponin content and GC-MS study of the medicinal plant *Cassytha filiformis* (Linn.) leaves. Journal of Coastal Life Medicine 4(2): 154-156. [Eicosanoic acid, methyl ester is the most abundant compound and the steroidal saponin, cholestan-7-one and cyclic 1,2-ethanedienyl acetal are the most abundant saponins in the butanol fraction from *C. filiformis.*. Concluding that *C. filiformis* is rich in steroidal saponins.]

Encheva, J., Georgiev, G. and Valkova, D. 2015. Sunflower hybrid Rada, developed with mutant restorer line 12002 R. Bulgarian Journal of Agricultural Science 21(5): 961-968. [Results of tests with variety Rada, derived from a cross involving the *Orobanche cumana*-resistant mutant line 12002R, confirmed its resistance to *O. cumana* race F in Bulgaria, combined with resistance to *Plasmoparahelianthi* - races 300 and 700 and excellent seed and oil yield.]

Espinosa, L.F., Herrera, R.J. and Polanco-Tapia, C. 2015. (Segmentation of anatomical elements in wood microscopic images using artificial vision techniques.) (in Spanish) Maderas: Ciencia y Technologia 17(4): 735-748. [Using *Gaiadendron punctatum* (Loranthaceae) to demonstrate an elaborate system for defining the characteristics of pores, radii and fibre from microscopic images of the wood.]

Evans, M., Bryant, S., Huntley, A.L. and Feder, G. 2016. Cancer patients' experiences of using mistletoe (*Viscum album*): a qualitative systematic review and synthesis. Journal of Alternative and Complementary Medicine 22(2): 134-144. [Surveying 173 papers and finding just 3 with meaningful results supporting some degree of benefit from mistletoe therapy, but even these lacking fully adequate evidence.]

Faboro, E.O., Wei LiQing, Liang ShaoBo, McDonald, A.G. and Obafemi, C.A. 2016. Characterization of dichloromethane and methanol extracts from the leaves of a medicinal plant: *Globimetula oreophila*. Industrial Crops and Products 83: 391-399. [The ethnopharmacological uses *G. oreophila* include treatment of cancer, hypertension, diabetes, and as diuretic agent. This study analyses its chemical constituents without suggesting which are pharmacologically active.]

Fernández-Aparicio, M., Masi, M., Maddau, L., Cimmino, A., Evidente, M., Rubiales, D. and Evidente, A. 2016. Induction of haustorium development by sphaeropsidones in radicles of the parasitic weeds *Striga* and *Orobanche*. A structure-activity relationship study. Journal of Agricultural and Food Chemistry 64(25): 5188-5196. [Describing two phytotoxic cyclohexene oxides, sphaeropsidone and *epi*-sphaeropsidone, produced by *Diplodia curessi*, causal agent of cypress canker, induce haustoria in *S. hermonthica*, *O. crenata*, and *O. cumana*. Structure-activity relationships of natural and hemi-synthetic derivatives were examined.]

*Fernández-Aparicio, M., Reboud, X. and Gibot-Leclerc, S. 2016. Broomrape weeds. underground mechanisms of parasitism and associated strategies for their control: a review. Frontiers in Plant Science 7(February): 135. (http://journal.frontiersin.org/article/10.3389/fpls.2016.00135/full) [A comprehensive review on weedy *Orobanche* and *Phelipanche* spp. focusing on biology and physiology, and, in particular, major feasible control strategies targeting a different stages of broomrape parasitism.]

Flematti, G.R., Scaffidi, A., Waters, M.T. and Smith, S.M. 2016. Stereospecificity in strigolactone biosynthesis and perception.Planta 243(6): 1361-1373. [Detailed explanation of stereochemistry of natural and synthetic strigolactones. Reference for stereochemical structures was proposed. It seems to be reasonable to add '*ent*' only to non-natural strigolactones with the 2'*S* configuration.]

Fontúrbel, F.E., Murúa, M.M. and Vega-Retter, C. 2016. Development of ten microsatellite markers from the keystone mistletoe *Tristerix corymbosus* (Loranthaceae)

using 454 next generation sequencing and their applicability to population genetic structure studies.Molecular Biology Reports 43(5): 339-343. [Ten microsatelite markers developed for the keystone mistletoe (*T. corymbosus)* appeared to be a powerful tool for studying population structure, gene diversity, gene flow, and its distribution.]

*Francisco Ornelas, J., Gándara, E., Vásquez-Aguilar, A.A., Ramírez-Barahona, S., Ortiz-Rodriguez, A.E., González, C., Mejía Saules, M.T. and Ruiz-Sanchez, E. 2016. A mistletoe tale: postglacial invasion of *Psittacanthus schiedeanus* (Loranthaceae) to Mesoamerican cloud forests revealed by molecular data and species distribution modeling. BMC Evolutionary Biology 16(78): (12 April 2016).(https://bmcevolbiol.biomedcentral.com/articles/10.1186/s12862-016-0648-6) [ITS and trnLF sequence analyses of 31 populations provided support for the predominant role of isolation and environmental factors in driving genetic differentiation of Mesoamerican *Psittacanthus*.]

Freitas, A.V.L., Coelho, M.F.B., Pereira, Y.B., Freitas Neto, E.C.and Azevedo, R.A.B. 2015.(Diversity and uses of medicinal plants in homegardens at the community São João da Varzea, Mossoró, RN.) (in Portuguwese) Revista Brasileira de Plantas Medicinais 17(4 Suppl. 2): 845-856. [Including reference to *Ximenia americana* but not included among the most promising.]

Frisby, T. 2015. Antifungal activity in extracts of plants from southwestern Oklahoma against *Aspergillus flavus*. Oklahoma Native Plant Record 15(1): 78-95. [*Castilleja indivisa* among 40 species providing strong inhibition of *A. flavus* when tested as a crude extract but not among the few that retained this activity after dialysis.]

Galindon, J.M.M., Ong, P.S. and Fernando, E.S. 2016. *Rafflesia consueloae* (Rafflesiaceae), the smallest among giants; a new species from Luzon Island, Philippines. PhytoKeys 61: 37-46. [*R. consueloae* is distinct in its small-sized (10 cm diameter) flowers, the upright perigone lobes, and prominently cream-white disk surface, often devoid of processes.]

Ganesan, S. and Saraswathy, K. 2014. Floristic diversity and its conservation status in the selected Sacred Groves of Madurai District, TamilNadu, India. Journal of Biodiversity and Ecological Sciences 4(4): 182-191. [Including a record of the 'rare' *Dendrophthoe falcata.*]

Gao, F.-M., Chen, L., Tian, C.-M., Cairang, D.-Z., Zhou, W.F., Yang, Q.-Q., Zhao, H.-C. and Wu, Y.-L. 2015. Effects of *Arceuthobium sichuanense* infection on photosynthesis and transpiration of *Pinus wilsonii*. Acta Phytopathologica Sinica 45:14-21. [Host tree needle length and width were smaller but specific leaf area was larger in infected vs. control trees. Infection reduced net photosynthesis rate, transpiration rate, and stomatal conductance but sub-stomatal CO_2 concentration was not influenced.]

Ghasemzadeh, A., Jamali, S. and Ghasemi, M. 2015. The combined effect of root-knot nematode and broomrape on tomatoes chlorophyll content, fluorescence parameters and relative water content under greenhouse conditions. Iranian Journal of Plant Protection Science 46(2): Pe295-Pe306. [Results suggest a synergistic interaction between *Orobanche aegyptiaca* and *Meloidogyne* nematodes on tomato.]

Goldwasser, Y., Miryamchik, H., Rubin, B. and Eizenberg, H. 2016. Field dodder (*Cuscuta campestris*) - a new model describing temperature-dependent seed germination 64(1): 53-60. [Devising a model by which thermal time can be used to predict germination of *C. campestris.*]

*Graffis, A.M. and Kneitel, J.M. 2015. A parasitic plant increases native and exotic plant species richness in vernal pools. AoB Plants 7: plv100. (http://aobpla.oxfordjournals.org/content/7/plv100.full) [Removal of *Cuscuta howeliana* resulted in greater species richness, perhaps via suppression of the dominant *Eryngium castrense*.]

Gu Li, Xiong WenTing, Zhuang YanLei, Zhang JianShuang and Liu Xin. 2016. Effects of *Cistanche deserticola* extract on penis erectile response in castrated rats. Pakistan Journal of Pharmaceutical Sciences 29(2): 557-562. [Results indicated that extract of *C. deserticola* facilitated the penis erectile response and modulated the serum hormone level to some extent.].

Guo JingJing, Pan Wei, Chen MeiWan, Wang ChunMing and Wang YiTao. 2015 Overview of Taiwan's indigenous ethnopharmacology in the perspective of traditional knowledge protection. Chinese Journal of Integrative Medicine 21(12): 949-954. [Including reference to *Taxillus liquidambaricus* but no detail in abstract.]

Haidar, M. and Shabala, S. 2015. Ion flux kinetics in blue light-grown field dodder (*Cuscuta campestris*) seedlings. Weed Biology and Management 15(4): 159-164. [Vanadate, a known blocker of the plasma-membrane H^+-ATPase, completely prevented both H^+ and the Ca^{2+} flux responses and inhibited coiling and prehaustoria development, confirming its key role in the growth of *C. campetsris* and its adaptive response to the environment.]

Hanumantha, M., Patil, R.S., Gunaga, R.P., Biradar, S.S. and Seema Garg. 2015. Plant wealth of Forest Training Institute, Gungaragatti, Dharwad, Karnataka. International Journal of Forest Usufructs Management 16(2): 82-99. [Noting an abundance of *Santalum album*.]

Hao, B.. Caulfield, J.C., Hamilton, M.L.. Pickett, J.A.. Midega, C.A.O., Khan, Z.R., Wang, J. and Hooper, A.M. 2016. Biosynthesis of natural and novel C-glycosylflavones utilising recombinant *Oryza sativa* C-glycosyltransferase (OsCGT) and *Desmodium incanum* root proteins.Phytochemistry 125: 73-87. [A rice *C*-glycosyltransferase was used to generate novel mono-*C*-glucosyl-2-hydroxyflavanones as putative biosynthetic intermediates to examine the potential of *D. incanum* biosynthetic CGTs to produce novel di-*C*-

glycosylflavones, compounds implicated in the allelopathic biological activity of *Desmodium* against *Striga*.]

Hao Bing, Caulfield, J.C., Hamilton ML, Pickett, J.A., Midega, C.A.O., Khan, Z.R., Wang, J.R. and Hooper, A.M. 2015. The biosynthesis of allelopathic di-*C*-glycosylflavones from the roots of *Desmodium incanum* (G. Mey.) DC. Organic & Biomolecular Chemistry 13(48): 11663-11673. [Elucidating the biosynthesis of *C*-glycosylflavones, the active agents in suppression of *Striga* spp., suggesting potential opportunities for transferring the enzymic and genetic basis for these allelopathic substances into other food crops.]

*Harveson, R.M, Nelson, A., Mathew, F. and Seiler, G.J. 2015. First report of *Orobanche ludoviciana* parasitizing sunflowers. Plant Health Progress, November, PHP-BR-15-0043. (http://www.plantmanagementnetwork.org/php/elements/sum2.aspx?id=10874) [A cluster of *O. ludoviciana* found parasitizing 30% of sunflower plants in part of a field in Nebraska, USA.]

Hassan, M.B., Baiyegunhi, L.J.S., Ortmann, G.F. and Abdoulaye, T. 2016. Adoption of *Striga* (*Striga hermonthica*) management technologies in northern Nigeria. Agrekon 55(1/2): 168-188. [Marital status, household size, farm size and access to cash remittances are most significant factors influencing adoption of ISMA technology (Integrated *Striga* Management – not defined here but presumably involving tolerant maize varieties, rotation with soyabean and other inputs?). Farmers who adopted ISMA technologies obtained higher output than the non-adopters, resulting in a positive effect on their total farm income.]

Hegenauer, V., Fürst, U., Kaiser, B., Smoker, M, Zipfel, C., Felix, G., Stahl, M. and Albert, M. 2016. Detection of the plant parasite *Cuscuta reflexa* by a tomato cell surface receptor. Science 353(6298): 478-481. [CuRe1, a canonical plasma-membrane localized pattern recognition receptor (PPR), reqired for the recognition of microbe-associate molecular pattern (MAMP)-like molecule (Cuscuta factor) from *Cuscuta reflexa*, was found to be responsible for resistance in cultivated tomato. Introduction of *CuRe1* gene into susceptible lines made them more resistance to *C. reflexa*.]

Heydari, M., Hashempur, M.H., Ayati, M.H., Quintern, D., Nimrouzi, M., Mosavat, S.H. 2015. The use of Chinese herbal drugs in Islamic medicine. Science Press, Beijing, China, Journal of Integrative Medicine 13(6): 363-367. [Noting reference over 1000 years ago to the frequent use of *Santalum* spp.imported from China, in Islamic traditional medicines.]

Holzapfel, S.A., Dodgson, J. and Maheshwaran Rohan. 2016. Successful translocation of the threatened New Zealand root-holoparasite *Dactylanthus taylorii* (Mystropetalaceae). Plant Ecology 217(2): 127-138. [Confirming successful establishment of *D. taylori* (also placed in Balanophoraceae) from seed at 22 of 24 sites after 10 years. First emergence occurred after 4 years. Each site had a range of possible host species. Success was greater under closed canopy than in open habitat.]

Houngbédji, T. and Gibot-Leclerc, S. 2015. First report of *Rhamphicarpa fistulosa* on peanut (*Arachis hypogaea*), soybean (*Glycine max*), and tossa jute (*Corchorus olitorius*) in Togo. Plant Disease 99(11): 1654-1655. [Reporting the occurrence of *R. fistulosa* on cowpea, soyabean and tossa jute, causing estimated yield losses of 7-9%.]

*Hung YuChiang, Kao ChaoWei, Lin CheChen, Liao YenNung, Wu BeiYu, Hung ILing and Hu WenLong. 2016. Chinese herbal products for female infertility in Taiwan: a population-based cohort study. Medicine (Baltimore) 95: 11, e3075. 9 http://journals.lww.com/md-journal/Fulltext/2016/03150/Chinese_Herbal_Products_for_Female_Infertility_in.44.aspx) [Indicating that products based on *Cusciuta chinensis* are commonly used for female infertility, but no evidence for efficacy presented.]

Idu, M., Ovuakporie-Uvo, O. and Nwaokolo, M.J. 2016. Phytochemistry and microscopy of *Tapinanthus dodoneifolius* (DC) (Danser) (Santalales: Loranthaceae) (African mistletoes) from guava, rubber and orange host trees. Brazilian Journal of Biological Sciences 3: 27-35. [Result of phytochemical analysis showed the presence of oxalate, phytate, saponin, alkaloid, glycoside and tannin in this mistletoe.]

Ikeda, H., Fukuda, T. and Yokoyama, J. 2016. Endophytic fungi associated with a holoparasitic plant, *Balanophora japonica* (Balanophoraceae). American Journal of Plant Sciences 7(1): 152-158. [Isolating 23 fungal strains from *B. japonica* growing on *Symplocos lancifolia* in Japan, including *Trichoderma-Hypocrea* (also recorded on the host), *Penicillium* and *Phialemonium*. This complex differed from that reported on *B. harlandii* or on *Rafflesia cantleyi*.]

Imerovski, I., Dimitrijević, A., Miladinović, D., Dedić, B., Jocić, S., Tubić, N.K. Jackson, M.B., Hayes, C.J., Taylor, J.E. and Ferguson, B.A. 2016. Effects of thinning and overstory removal on western larch and western larch dwarf mistletoe. Forest Science 62(2): 190-199. [Studying the effects of pre-commercial thinning and/or over-story removal on the spread and intensity of *Arceuthobium larcis* in *Larix occidentalis* over a period of 21 years. Results not clear from abstract, but significant mortality recorded.]

Jackson, M.B., Hayes, C.J., Taylor, J.E. and Ferguson, B.A. 2016. Effects of thinning and overstory removal on western larch and western larch dwarf mistletoe. Forest Science 62:190-199. [Growth loss and mortality of *Larix occidentalis* caused by *Arceuthobium laricis* was measured and management implications discussed.]

Jeon EunJin, Chung KyungSook and An HyoJin. 2016. Anti-proliferation effects of *Cistanches salsa* on the progression of benign prostatic hyperplasia. Canadian

Journal of Physiology and Pharmacology 94(1): 104-111. [Concluding that extract of *C. salsa* may be a potential therapeutic candidate for treatment of benign prostatic hyperplasia owing to its ability to regulate the expression of inflammatory and apoptosis-related proteins.]

Jervekani, M.T., Karimmojeni, H., Brainard, D.C. and Jafari, M. 2016. Sesame genotype influences growth and phenology of *Phelipanche aegyptiaca.* Annals of Applied Biology 169(1): 46-52. [Among 11 Iranian accessions of sesame, 5 supported tubercle development on the roots but no emergence. These could be suitabkle as trap crops.]

Jinga, V., Dudoiu, R. and Giumba, A. 2015. Sunflower cultivar behavior at the Broomrape attack in south-eastern area of Romania. Romanian Journal for Plant Protection 8: 31-35. [Noting up to 70% yield losses from *Orobanche cumana* in sunflower in parts of Romania, and best results from resistant hybrids Festiv, Turbo, Neoma, Alego and Sunay.]

Johnson, B.I., De Moraes, C.M. and Mescher, M.C. 2016. Manipulation of light spectral quality disrupts host location and attachment by parasitic plants in the genus *Cuscuta*. Journal of Applied Ecology 53(3): 794-803. [Studies with *C campestris* on tomato and *C. gronovii* on 'jewelweed' (*Impatiens capensis*?) showed that high red:far-red ratio light greatly reduced infection in both cases. Tomato showed some short-term effects from high red:far-red but it is concluded that a suitable shading of crop at the critical stage could contribute to useful selective control.]

Jonstrup, A., Hedrén, M. and Andersson, S. 2016. Host environment and local genetic adaptation determine phenotype in parasitic *Rhinanthus angustifolius*. Botanical Journal of the Linnean Society 180(1): 89-103. [Studying two ecotypes of *R. angustifolius* under varying conditions, most characters were plastioc other than node number. Concluding that the complex phenological and morphological variation in this species is caused by a combination of genetically determined ecotypic differentiation and plastic responses to the host environment and other factors.]

Jose Mathew and George, K.V. 2015. *Christisonia mira* (Orobanchaceae): a new plant species from southern Western Ghats, India. Telopea 18: 425-431. [*C. mira* newly found in Kerala.]

Kabiri, S., Ast, A.van, Rodenburg, J. and Bastiaans, L. 2016. Host influence on germination and reproduction of the facultative hemi-parasitic weed *Rhamphicarpa fistulosa*. Annals of Applied Biology 169(1): 144-154. [Confirming that germination of *R. fistulosa* depends on light and saturated conditions and is quite independent of any stimulant exuded by the host rice. The hemi-parasite can complete its life cycle without a host but there is a 3.7-fold increase in seed production in the presence of a host.]

*Kaiser, B., Vogg, G., Fürst, U.B. and Albert, M. 2015. Parasitic plants of the genus *Cuscuta* and their interaction with susceptible and resistant host plants. Frontiers in Plant Science 2015 6: 45. (http://journal.frontiersin.org/article/10.3389/fpls.2015.00045/full [A general discussion on the biology of *Cuscuta* species with particukar attention to the hypersensitive-type response of tomato.]

Kaitera, J. and Witzell, J. 2016. Phenolic profiles of two *Melampyrum* species differing in susceptibility to *Cronartium* rust. European Journal of Plant Pathology 144(1): 133-140. [Finding differing complexes of phenolics in *M. sylvaticum* and *M. pratense* which could explain why the former, with kaempferol and luteolin flavonoids, is susceptible to *Cronartium flaccidum* and acts as an alternate host to this important stem rust of pine, while the latter, with chlorogenic acid, flavanones and apigenin flavonoids, is resistant.]

Kalidass, C. 2015. *Cuscuta chinensis* Lam. (Convolvulaceae) - a new record for Odisha. Journal of Economic and Taxonomic Botany 39(1): 124-125. [Reporting '*C. chinensis*', but more probably *C. campestris*.]

Kamran, S.H., Mobasher Ahmad, Durre Shahwar and Muhammad Ajaib. 2016. Anti-diabetic and anti-oxidant status of *Loranthus pulverulentus* obtained from two different hosts., Bangladesh Journal of Pharmacology 11(1): 181-189. [Showing that leaves of *L. pulverulentus* (=*Scurrula pulverulenta*) growing on *Dalbergia sissoo*) has potential anti-diabetic activity whereas *L. pulverulentus* growing on *Populus nigra* does not.]

Kang SukNam 2016. Ethanol extracts from mistletoe (*Viscum album* L.) act as natural antioxidants and antimicrobial agents in uncooked pork patties during refrigerated storage. Asian-Australasian Journal of Animal Sciences 29(1): 109-118. [Showing that the antioxidant properties of extract from *V. album* ssp. *coloratum* helped preserve the freshness of uncooked pork patties (in Korea).]

Kangethe, D., Wanyama, C., Ajanga, S. and Wainwright, H. 2016. *Striga hermonthica* reduction using *Fusarium oxysporum* in Kenya.African Journal of Agricultural Research 11(12): 1056-1061. [*F. oxysporum* f.sp. *strigae* isolate Foxy 2 had shown promise against *S. hermonthica* in West Africa, but failed in trials in Kenya. A local isolate FK3 has now shown over 50% reduction of *S. hermonthica* in pot trials in Kenya and deserves further testing.]

Kannan, C. and Aditi Pathak. 2016. A comparative study of morphology and pathogenesis of *Cuscuta* and *Orobanche* - the two devastating parasitic plants. Indian Journal of Agricultural Sciences 86(7): 946-950. [A rather general description of the development of unspecified *Cuscuta* and *Orobanche* spp. on their hosts.]

Kapulnik, Y. and, Koltai, H. 2916. Fine-tuning by strigolactones of root response to low phosphate. Journal of Integrated Plant Biology 58(3): 203-212. [In this review the role and activity of strigolactones under conditions of phosphate deprivation is presented. Under these conditions, their levels of biosynthesis and exudation increase, leading to changes in shoot and root

development. At least for the latter, these changes are likely to be associated with alterations in auxin transport and sensitivity.]

Kelt, D.A. and 10 others. 2016. The avifauna of Bosque Fray Jorge National Park and Chile's Norte Chico. Journal of Arid Environments 126: 23-36. [Incidentally noting the remarkable coevolutionary association between the Chilean Mockingbird (*Mimus thenca*) and endoparasitic mistletoe, *Tristerix aphyllus*.]

Kim SeYong, Yang EunJu, Son YounKyoung,, Yeo JooHong and Song KyungSik. 2016. Enhanced anti-oxidative effect of fermented Korean mistletoe is originated from an increase in the contents of caffeic acid and lyoniresinol. Food and Function 7(5): 2270-2277. [Extract of *Viscum album* ssp. *coloratum* showed increased anti-oxidant activity after fermentation with a soybean paste fungus, *Aspergillus kawachii*. This attributed to increased levels of caffeic acid and lyoniresinol.]

Kimondo, J., Miaron, J., Mutai, P. and Njogu, P. 2015. Ethnobotanical survey of food and medicinal plants of the Ilkisonko Maasai community in Kenya. Journal of Ethnopharmacology 175: 463-469. [*Ximenia americana* among the species most commonly used, presumably as food.]

*Koko, W.S., Mesaik, M.A., Ranjitt, R., Galal, M. and Choudhary, M.I. 2015. Immunosuppressive phenolic compounds from *Hydnora abyssinica* A. Braun. BMC Complementary and Alternative Medicine 15: 400. (http://www.ncbi.nlm.nih.gov/pubmed/26553149) [Extracts of *H. abyssinica* show distinct immunosuppressive activity supporting the traditional uses in Sudano as anti-inflammatory and immunosuppressive agents.]

Korres, N.E., Norsworthy, J.K., Tehranchian, P., Gitsopoulos, T.K., Loka, D.A., Oosterhuis, D.M., Gealy, D.R., Moss, S.R., Burgos, N.R., Miller, M.R. and Palhano, M. 2016. Cultivars to face climate change effects on crops and weeds: a review. Agronomy for Sustainable Development 36(1): 12. [Including reference to potential spread of *Striga asiatica*.]

Kropf, M.S., Quinet, A. and Andreata, R.H.P. 2015. (*Lauraceae* from the restingas of the state of Rio de Janeiro, Brazil.) (in Portuguese) Iheringia, Série Botânica 70(2): 287-308. [Including reference to *Cassytha* but no detail of species in abstract.]

Kshirsagar, S.R. 2014. On the ecology and occurrence of *Aeginetia indica* L. and *Wrightia dolichocarpa* Bahadur et Bennet in Southern Gujarat, India. Journal of the Bombay Natural History Society 111(3): 247-248. [Brief information on flowering and fruiting date, ecology, threats and distribution of the two species.]

Kuijt, J., Harrison, J. and Harrison, L. 2015. Endemism in two new species of *Dendrophthora* (Viscaceae) from Cerro Jefe, Panama. Phytologia 97: 139-144. [Two new species, *Dendrophthora fortis* J. Kuijt and *D. perlicarpa* J. Kuijt are described and illustrated from the Cerro Jefe area, Panama.]

Kuijt, J. 2015. Lectotypification of *Viscum latifolium* Lamarck. Phytologia 97:137-138. [Lamarck refers to a plate in Plumier's 'Plantarum americanarum ...' labeled '*Viscum folius ovatis'*, which corresponds to the present *Phoradendron racemosum*. That figure is designated lectotype of *Viscum latifolium* Lamarck.]

Kuijt, J. 2016. A nomenclatural note on *Struthanthus acuminatus* (Loranthaceae). Phytologia 98: 118. [One of the earliest recorded species of South American Loranthaceae is often cited as *Struthanthus acuminatus* (Ruiz & Pavon) Blume, however, Blume did not actually make this combination. To clarify Blume's taxon, the following comb. nov. is presented along with full synonymy: *Struthanthus acuminatus* (Ruiz & Pavon) Kuijt, comb. nov.]

Kuijt, J., Harrison, J.and Harrison, L. 2016. A third endemic *Dendrophthora* (Viscaceae) from Cerro Jefe, Panama. Phytologia 98: 142-145. [A rare new species, *D. primaria*, is described and illustrated. It is believed to be endemic to the Cerro Jefe area, as are two previously described species of the genus and several other mistletoes in Loranthaceae.]

Kuijt, J. 2016. The guide of the perplexed: essential nomenclature and iconography of the mistletoes of the New World. (accessed 10 August 2016 http://www.tropicos.org/Project/Mistletoes) [Nomenclature for 26 genera and 725 species of mistletoes is presented representing four families: Loranthaceae, Misodendraceae, Santalaceae, and Viscaceae.]

Kurniawan, H., Sumardi and Pujiono, E. 2015. (Land suitability and type for Cendana (*Santalum album* Linn.) District of Alor, East Nusa Tenggara.) (in Inonesian) Bumi Lestari 15(1): 31-39. [Reporting surveys of East Timor to establish suitable soils for growth of *S. album*.]

Kuspradini, H., Putri, A.S., Sukaton, E., Mitsunaga, T., Fleischmann, P., Kim, K.M. and Hwang, S.G. 2016. Bioactivity of essential oils from leaves of *Dryobalanops lanceolata*, *Cinnamomum burmannii*, *Cananga odorata*, and *Scorodocarpus borneensis*. Agriculture and Agricultural Science Procedia 9: 411-418. [Oil from *S. borneensis* (Olacaceae) showed significant activity against *Candida albicans*.]

Kwiatkowski, P. 2015. Floristic notes from the Rudawy Janowickie mts (SW Poland). Part. I. Fragmenta Floristica et Geobotanica Polonica 22(1): 23-33. [A list of rare and endangered species included *Orobanche pallidiflora*.]

Lachia, M., Wolf. H.C., Jung, P.J., Screpanti, C. and Bolin, J.F. 2016. Strigolactam: new potent strigolactone analogues for the germination of *Orobanche cumana*. Bioorganic and Medicinal Chemistry Letters 25(10): 2184-2188. [Reporting modifications of the lactone C-ring to create strigolactams 1 and 16 with 'surprisingly good activity on the germination of *O. cumana'*.]

Le, Q.V., Tennakoon, K.U., Metali, F., Lim, L.B.L. and Bolin, J.F. 2016. Ecophysiological responses of mistletoe *Dendrophthoe curvata* (Loranthaceae) to varying environmental parameters. Journal of Tropical Forest Science 28(1): 59-67. [Functions of *D. curvata* in Brunei Darussalam varied depending on the host *Andira inermis*, *Mangifera indica* or *Vitex pinnata*.and on changes in light intensity, leaf temperature and atmospheric CO_2 concentrations. Effects of elevated carbon dioxide were long term due to the partial dependence of mistletoe on host-derived carbon.

Lehn, C.R., Salis, S.M. and Mattos, P.P. 2015. Ecological aspects of *Langsdorffia hypogaea* (Balanophoraceae) parasitism in the Pantanal wetlands. Acta Botanica Brasilica 29(4): 608-612. [Determining that *Protium heptaphyllum* and *Cordiera sessilis* were the commonest host tree for *L. hypogaea* and that seed dispersal for both host and parasite was by mammals including collared peccaries (*Pecari tajacu*).]

*Leite de Vasconcelos, G.C. and Miranda de Melo, J.I. 2016. Flora of the Parque Nacional do Catimbau, Pernambuco State, Brazil: Loranthaceae (in Portuguese). Hoehnea 43. (http://www.scielo.br/scielo.php?script=sci_arttext&pid=S2236-89062016000200317) [Four species of *Psittacanthus* and *Struthanthus* were recorded with *S. confertus* recorded for the first time in Pernambuco.]

*Leong PouKuan, Wong HoiShan, Chen JiHang and Ko KamMing. 2015. Yang/Qi invigoration: an herbal therapy for chronic fatigue syndrome with Yang deficiency? Evidence-based Complementary and Alternative Medicine 2015, Article ID 945901. (http://www.hindawi.com/journals/ecam/2015/945901/) ['By virtue of their ability to enhance mitochondrial function and its regulation, Yang- and Qi-invigorating tonic herbs, such as Cistanches Herba *(Cistanche deserticola)* may therefore prove to be beneficial in the treatment of chronic fatigue syndrome with Yang deficiency.']

Lepší, M. and Lepší, P. 2015. Records of interesting and new plants in the South Bohemian flora XXI. Přírodní Vědy 55: 13-28. [New records included *Viscum album* ssp. *album* and *Euphrasia stricta*.]

*Li JunMin, Jin ZeXin, Hagedorn, F. and Li MaiHe 2014. Short-term parasite-infection alters already the biomass, activity and functional diversity of soil microbial communities.Scientific Reports 4: 6895. (http://www.nature.com/articles/srep06895) [Showing that (deliberate) infection of *Mikania micrantha* by *Cuscuta campestris* resulted in reduced soil microbial biomass, presumably resulting from reduced root growth of the *Milania*.]

*Li JunMin, Yang BeiFen, Yan QiaoDi, Zhang Jing, Yan Min and Li MaiHe. 2015. Effects of a native parasitic plant on an exotic invader decrease with increasing host age. AoB Plants 7: plv031. (http://aobpla.oxfordjournals.org/content/7/plv031.full) [In Zhejiang Province, China, reduction of *Bidens pilosa* by *Cuscuta australis* was much greater when the parasite was introduced to the host at 59 days after sowing than at 84 days, although the parasite grew even better on the older host. Parasite infection reduced the concentrations of total phenolics, total flavonoids and saponins only in the younger host plants. For its use for biocontrol of *B. pilosa* early application would be essential.]

Li Li; Cao Jin and Zhang QingSheng. 2016. (Determination of geniposidic acid in herba cistanche by high performance liquid chromatography.) (in Chinese) Journal of Food Safety and Quality 7(3): 933-937. [Describing a fast and accurate method, used to show differences in geniposodic acid in *Cistanche deserticola*, *C. tubulosa* and *C. salsa*.]

Li Lun, Zhu ChunYun, Liu XiaoLi, Gu WenYi, Wei HaiBin and Hu Yue. 2015. (The Principal Component Analysis of environmental factors of *Arceuthobium sichuanense*.) (in Chinese) Journal of West China Forestry Science 44(6): 55-60. [Factors affecting the severity of *Arceuthobium sichuanse* on spruce, a major diseases in Qinghai province, China include canopy density, herbaceous biomass, elevation, PH value and slope, the most important being canopy density. Incidence is lower when the forest canopy density is over 0.7, while it becomes serious when the density is 0.4-0.5.]

*Li Nan, Wang JianPing, Ma Jun, Gu ZhiQiang, Jiang Chao, Yu Lie and Fu XiaoJie. 2015. Neuroprotective effects of Cistanches Herba therapy on patients with moderate Alzheimer's disease. Evidence-based Complementary and Alternative Medicine 2015: Article ID 103985. (http://www.hindawi.com/journals/ecam/2015/103985/) [The study involved treatment of 11 Alzheimers patients with 'Cistanches Herba', based on *Cistanche deserticola* for 48 weeks compared with patients given Donepazil or none. Both treatments showed significant difference from controls reducing changes in volume of hippocampus and decreasing the levels of T-tau, TNF-α, and IL-1β. Concluding that Cistanches Herba could improve cognitive and independent living ability of moderate Alzheimers patients.]

Li Yang, Zhou GuiSheng, Peng Ying, Tu PengFei and Li XiaoBo. 2016 Screening and identification of three typical phenylethanoid glycosides metabolites from Cistanches Herba by human intestinal bacteria using UPLC/Q-TOF-MS. Journal of Pharmaceutical and Biomedical Analysis 118: 167-176. [Exploring the metabolism, by human intestinal bacteria, of acteoside, isoacteoside, and 2′-acetylacteoside the three main phenylethanoid glycosides occurring in *C. desertiflora*, and confirming that the metabolites had comparable bio-activity to the original compounds.]

Liang LiZhi, Liu Yue, Jenil Jariwala, Lynn, D.G. and Palmer, A.G. 2016. Detection and adaptation in parasitic angiosperm host selection. American Journal of Plant Sciences 7(8): 1275-1290. [Differential expression

library in haustorial organogenesis induced by DMBQ in *Striga asiatica* identified genes involved in cell wall expansion and vascular tissue development, nutrient metabolism and transport, hormone regulation, and cellular defense. Results suggest an elaborate and global response closely tied to plant defense and redox chemistry.]

Liu Jiao, Tian Ji, Li Jin, Azietaku, J.T., Zhang BoLi, Gao XiuMei and Chang YanXu. 2016. The in-capillary DPPH-capillary electrophoresis-the diode array detector combined with reversed-electrode polarity stacking mode for screening and quantifying major antioxidants in *Cuscuta chinensis* Lam.Electrophoresis 37(12): 1632-1639.

Liu YaNan, Li Yan, Yang FuSheng and Wang XiaoQuan. 2016. Floral nectary, nectar production dynamics, and floral reproductive isolation among closely related species of *Pedicularis*. Journal of Integrative Plant Biology 58(2): 178-187. [Finding surprising variation in nectary morphology, nectar quality, and nectar production dynamics in flowers of *Pedicularis* section *Cyathophora* in China and suggesting that they may have played a role in speciation.]

Liu, Z.H., Cong, Y.L., Lu, B.H. and Gao, J. 2016. First report of milkvetch (*Astragalus propinquus*) as a natural host of dodder (*Cuscuta australis*) in China. Plant Disease 100(2): 538. [Reported from Jilin.]

Lopez Laphitz, R. M., Ezcurra, C., and Vidal-Russell, R. 2015. Morphological variation in *Quinchamalium* (Schoepfiaceae) is associated with climatic patterns along its Andean distribution. Systematic Botany 40(4): 1045-1052. [*Q. chilense* was shown via morphometric analyses to be a single, polymorphic, widespread species with a continuum of morphological variation (either genotypic or environmental phenotypic plasticity).]

López-Ráez, J.A. 2016. How drought and salinity affect arbuscular mycorrhizal symbiosis and strigolactone biosynthesis? Planta 243(6): 1375-1385. [This paper reviews the importance of AM symbiosis in alleviating plant stress under unfavourable environmental conditions, making emphasis on the role of strigolactones. A better understanding of the mechanisms that regulate this beneficial association will increase its potential use as an innovative and sustainable strategy in modern agriculture.]

Luo YaHuang, Sui Yi, Gan JianMin and Zhang Ling. 2016. Host compatibility interacts with seed dispersal to determine small-scale distribution of a mistletoe in Xishuangbanna, Southwest China. Journal of Plant Ecology 9(1): 77-86. [Findings suggest that seed dispersal interacts with host compatibility and canopy cover to determine establishment success, survival and the observed distribution patterns of *Dendrophthoe pentandra* in plantation and rainforest.].

*Louarn, J., Boniface, M-C., Pouilly, N., Velasco, L., Pérez-Vich, B., Vincourt, P. and Muños, S. 2016. Sunflower resistance to broomrape (*Orobanche cumana*) is controlled by specific QTLs for different parasitism stages. Frontiers in Plant Science, May 10, 2016. (http://journal.frontiersin.org/article/10.3389/fpls.2016.00590/full?utm_source=newsletter&utm_medium=email&utm_campaign=Plant_Science-w27-2016) [A population of 101 recombinant sunflower inbred lines from a cross between HA89 and LR1 were studied and QTL mapped for resistance shown at 3 growth stages. Different QTL were identified for each race – F from Spain and G from Turkey - and for the 3 stages of development, indicating several quantitative resistance mechanisms

LüShiHong Huang FuZhao, Lu ShuHua, Xu GuangPing, Zeng DanJuan and Li XianKun. 2016. (Effects of Shrub-grass on direct seeding of *Cyclobalanopsis glauca* and *Malania oleifera* in rocky desertification mountains in southwest Guangxi.) (in Chinese) Plant Science Journal 34(1): 38-46. [Results suggest that establishment of *M. oleifera* (Olacaceae) was better under shrub and grass conditions, and should be considered for afforestation in rocky desertification mountains in Southwest Guangxi.]

Lyra, D., Kalivas, D. and Economou, G. 2016. A large-scale analysis of soil and bioclimatic factors affecting the infestation level of tobacco (*Nicotiana tabacum* L.) by *Phelipanche* species. Crop Protection 83: 27-36. [Correlation analysis demonstrated that the level of *Phelipanche* infestation correlated negatively with pH and total humidity index and positively with organic matter. *P. ramosa* was more important than *P. aegyptiaca*.]

Mabrouk, Y., Mejri, S., Hemissi, I. and Belhadj, O. 2016. Biochemical analysis of induced resistance in chickpea against broomrape (*Orobanche foetida*) by rhizobia inoculation. Phytopathologia Mediterranea 55(1): 54-61. [*Rhizobium* sp. strain PchAZM reduces parasitism of chickpea by *O. foetida* under greenhouse conditions by up to 90%. Infection is accompanied by enhanced levels of the defence-related enzymes phenylalanine ammonia lyase and peroxidase leading to increased levels of phenolics in the roots. cf Yassine *et al.*, 2016 below.]

Maikai, V.A., Maikai, B.V. and Kobo, P. 2015. Effect of fraction IV portion of *Ximenia americana* stem bark on *Trypanosoma congolense* - induced serum enzymes changes in rats. Bayero Journal of Pure and Applied Sciences .8(2): 39-45. [Achieving positive results with extract of *X. americana* on trypanaomosis in rats.]

Maiti, R., Gonzalez Rodriguez, H., Kumari, Ch.A. and Sarkar, N.C. 2016. Macro and micro-nutrient contents of 18 medicinal plants used traditionally to alleviate diabetes in Nuevo Leon, Northeast of Mexico. Pakistan Journal of Botany 48(1): 271-276. [*Phoradendron villosum* one of a number of plants high-lighted for their potential use against diabetes on the basis of their content of micro- and macro-nutrients.]

Mardoian, B.C.and Borowicz, V.A. 2016. Impact of light limitation on mortality and early growth of the root

hemiparasite *Pedicularis canadensis* L. Journal of the Torrey Botanical Society 143(1): 1-7. [Confirming that shading the parasite *P. canadensis* greatly reduced its growth and allowed increased growth of the hosts (unspecified in abstract).

Maroyi, A. 2016. *Ximenia caffra* Sond. (Ximeniaceae) in sub-Saharan Africa: a synthesis and review of its medicinal potential. Journal of Ethnopharmacology 184: 81-100. [A comprehensive and systematic literature search on the ethnomedicinal uses, phytochemistry and biological activities of *X. caffra* throughout its distributional range, recording a total of 65 human and animal ailments and diseases for which it is used traditionally with a high degree of consensus for wounds, sexually transmitted infections, infertility, stomach ache, fever, eye problems, diarrhoea, bilharzia, menorrhagia, malaria, intestinal worms and coughs. Some uses have been validated by phytochemical and pharmacological studies but there is a need for much more sytematic study.]

*Martín-Sanz, A., Malek, J., Fernández-Martínez, J.M., Pérez-Vich, B. and Velasco, L. 2016. Increased virulence in sunflower broomrape (*Orobanche cumana* Wallr.) populations from Southern Spain is associated with greater genetic diversity. Frontiers in Plant Science May 3, 2016. (http://journal.frontiersin.org/article/10.3389/fpls.2016.00589/full?utm_source=newsletter&utm_medium=email&utm_campaign=Plant_Science-w25-2016) [Enhanced virulent populations of *O. cumana* parasitizing race F resistant hybrids sunflowers, found in southern Spain have been classified as race G_{GV}. Increased virulence may have resulted from admixture of populations from the Guadalquivir Valley and Cuenca followed by recombination of avirulence genes.]

Martínez-Ambriz, E. and Cruz-Durán, R. 2015. *Cladocolea kuijtii* (Loranthaceae) a new species from Mexico. Phytotaxa 195: 073-078. [This new species is morphologically similar to *C. hintonii*.]

Martínez-Ambriz, E. and Lozada-Pérez, L.. 2016. *Cladocolea molotensis* (Loranthaceae), a new species for the cloud forest of Guerrero, Mexico. Phytotaxa 266:151-156. [This new species is morphologically similar to *C. loniceroides*]

Mathiasen, R.L. and Kenaley, S.C. 2016. The classification of California Viscaceae: an alternative perspective. Madroño 63(1): 8-33. [The authors disagree with the taxonomic decisions made for Viscaceae in the second edition of the Jepson Manual and propose their own classification.]

Mauseth, J.D., Benigno, S., Huamani, F.C. and Ostolaza, C. 2015. Host response and endophyte structure of the mistletoe *Ligaria cuneifolia* (Loranthaceae) parasitizing *Corryocactus brevistylus* (Cactaceae). Haseltonia 21: 3-13. [Although cacti typically have defences against attack by mistletoes, *Ligaria* has overcome these and induces responses atypical of normal cactus development.]

Mavundza, E.J., Chukwujekwu, J.C., Maharaj, R., Finnie, J.F., van Heerden, F.R. and van Staden, J. 2016. Identification of compounds in *Olax dissitiflora* with larvacidal effect against *Anopheles arabiensis*. South African Journal of Botany 102: 1-3. [Identifying santalbic acid and a mixture of two closely related compounds (exocarpic acid and octadec-9,11-diynoic acid).from bark of *O. dissitifolia* and confirming that the mixture of the latter two compounds had the highest activity against *Anopheles arabiensis* larvae.]

Meena Kusi, Kanti Shrestha and Rajani Malla. 2015. Study on phytochemical, antibacterial, antioxidant and toxicity profile of *Viscum album* Linn associated with *Acacia catechu*. Nepal Journal of Biotechnology 3(1): 60-65. [Confirming substantial antioxidant activity of *V. album* extracts and also antibacterial activity against *Pseudomonas aeruginosa*]

Mejía-Giraldo, J.C., Henao-Zuluaga, K., Gallardo, C., Atehortúa, L. and Puertas-Mejía, M.A. 2016. Novel *in vitro* antioxidant and photoprotection capacity of plants from high altitude ecosystems of Colombia. Photochemistry and Photobiology 92(1): 150-157. [*Castilleja fissifolia* among high altitude species with possible UV-absorption qualities.]

Mellado, A. and Zamora, R. 2016. Spatial heterogeneity of a parasitic plant drives the seed-dispersal pattern of a zoochorous plant community in a generalist dispersal system. Functional Ecology 30(3): 459-467. [Showing that the distribution of other fruiting species could be influenced by frugivorous birds feeding mainly on *Viscum album* ssp. *austriacum*.]

Mendoza-Espinoza, J.A., Peña-Miranda, I., Aarland, R.C., Peralta-Gómez, S,; Sierra-Palacios, E. and García-Ocón, B. 2016. Pharmacological and phytochemical potential study of plants collected in Amecameca, State of Mexico, Mexico. Indian Journal of Traditional Knowledge 15(1): 62-67. [Noting that anti-inflammatory activity has been reported for iridoids and verbascoside isolated from *Castilleja tenuiflora*, but not showing any outstanding qualities in this study.]

Meng Hao, Li, A.Y., Costa Junior, L.M., Castro-Arellano, I. and Liu JingZe. 2016. Evaluation of DEET and eight essential oils for repellency against nymphs of the lone star tick, *Amblyomma americanum* (Acari: Ixodidae). Experimental and Applied Acarology 68(2): 241-249. [Sandalwood oil (from *Santalum album*?) was among natural oils, all of which failed to match DEET in repellancy against this tick.]

Midega, C.A.O., Pickett, J., Hooper, A., Pittchar, J. and Khan, Z.R. 2016. Maize landraces are less affected by *Striga hermonthica* relative to hybrids in western Kenya. Weed Technology 30(1): 21-28. [Showing that a number of local landraces have better tolerance of *S. hermonthica* than available (unspecified) hybrid varieties.]

Mignouna, D.B., Abdoulaye, T., Akinola, A.A., Kamara, A.Y. and Oluoch, M. 2016. Understanding market participation choices and decisions of maize and cowpea farmers in northern Nigeria. Tropicultura 34(1): 26-39.

[Studying a wide range of factors involved in the ability of farmers to sell surplus produce from their farms and finding age of farmer (younger), farm size (larger), commodity price, location and ownership of mobile phone among the most important. Incidentally noting that *Striga hermonthica* and *S. gesnerioides* were the dominant constraints to production of maize and cowpea respectively in the states of Bauchi and Kano.]

Mijatović, K.; Stojanavić, D. 2015. (The new form of Dodder (*Cuscuta trifolii* Bab.).) (in Serbian) Zaštita Bilja 66(Special Issue): 30-33. [Suggesting that a form of *C. trifolii* var. *angustissima* occurring widely in Serbia should be known as forma. *luteastigma*.]

Mitkov, A., Yanev, M., Tonev, T. and Tityanov, M. 2016. Weed control in sunflower fields by clearfield technology. Agrarni Nauki 8(19): 167-173. [Recording highly successful control of *Orobanche cumana* using imazamox on the herbicide-resistant sunflower hybrid ES Candimis CL Plus.]

***Molinero-Ruiz, L., Delavault, P., Pérez-Vich, B., Pacureanu-Joita, M., Bulos, M., Altieri, E. and Domínguez, J. 2015. History of the race structure of *Orobanche cumana* and the breeding of sunflower for resistance to this parasitic weed: a review. Spanish Journal of Agricultural Research 13(4): e10R01 (19 pp.) (http://revistas.inia.es/index.php/sjar/article/view/8080/2654) [A superb review, covering the history of the *O. cumana* problem in sunflower, the latest information on the races of the parasite and the status of resistance in different countries.]**

Moraes, P.L.R.de and Falcade, A. 2015.The lauraceous collections of Carl Friedrich Philipp von Martius in the *Flora brasiliensis*. Harvard Papers in Botany 20(2): 167-197. [Including reference to *Cassytha* but no detail in abstract.]

Morais-Costa, F., Soares, A.C.M., Bastos, G.A., Nunes, Y.R.F., Geraseev, L.C., Braga, F.C., Lima, W.dos S. and Duarte, E.R. 2015. Plants of the Cerrado naturally selected by grazing sheep may have potential for inhibiting development of *Haemonchus contortus* larva. Tropical Animal Health and Production 47(7): 1321-1328. [The dried powder of *Ximenia americana* inhibited development of *H. contortus* larvae and shows promise for use in diet as an alternative control of *H. contortus* in sheep.]

Morffy, N., Faure, L. and Nelson, D.C. 2016. Smoke and hormone mirrors: action and evolution of karrikin and strigolactone signaling. Trends in Genetics 32(3): 176-188 [The most recent discoveries of karrikin and strigolactone perception and signal transduction are reviewed. Their receptors and signaling mechanisms are presented as well as recent investigations of host perception in parasitic plants that have demonstrated that strigolactone recognition can evolve following gene duplication of KAI2.]

Mounnissamy, V.M., Jarina, A. and Srinivasan, G. 2015. Anti-microbial activity of caffeic acid isolated from *Cansjera rheedii* J.Gmelin (Opiliaceae). International Journal of Drug Formulation and Research 6(5): 33-39. [Caffeic acid isolated from aerial parts of *C. rheedii* (Opiliaceae) was shown to have excellent antibacterial; and antifungal activity.]

Mourão, F.A., Pinheiro, R.B.P., Jacobi, C.M. and Figueira, J.E.C. 2016. Host preference of the hemiparasite *Struthanthus flexicaulis* (Loranthaceae) in ironstone outcrop plant communities, southeast Brazil. Acta Botanica Brasilica 30(1): 41-46. [*S. flexicaulis* recorded on 15 hosts species but mainly on *Mimosa calodendron*. a legume attractive to bird seed dispersers. The interaction is maintained by birds depositing seeds on host branches, but also by the ability of *M. calodendron* to fix nitrogen. Infection frequently caused host death.]

Mushagalusa, N.G., Achiza, B.J., Bisuri, B.K., Sinza, C.B., Bigirimwami, C.L. and Lubobo, A.K. 2016. *Cuscuta campestris* Yunker, a dangerous obligate parasitic weed observed in cassava crop in the eastern part of the Democratic Republic of Congo. African Journal of Agricultural Research 11(22): 1980-1983 . [Comparison of infected and non-infected cassava plants indicate that *C. campetsris* can cause 48% reduction in yield of tubers.]

*Mulsow, K., Enzlein, T., Delebinski, C., Jaeger, S., Seifert, G. and Melzig, M.F. 2016. Impact of mistletoe triterpene acids on the uptake of mistletoe lectin by cultured tumor cells.PLoS ONE 4: pp.e0153825. (http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0153825)

Musyoki, M.K., Cadisch, G., Zimmermann, J., Wainwright, H., Beed, F. and Rasche, F. 2016. Soil properties, seasonality and crop growth stage exert a stronger effect on rhizosphere prokaryotes than the fungal biocontrol agent *Fusarium oxysporum* f.sp. *strigae*. Applied Soil Ecology 105: 126-136. [Confirming that *F. oxysporum* 'Foxy-2' applied to soil for control of *Striga hermonthica* has no adverse effects on nitrifying prokaryotes.]

Mutlu, S., Ilhan, V. and Turkoglu, H.I. 2016. Mistletoe (*Viscum album*) infestation in the Scots pine stimulates drought-dependent oxidative damage in summer.Tree Physiology 36(4): 479-489. [Results of detailed studies on pine needles indicate that the increased mortality of *Pinuis sylvestris* in Turkey may result from very severe drought stress induced by *V. album*. The increase in the capacity of antioxidative enzyme systems does not protect the plant against oxidative stress in dry summer seasons.]

Mutlu, S., Osma, E., Ilhan, V., Turkoglu, H.I. and Atİcİ, O. 2016. Mistletoe (*Viscum album*) reduces the growth of the Scots pine by accumulating essential nutrient elements in its structure as a trap. Trees: Structure and Function 30(3): 815-824. [Infestation by *V. album* led to a decrease in the availability of water and mineral nutrients, and caused a powerful inhibition of chlorophyll, dry matter,

and the length of needles by accumulating the essential nutrient minerals in its structure.]

Muttaqin, Z., Budi, R.S.W., Wasis, B., Siregar, I.Z. and Corryanti. 2016. Assessing intensity of mistletoe infestation in teak Clonal Seed Orchard (CSO) Padangan, East Java. In: Setiawan, Y., Prasetyo, L.B., Siregar, I.Z. and Effendi, H. (eds) Proceedings, 2nd International Symposium on LAPAN-IPB Satellite (LISAT) for Food Security and Environmental Monitoring, Bogor, Indonesia, 17-18 November 2015. Procedia Environmental Sciences 33: 404-415. [Surveys show light to moderate infestations of teak by *Dendrophthoe pentandra* and *Macrosolen tetragonus*, observed over the whole area, while *Viscum articulatum* was found only locally.].

Mve, M.Z., Makani, T., Anguile, J.J. and Eba, F. 2016. Batch study on the removal of humic substances in aqueous solutions by adsorption using *Coula edulis* nut shell activated carbon as adsorbent. Journal of Chemical and Pharmaceutical Research 8(2): 43-55. [Studying factors involved in the adsorptive activity of activated carbon prepared from the nut-shells of *C.edulis*.']

Nan ZeDong, Zhao MingBo, Zeng KeWu, Tian ShuaiHua, Wang WeiNan, Jiang Yong and Tu PengFei. 2016. Anti-inflammatory iridoids from the stems of *Cistanche deserticola* cultured in Tarim Desert. Chinese Journal of Natural Medicines 14(1): 61-65. [Nine iridoids were isolated and identified, 8-*epi*-loganic acid providing potent inhibition of lipopolysaccharide-induced nitric oxide (NO) production in BV-2 mouse microglial cells comparable to the positive control quercetin.]

Naumann, J., Der, J.P., Wafula, E.K., Jones, S.S., Wagner, S.T., Honaas, L.A., Ralph, P.E., Bolin, J.F., Maass, E., Neinhuis, C., Wanke, S. and DePamphilis, C.W. 2016. Detecting and characterizing the highly divergent plastid genome of the nonphotosynthetic parasitic plant *Hydnora visseri* (Hydnoraceae). Genome Biology and Evolution 8(2): 345-363. [A greatly reduced, highly divergent, yet functional, plastome of the nonphotosynthetic holoparasite *H. visseri* was sequenced. The plastome is 27 kb in length, with 24 genes (smallest number to date) encoding ribosomal proteins, ribosomal RNAs, tRNAs, and a few nonbioenergetic genes, but no genes related to photosynthesis. The inverted repeat and the small single copy region are only approximately 1.5 kb, and intergenic regions have been drastically reduced. Gene order and orientation are highly similar to that seen in *Piper cenocladum*, a related photosynthetic plant in Piperales.]

Nazifi, A.B., Saidi, O. and Ismail, H.F. 2015. Evaluation of anticonvulsant effects of methanolic extract of *Olax subscorpioidea* Oliv. leaves in chicks and mice. Journal of Pharmacy and Bioresources 12(2): 165-171. [Reporting useful activity of *O. subscorpiodea* against eledctricity-induced seizures in chicks and strychnine-induced seizures in mice]

Nazaruk, J. and Orlikowski, P. 2016. Phytochemical profile and therapeutic potential of *Viscum album* L. Natural Product Research 30(4): 373-385. [A general review of the chemistry and uses of *V. album* in traditional and official medicine, for treating hypertension or arthritis and as a hepatoprotective or a sedative drug.]

Nefzi, F., Trabelsi, I., Amri, M., Triki, E., Kharrat, M. and Abbes, Z. 2016. Response of some chickpea (*Cicer arietinum* L.) genotypes to *Orobanche foetida* Poir. Chilean Journal of Agricultural Research 76(2): 170-178. [Six genotypes of chickpea varied somewhat in susceptibility to *O. foetida* in pots, but infestation was in any case low. Differences showed up after attachment and did not depend on differing germination

Ngugi, K.. Ngugi, A.J., Osama, S. and Mugoya, C. 2015. Combating Striga weed in sorghum by transferring resistance Quantitative Trait Loci through molecular marker assisted introgression. Journal of Plant Breeding and Genetics 3(3): 67-76, [Confirming that resistance to *Striga hermonthica* from N.13 could be introduced into the susceptible local variety Ochuti to produce lines with a useful degree of resistance.]

Nguyen Van Suc and Luong Ngoc Son. 2016. Mistletoe leaves as a biosorbent for removal of Pb(II) and Cd(II) from aqueous solution. Desalination and Water Treatment 57(8): 3606-3618. [Concluding that the leaves of *Scurrula parasitica* have potential for the absorption of lead and cadmium from contaminated waste water.]

Nobis, M. and 18 others. 2015. Contribution to the flora of Asian and European countries: new national and regional vascular plant records, 4. Acta Botanica Gallica 162(4): 301-316. [New records include *Orobanche coerulescens* from Georgia.]

Norconk, M.A. and Conklin-Brittain, N.L.2016. Bearded saki feeding strategies on an island in Lago Guri, Venezuela. American Journal of Primatology 78(5): 507-522. [Incidentally noting that bearded saki monkeys (*Chiropotes* spp.) regularly feed on the fruits of *Oryctanthus alveolatus* (Loranthaceae).]

Noroozi, S., Alizadeh, H. and Mashhadi, H.R. 2016. Temperature influences postdispersal predation of weed seeds. Weed Biology and Management 16(1): 24-33. [Suggesting some effects of temperature on post-dispersal preedation of *Cuscuta campetris* in Iran but no detail in abstract.]

*Novy, P., Davidova, H., Serrano-Rojero, C.S., Rondevaldova, J., Pulkrabek, J. and Kokoska, L. 2015. Composition and antimicrobial activity of *Euphrasia rostkoviana* Hayne essential oil. Evidence-based Complementary and Alternative Medicine 2015: Article ID 734101. (http://www.hindawi.com/journals/ecam/2015/734101/) [Determining the main components of oil from *E. rostkoviana* to be n-hexadecanoic acid (18%), thymol (8%), myristic acid (5%), linalool (5%), and anethole (4%). It showed good antimicrobial effect against a

number of organisms associated with eye problems, especially against Gram-positive bacteria but not against *P. aeruginosa*.]

Ocloo, A., Appiah-Opong, R., Chama, M.A., Appiah, A.A. and Murray, A.J. 2015. An *in situ* study on the effects of extracts of *Taraxacum officinale*, *Paullinia pinnata* and *Thonningia sanguinea* on mitochondrial function. Journal of Food Biochemistry 39(6): 682-688. [Aueous extract of *T. sanguinea* significantly decreased mitochondrial respiration in the presence of rotenone.]

Odumosu, P.O. and Thomas, K. 2015. Drug interaction studies of *Ximenia americana* and *Pavetta crassipes* methanol extract with standard antibiotics. Journal of Pharmacy and Bioresources 12(2): 150-155. [Reporting some synergism between extracts of *X. americana* and *P. crassipes* in their activity against *Staphylococcus aureus*, *Escherichia coli* and *Pseudomonas aeruginosa*.]

Okoye, F.B.C. and 10 others. 2015. Flavonoid glycosides from *Olax mannii*: structure elucidation and effect on the nuclear factor kappa B pathway. Journal of Ethnopharmacology 176: 27-34. [Isolating, identifying and studying a range of flavonoid glycosides from the methanol extract of *O. mannii* and concluding that kaempferol 3-O-α-L-rhamnopyranoside is the one compound exhibiting promising and specific antiproliferative activity on human K562 chronic myelogenous leukemia cells and dose-dependently inhibiting NF-κB transactivation, perhaps accounting for its reported in the ethnomedicinal management of cancer and inflammation.]

Oladimeji, O.H. and Usifoh, C.O. 2015. Phytochemical and antimicrobial studies on some Nigerian medicinal plants. Journal of Pharmacy and Bioresources 12(2): 156-164. [Reporting mediocre results for '*Viscum album*' but some other mistletoe must have been involved.]

*Olsen, S., Popper, Z.A. and Krause, K. 2016. Two sides of the same coin: xyloglucan endotransglucosylases/hydrolases in host infection by the parasitic plant *Cuscuta*. Plant Signaling and Behavior 11(3): e1145336. (http://www.tandfonline.com/doi/full/10.1080/15592324.2016.1145336) [Xyloglucan endotransglucosylases/hydrolases (XTHs) are essential for *Cuscuta* to penetrate the host. However, *XTH* expression also occurs in resistant tomato upon an attack by *Cuscuta*, suggesting that both host and parasite use these enzymes in their 'arms race.' This paper summarises existing data on the cell wall-modifying activities of XTHs and present a model suggesting how they might function.]

Olsen, S., Striberny, B., Hollmann, J., Schwacke, R., Popper, Z. and Krause, K. 2016. Getting ready for host invasion: elevated expression and action of xyloglucan endotransglucosylases/hydrolases in developing haustoria of the holoparasitic angiosperm *Cuscuta*. Journal of Experimental Botany 67(3): 695-708. [Differentially expressed genes were identified in young haustoria of *C. reflexa* and *C. gronovii*, whose development was induced by far-red light and tactile stimuli in the absence of a host plant. Two xyloglucan endotransglucosylase/hydrolase (XTH) genes were highly expressed almost exclusively at the onset of haustorium development. It was proposed that xyloglucan remodelling by *Cuscuta* XTHs prepares the parasite for host infection and possibly aids the invasive growth of the haustorium.]

Ondoua, J., Mony, R., Dibong, S.D., Ngotta, B., Taffouo, V., Kenne, M. and Ekodeck G. 2016. Myrmecofauna of cocoa trees infested by Loranthaceae genus *Phragmanthera* in Sodecao seed fields of Nkoemvone (South of Cameroon). Journal of Entomology and Nematology 8: 19-27. [The ant fauna on *Phragmanthera capitata* and *P. nigritana* parasitizing cocoa trees was identified.]

*Ornelas, J.F., Gándara, E., Vásquez-Aguilar, A.A., Ramírez-Barahona, S., Ortiz-Rodriguez, A.E., González, C., Mejía Saules, M.T. and Ruiz-Sanchez, E. 2016. A mistletoe tale: postglacial invasion of *Psittacanthus schiedeanus* (Loranthaceae) to Mesoamerican cloud forests revealed by molecular data and species distribution modeling. BMC Evolutionary Biology 16: 20. (https://bmcevolbiol.biomedcentral.com/articles/10.1186/s12862-016-0648-6) [ITS and trnLF sequence analyses of 31 populations provided support for the predominant role of isolation and environmental factors in driving genetic differentiation of Mesoamerican *Psittacanthus*.]

Ouyang Yao, Zhang XinHua, Chen YuLu, da Silva, J.A.T. and Ma, G. 2016. Growth, photosynthesis and haustorial development of semiparasitic *Santalum album* L. penetrating into roots of three hosts: a comparative study. Trees: Structure and Function 30(1): 317-328. [Detailed description of the anatomy and development of connections between *S. album* and the 'good' hosts *Dalbergia sissoo* and *Lonicera japonica* and the unsatisfactory host *Aquilaria sinensis*.]

Owk, A.K. and Lagudu, M.N. 2016. Evaluation of antimicrobial activity and phytochemicals in *Olax scandens* Roxb. roots. Pharma Science Monitor 7(2): 232-239. [Confirming high and potentially useful anti-microbial action of *O. scandens* against a range of common pathogens.

Oyatomi, O., Fatokun, C., Boukar, O., Abberton, M. and Ilori, C. 2016. Screening wild *Vigna* species and cowpea (*Vigna unguiculata*) landraces for sources of resistance to *Striga gesnerioides*. In: Maxted, N., Dulloo, M.E. and Ford-Lloyd, B.V. (eds) Enhancing crop genepool use: capturing wild relative and landrace diversity for crop improvement. Wallingford, UK: CABInternational. pp.27-31. [From screening at IITA of 350 accessions of wild *Vigna* belonging to 45 different species, 21, belonging to *V. ambacensis*, *V. davyi*, *V. glabrescens*, *V. marina*, *V. mungo*, *V. oblongifolia*, *V. parkeri*, *V. racemosa*, *V. reticulata*, *V. vexillata* and *V. unguiculata* subsp. *dekindtiana* show potential as sources of genes for resistance to *S. gesnerioides*.

Oyatomi, O.A. and 12 others. 2014. Screening wild *Vigna* species and cowpea (*Vigna unguiculata*) landraces for sources of resistance to *Striga gesnerioides*. International Conference on Enhanced Genepool Utilization - Capturing Wild Relative and Landrace Diversity for Crop Improvement. Cambridge, UK, 16-20 June, 2014. Book of Abstracts: 12. [Among 45 wild *Vigna* species screened, 11 species were found to have resistance in at least some accessions, but none of these are cross-compatible with cowpea.]

Panchen, Z.A. 2016. Arctic plants produce vastly different numbers of flowers in three contrasting years at Lake Hazen, Quttinirpaaq National Park, Ellesmere Island, Nunavut, Canada.Canadian Field-Naturalist 130(1): 56-63. [A study involving *Pedicularis capitata*, suggesting that longer wartm summers with climate change may increase reproductive success, but only if sustained year on year.]

Patel, P.K. 2016. Floristical study on various hosts of two parasitic species belongs to *Cuscuta* genus around the Patan District from Gujarat state, (western India). Lifesciences Leaflets 76: 34-41. [Discussing host range and damage caused by *Cuscuta* spp. 42 host species enumerated for *C. reflexa* and 25 for '*C. chinensis*' (no doubt *C. campestris*).]

Patykowski, J. and Kołodziejek, J. 2016. Changes in antioxidant enzyme activities of European mistletoe (*Viscum album* L. subsp. *album*) leaves as a response to environmental stress caused by pollution of the atmosphere by nitrogen dioxide. Polish Journal of Environmental Studies 25(2): 725-732.

Pérez-Crespo, M.J., Ornelas, J.F., Martén-Rodríguez, S., González-Rodríguez, A. and Lara, C. 2016. Reproductive biology and nectar production of the Mexican endemic *Psittacanthus auriculatus* (Loranthaceae), a hummingbird-pollinated mistletoe. Plant Biology 18(1): 73-83. [Confirming that *P. auriculatus* is self compatible but cross-pollination is normally effected by humming birds or butterflies.]

Perezhogin, Yu. V. and Kurlov, S.I. 2016. (Addition to the flora of the State Nature Reserve "Altyn Dala" (Kazakhstan).) (in Russian) Botanicheskiĭ Zhurnal 101(3): 302-308. [Including *Pedicularis dasystachys*.]

*Pinto-Carrasco, D., Košnar, J., López-González, N., Koutecký, P., Těšitel, J., Rico, E. and Martínez-Ortega, M.M. 2016. Development of 14 microsatellite markers in *Odontites vernus* s.l. (Orobanchaceae) and cross-amplification in related taxa. Applications in Plant Sciences 4(3):1500111, (http://www.bioone.org/loi/apps) [The results indicate the value of the newly developed microsatellites in *O. vernus* and several other species, which will be useful for taxon delimitation and conservation genetics studies.]

Piwowarczyk, R. 2015. Seed micromorphology of central European *Orobanche* and *Phelipanche* (Orobanchaceae) in relation to preferred hosts and systematic implications. Australian Systematic Botany 28(2/3): 124-136. [A detailed electron microscope study of 160 seed samples of 26 *Orobanche* and *Phelipanche* taxa from 54 localities across Europe concluding that the best diagnostic features include type of ornamentation of the periclinal wall, perforation diameter (in pitted sculpture), fibrillar diameter (in fibrillar sculpture) and width of anticlinal walls. Noting that characteristics can be modified according to host.]

Piwowarczyk, R., Carlón, L., Kasin´ska, J., Tofil, S. and Furman´czyk, P. 2016. Micromorphological intraspecific differentiation of nectar guides and landing platform for pollinators in the Iberian parasitic plant *Cistanche phelypæa* (Orobanchaceae). Acta Botanica Gallica 163(1): 47-55. [Confirming differences in the micromorphology of the flowers of *Cistanche phelypæa* which helps to distinguish the subspecies *phelypæa* from ssp.. *lutea*, even in dried specimens.]

Pumariño, L., Sileshi, G.W., Gripenberg, S., Kaartinen, R., Barrios, E., Muchane, M.N., Midega, C. and Jonsson, M. 2015. Effects of agroforestry on pest, disease and weed control: a meta-analysis. Basic and Applied Ecology 16(7): 573-582. [Concluding that agroforestry practices resulted in lower abundances of both parasitic (*Striga*) and non-parasitic weeds, and in higher abundances of natural enemies.]

Qu ZhengYi, Zhang YuWei, Zheng SiWen, Yao ChunLin, Jin YinPing, Zheng PeiHe, Sun ChengHe and Wang YingPing. 2016. A new phenylethanoid glycoside from *Orobanche cernua* Loefling. Natural Product Research 30(8): 948-953. [Isolating a novel phenylethanoid glycoside, 3′-O-methyl isocrenatoside, along with methyl caffeate from the fresh whole plant of *O. cernua*, and confirming significant cytotoxicity against the B16F10 murine melanoma and Lewis lung carcinoma cell lines, respectively.]

Quang Vuong Le, Tennakoon, K.U., Metali, F., Lim, L.B.L. and Bolin, J.F. 2015. Impact of *Cuscuta australis* infection on the photosynthesis of the invasive host, *Mikania micrantha*, under drought condition. Weed Biology and Management 15(4): 138-146. [Showing that the combined effects of *C. australis* parasitism and drought significantly suppressed the photosynthesis of *M. micrantha* via both effects on stomata and on non-stomatal effects.]

Queijeiro-Bolaños, M.E. and Cano-Santana, Z. 2016. Growth of hartweg's pine (*Pinus hartwegii*) parasitized by two dwarf mistletoe species (*Arceuthobium* spp.). Botanical Sciences (Botanical Society of Mexico) 94: 51-62. [Crown spread and dbh of host trees infected by *A. globosum*, *A. vaginatum*, or both was measured. Relative growth rate of trees infected by both was lower than uninfected or infected only by *A. vaginatum*.]

*Rabei, S. and Abdel Khalik K.A. 2012. Conventional keys for *Convolvulaceae* in the flora of Egypt. Flora

Mediterranea 22: 45-62. (http://www.herbmedit.org/flora/22-045.pdf) [Including numerous *Cuscuta* speces.]

*Rahimi, S., Mashhadi, H.R., Banadaky, M.D. and Mesgaran, M.B. 2016. Variation in weed seed fate fed to different Holstein cattle groups.PLoS ONE 11(4):.e0154057. (http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0154057) [Viability of seeds of *C. campestis* reduced to 50% after 65-75 hours in the guts of cattle, depending on whether feedlot, lactating etc.]

Rai, D.K. and Anju Pal. 2015. Comparative evaluation of antifungal activity of *Cuscuta reflexa* (morning glory) Convolvulaceae. World Journal of Pharmaceutical Research 4(11): 1341-1347. [Reporting useful activity of *C. relfexa* against *Candida albicans* and *Aspergillus fumigatus*.]

Rai, D.K., Krishan Pal and Anju Pal. 2015. Molecular characterization of plants of *Cuscuta reflexa* accessions using the random amplified polymorphic DNA (RAPD) molecular marker. International Journal of Pharmaceutical Research and Bio-Science 4(5): 271-279. [Concluding from RAPD analysis the existence of two genetically distinct clusters within 6 populations of *C. reflexa* across northern India,]

Rai, D.K., Vibhu Sharma, Anju Pal, Krishan Pal. 2015. Antibacterial activity of *Cuscuta reflexa* (Conovolvulaceae) against human pathogenic microbial strains. World Journal of Pharmaceutical Research 4(10): 1251-1257. [Reporting antibacterial activity of the 'leaves' of *Cuscuta reflexa*, but abstract not clear.]

Rajab, E.S., Abood, K.W. and Hassn, Z.Y.M. 2016. Purification and identification of flavonoids extracted from *Loranthus eur(o)paeus* fruits. Journal of Biotechnology Research Center 10(1): 10-15. [Describing flavonoids isolated from *L. europaeus* apparently the source of traditional medicines in Iraq.]

Rajasekaran Parthasarathy and Nagarajan Sulochana. 2016. Simple synthesis of sandalwood odorant *rac*-Osyrol® and its ethoxy homologue. Flavour and Fragrance Journal 31(2): 120-123.

Rajkumar, S., Selvamani, P., Latha, S. and Dhivya, P.S. 2015. Role of medicinal plants in management of Alzheimer's and neurodegenerative disease - review. World Journal of Pharmaceutical Research 4(11): 352-366. [*Cistanche tubulosa* among a large number of species included in this review but no detail in abstract.]

Rakesh Kumar, Nishat Anjum, Tripathi, Y.C. 2015. Phytochemistry and pharmacology of *Santalum album* L.: a review. World Journal of Pharmaceutical Research 4(10): 1842-1876. [An in-depth review of the pharmacological uses of *S. album*, ranging from antibacterial to anticancer. And noting that no significant toxicity has been indicated by sandalwood oil and its individual constituents.]

Rana, K.G., Pokar, R.R., Jayswal, S.V., Joshi, P.N., Nagar, P.S. and Singh, A.P. 2015. Rediscovery of *Olax nana* (Olacaceae) for Gujarat state. Journal of Economic and Taxonomic Botany 39(2): 297-299. [Rediscovery after a century.]

Rao, B.B. and Shashanka, V. 2015. In-vivo studies on anti rheumatoid activity of Indian medicinal plant. World Journal of Pharmaceutical Research 4(11): 1460-1471. [Reporting some benefit from treatment with ethanolic extract of *Cuscuta reflexa*.]

Rathore, M.S. and Suhalka, D. 2015. Ethnobotany and chemical nature of herbal plants found in tribal area of Rajasthan. Journal of Global Pharma Technology 7(12): 1-4. [Including reference to'*Cuscuta chinensis*' (almost certainly *C. campestris*).]

Ratliff, W.S., Walker, E.S. and Levy, F. 2015. Demographics and *Cronartium appalachianum* rust disease assessments in three Tennessee populations of *Buckleya distichophylla* (Nutt.) Torr. (Santalaceae). Castanea 80(4): 243-252. [Recording variations in male:female sex ratio, vigour and rust infection between three populations of *B. distichophylla*. Tree species nearest to each population were *Tsuga canadensis*, *T. caroliana* and *Pinus virginiana*, primary host of the rust, leading to greater infection of that population.]

Rezig, A.A.M., Abdelhalim, T.S., Hassan, M.M., Abusin, R.M.A., Eltayeb, H.A., Samejima, H. and Babiker, A.G.T. 2016. Influence of cowpea root powder and exudates on germination and radicle length in *Striga hermothica*, sorghum and pearl millet strains.African Journal of Agricultural Research 11(24): 2082-2091. [Powdered roots of cowpea appear to have comparable stimulant activity to exudates from live roots but not altogether clear that this technique has advantage over other procedures for assessing trap-crop potential of different cowpea varieties.]

Robles, A., Raz, L. and Marquínez, X. 2016. (Floral anatomy of *Peristethium leptostachyum* (Loranthaceae)) (in Spanish) Revista de Biología Tropical 64: 357-368. [Description of the inflorescence and floral morphoanatomy of *P. leptostachyum*, detailing the structure of the androecium and gynoecium and the processes of microgametogenesis and megagametogenesis. English translation available on Parasitic Plant Connection: http://parasiticplants.siu.edu/Loranthaceae/Robles2016English.pdf]

Rocha, D., Ashokan, P.K., Santhoshkumar, A.V., Anoop, E.V. and Sureshkumar, P. 2015 Anatomy and functional status of haustoria in field grown sandalwood tree (*Santalum album* L.). Forest Research: Open Access 4(3): 148. [While maximum connections were formed with the roots of *Casuarina* sp. planted in the same 'pit', haustoria were also formed with other species, including grasses up to 3 m from the *S. album*]

Rodenburg, J., Cissoko, M., Dieng, I., Kayeke, J. and Bastiaans, L. 2016. Rice yields under *Rhamphicarpa fistulosa*-infested field conditions, and variety selection

criteria for resistance and tolerance. Field Crops Research 194: 21-30. [Incomparisons of 64 rice varieties, 13 showed high resistance (*R. fistulosa* remaining small, not apparently attached to crop) 16 with moderate tolerance and 2 with high tolerance. For farmers in *R. fistulosa*-endemic areas the most promising varieties are probably NERICA-L-40 and -31, as they combine good yields under infested conditions with low levels of parasite infection.]

Rodenburg, J. and 13 others. 2015. An in-depth appraisal of a range of projects relating to control of parasitic weeds, *Striga asiatica, S. hermonthica* and *Rhamphicarpa fistulosa* in rice in Africa. Noting the contributions of poor soil fertility and water management and farmers' lack of inputs and understanding of the problems, also a lack of extension agents, or of their adequate training and equipment. Merits and challenges of an integrated multi-stakeholder and multi-level research project are discussed.]

Rodrigues, A. and Stefanovic´, S. 2016. Present-day genetic structure of the holoparasite *Conopholis americana* (Orobanchaceae) in eastern North America and the location of its refugia during the last glacial cycle. International Journal of Plant Sciences 177(2): 132-144. [Microsatellite markers were used to infer the presence of two glacial refugia, one in Florida/Alabama and one in the Appalachian Mts.]

Ruraż, K. 2015. Rare vascular plant species of xerothermic grasslands from the Sandomierz Upland. Fragmenta Floristica et Geobotanica Polonica 22(1): 109-112. [Recording new localities for the rare *Orobanche kochii* in this part of Poland.]

Sabroe, R.A., Holden, C R and; Gawkrodger, D.J. 2016. Contact allergy to essential oils cannot always be predicted from allergy to fragrance markers in the baseline series. Contact Dermatitis 74(1): 236-241. [Noting some occasional allergy to oil from *Santalum album*, not always detected when testing oil mixtures.]

Saengprakai, J., Sikkhamondhol, C., Ruengrit, N. and Iamtham, S. 2015. Mutagenic activity of Nua powder extracts by Ames test. Journal of ISSAAS (International Society for Southeast Asian Agricultural Sciences) 21(2): 56-66. [Some components of Nua powder, used for flavouring Thai food show some low mutagenicity, but *Melientha suavis* (Opiliaceae) does not.)

Salas-Araiza, M.D., Lara-Alvarez, L. and Martínez-Jaime, O.A. 2016. First record of *Zamagiria* spp. on seeds of *Psittacanthus calyculatus* in Mexico. Southwestern Entomologist 41(1): 297-300. [Reporting this moth on *P. calyculatus*.]

*Samejima, H., Babiker, A.G., Mustafa' A. and Sugimoto, Y. 2016. Identification of *Striga hermonthica*-resistant uland rice varieties in Sudan and their resistance phenotypes. Frontiers in Plant Science May 13, 2016. http://journal.frontiersin.org/article/10.3389/fpls.2016.00634/full?utm_source=newsletter&utm_medium=email&utm_campaign=Plant_Science-w27-2016) [In a range of tests in laboratory and field, 27 rice varieties were studied. Varieties Umgar and NERICA5 were consistently the most resistant, with Nerica13 showing moderate resistance. NERICA5 shows mainly post-attachment resistance while Umgar also has lower stimulant exudation.]

*Samigullin, T.H., Logacheva, M.D., Penin, A.A. and Vallejo-Roman, C.M. 2016. Complete plastid genome of the recent holoparasite *Lathraea squamaria* reveals earliest stages of plastome reduction in Orobanchaceae.PLoS ONE 11(3): 0150718. (http://journals.plos.org/plosone/article?id=10.1371%2Fjournal.pone.0150718) [The complete plastid genome of *Lathraea squamaria* indicates that transition to holoparasitimsm in *Lanthraea* lineage occurred relatively recently, whereas the holoparasitic lineage Orobancheae is about two times older.]

Sarmento, J.D.A., de Morais, P.L.. de Souza, F.I,; da Costa, L.R. and Melo, N.J.deA. 2015. Bioactive compounds and antioxidant activity of *Ximenia americana* coming from different collection sites. Archivos Latinoamericanos de Nutrición, 65(4): 263-270. [Confirming that the edible fraction of the fruit of *X. americana* contains high levels of vitamin C, yellow flavonoids, total extractable polyphenols and antioxidant activity.]

Sato, H.A. and Gonzalez, A.M. 2016. Floral development and anatomy of pistillate flowers of *Lophophytum* (Balanophoraceae), with special reference to the embryo sac inversion. Flora (Jena) 219: 35-47. [Light and scanning electron microscopy were used to examine gynoecium, ovule, and embryo-sac development in two species *Lophophytum*. The genus has two ategmic ovules inserted on the central placental column. The embryo-sac is the Adoxa type, tends to take a "J" shape, and there is evidence of embryo-sac inversion.]

Sawant, R.J. 2015. Plants used for bone fracture by indigenous folklore of Toranmal Plateu, Nandurbar District, Maharashtra, India. Advances in Bio Research, 6(4): 101-103. [*Dendrophthoe falcata* among species used on bone fractures.]

Scalon M.C., Rossatto, D.R., Domingos, F.M.C.B. and Franco, A.C. 2016. Leaf morphophysiology of a Neotropical mistletoe is shaped by seasonal patterns of host leaf phenology. Oecologia 180(1): 1103-1112. [Studies of *Passovia ovata* (= *Phthirusa ovata*) parasitizing evergreen *Miconia albicans* and deciduous *Byrsonima verbascifolia* show varying water use efficiency ratio of photosynthetic rate to transpirational water loss; also stonatal density and size, indicating morphophysiological differences in the same mistletoe species parasitizing hosts of different phenological groups.]

***Scheer, R. Alban, S., Becker, H., Beer, A.M., Blaschek, W., Kreis, W., Matthes, H., Schilcher, H., Spahn, G. and Stange, R. 2015 Mistletoe in Tumour Therapy.**

Basic Research and Clinical Practice. 6th Mistletoe Symposium, Nonnweiler-Otzenhausen, Germany, 12-14 November 2015. Phytomedicine 22(Suppl.1): S1-S30. (http://www.sciencedirect.com/science/journal/09447113/22/supp/S1) [This url leads to the list of papers and provides links to the PDFs of each. See also item above.]

Segneanu, A.E., Damian, D., Hulka, I., Grozescu, I. and Salifoglou, A. 2016. A simple and rapid method for calixarene-based selective extraction of bioactive molecules from natural products. Amino Acids 48(3): 849-858. [Promoting calixerane as an aid to the selective extraction of active compounds from plant extracts such as *Viscum album*.]

Şestacova, T., Giscă, I., Cucereavîi, A., Tabără, O., Port, A. and Duca, M. 2015. Expression of some antioxidant genes in sunflower infected with broomrape. Analele Ştiinţifice ale Universităţii 'Al I Cuza' din Iaşi. (Serie Nouă) Secţiunea II a. Genetică şi Biologie Moleculară 16(3): 97-106. [Expression levels of ROS-scavenging genes (*MnSODI, APX3 and AOX1A*) in leaves of seven sunflower genotypes infected with three *Orobanche cumana* Wallr. populations were assayed in plants with/without broomrape aerial shoots and control group. *AOX1A* was the most responsive gene, especially when infection was produced by population from Anenii Noi.

Shahgholi, H., Makarian, H.,. Shokati, B., Talaei, G.H. and Asgharipour, M.R. 2015. Do tillage methods affect germination and species similarity of soil weed seeds bank? Acta Technologica Agriculturae 18(4): 97-101. [Curiously studying the effects of tillage in a laboratory experiment and concluding that tillage twice per year resulted in highest numbers of *Cuscuta campetsris* in the seed bank. Curiously unclear.]

Sharawy, S. and Karakish, E. 2016. Taxonomic relationships of some species of *Orobanche* L.: evidence from RAPD-PCR and ISSR markers. Pakistan Journal of Botany 47(2): 437-452. [The studied taxa were separated in two groups, the first comprised the 5 species of section *Trionychon* (*O. purpurea*, *O. lavandulacea*, *O. ramosa*, *O. mutelii* and *O. aegyptiaca*) and the second comprised the 4 species of section *Orobanche* (*O. cernua, O. crenata*, *O. minor* and *O. pubescens*). High similarity was detected between *O. pubescens* and *O. minor* and the results confirmed the close relationship between *O. ramosa* and *O. mutelii*.]

Shaw, M.R. Achterberg, C.van and Mendel, H. 2016. A rearing record of *Triaspis podlussanyi* Papp (Hymenoptera: Braconidae, Brachistinae), new to Britain.Entomologist's Monthly Magazine 152(2): 137-138. [Recording *T. podlussanyi* as a parasitoid of the ptinid beetle *Gastrallus knizeki* developing in fruits of *Viscum album* in Windsor Forest, England. Only females reared, no males.]

Shettar, A.K., Katrahalli Kotresha, Kaliwal, B.B. and Vedamurthy, A.B. 2015. Evaluation of *in vitro* antioxidant and anti-inflammatory activities of *Ximenia americana* extracts. Asian Pacific Journal of Tropical Disease 5(11): 918-923. [Finding that the aqueous extract of *X. americana* exhibited high antioxidant activity while the methanol extract exhibited high anti-inflammatory activity. Ans suggesting that purification, characterization and structural elucidation of phenolic compounds in both extracts may help in the development of new phytopharmaceuticals.]

Shi Ping, Zhu Wei and Li XiaoMing. 2015. *Cynomorium songaricum* polysaccharide improves osteoporosis in ovariectomized rats. Journal of Third Military Medical University 37(23): 2360-2363. [Concluding that *C. songaricum* exerts potential antiosteoporotic effects on OVX induced postmenopausal osteoporotic rats.]

Siegenthaler, A., Welch, B., Pangala, S.R., Peacock, M. and Gauci, V. 2016. Technical note: semi-rigid chambers for methane gas flux measurements on tree stems. Biogeosciences 13(4): 1197-1207. [The study involved *Heisteria concinna* (Olacaceae) .]

Simirgiotis, M.J., Quispe, C., Areche, C. and Sepúlveda, B. 2016. Phenolic compounds in Chilean mistletoe (Quintral, *Tristerix tetrandus*) analyzed by UHPLC-Q/ORBITRAP/MS/MS and its antioxidant properties. Molecules 21(3): 245. [Hybrid ultra-HPLC hyphenated with Orbitrap mass analysis used to identify 6 anthocyanins, mainly the 3-*O*-glycosides of delphinidin and cyanidin. Also several phenolic acids (including feruloylquinic acid, feruloyl glucose, chlorogenic acid) and flavonols (luteolin, quercetin, apigenin, isorhamnetin and glycoside derivatives). High antioxidant activity was recorded.]

Singer, M.C. 2015. Adaptive and maladaptive consequences of "matching habitat choice": lessons from a rapidly-evolving butterfly metapopulation. Evolutionary Ecology 29(6): 905-925. [Involving study of the butterfly *Euphydryas editha* feeding on a ‘well-defended’ host, *Pedicularis* (unspecified). Abstract not clear.]

Singh, C.K., Raj, S.R., Jaiswal, P.S., Patil, V.R., Punwar, B.S., Chavda, J.C. and Subhash, N. 2016. Effect of plant growth regulators on *in vitro* plant regeneration of sandalwood (*Santalum album* L.) via organogenesis.Agroforestry Systems 90(2): 281-288.

Singh, L.J. 2015. *Scurrula paramjitii* L. J. Singh: A new species (Loranthaceae) from the Andaman and Nicobar Islands, India. Taiwania 60: 123-128. [Related to *S. parasitica*, this is the second species endemic to these islands.]

Song HyukHwan, Ryu HyungWon, Kim HuiSeong, Kim ChanSoo, Hyun HwaJa, Lee HyeongKyu and Oh SeiRyang. 2016. A metabolomics approach to identify factors influencing their activity relative to oleanolic acid contents in Korean mistletoe types. Journal of Functional Foods 22: 64-72. [Relating to *Viscum album* ssp. *coloratum*.]

Song QingQing, Li Jun, Liu Xiao, Zhang Yuan, Guo LiPing. Jiang Yong, Song YueLin and Tu PengFei.2016. Home-made online hyphenation of pressurized liquid extraction, turbulent flow chromatography, and high performance liquid chromatography, *Cistanche deserticola* as a case study. Journal of Chromatography, A 1438: 189-197. [The technique described is claimed to provide an economical alternative to existing methods for simultaneous determination of eight primary phenylethanoid glycosides in extracts of *C. deserticola*.]

Song YueLin;,Song QingQing, Li Jun, Zhang Na, Zhao YunFang, Liu Xiao, Jiang Yong and Tu PengFei 2016. An integrated strategy to quantitatively differentiate chemome between *Cistanche deserticola* and *C. tubulosa* using high performance liquid chromatography-hybrid triple quadrupole-linear ion trap mass spectrometry. Journal of Chromatography, A 1429: 238-247.

Srdic-Rajic, T., Tisma-Miletic, N., Cavic, M., Kanjer, K., Savikin, K., Galun, D., Konic-Ristic, A. and Zoranovic, T. 2016. Sensitization of K562 leukemia cells to doxorubicin by the *Viscum album* extract. Phytotherapy Research 30(3): 485-495. [Results indicate that *V. album* extract increases anti-leukemic effectiveness of doxorubicin against resistant K562 cells by preventing G2/M arrest and inducing apoptosis.]

Sreejith, K.A., Sreekumar, V.B., Nirmesh, T.K. and Suganthasakthivel, R. 2016. A new population of *Santalum album* L. (sandalwood) from Agali forest range, Kerala, India.Current Science 110(2): 148-150.

Srivastava, P.L., Daramwar, P.P., Ramakrishnan Krithika, Avinash Pandreka, Shankar, S.S. and Hirekodathakallu, V. 2015. Functional characterization of novel sesquiterpene synthases from Indian sandalwood, *Santalum album*. Scientific Reports 5: 10095. [Describing the cloning and functional characterization of five genes, which encode the synthases involved in creation of the characteristic sesquiterpenes in *S. album* with a view to *in vivo* production of sandalwood sesquiterpenes in genetically tractable heterologous systems.]

Start, A.N. 2015. The mistletoe flora of southern Western Australia, with a particular reference to host relationships and fire. Australian Journal of Botany 63(8): 636-646. [Reporting conclusions from a 30-year study, involving 19 Loranthaceae and 2 Santalaceae. On 153 host species, including many Leguminosae, but also *Eucalyptus* and *Melaleuca* spp. Describing the role of fire in their distribution and survival.]

*Striberny, B. and Krause, K. 2015. Cell wall glycoproteins at interaction sites between parasitic giant dodder (*Cuscuta reflexa*) and its host *Pelargonium zonale*. Plant Signaling and Behavior 10(11): e1086858. (DOI 10.1080/15592324.2015.1086858) [Describing distinct changes in cell wall glycoprotein composition in *Cuscuta*-infected *Pelargonium zonale*.]

Sui XiaoLin, Kuss, P., Li WenJun, Yang MeiQing, Guan KaiYun and Li AiRong. 2016. Identity and distribution of weedy *Pedicularis kansuensis* Maxim. (Orobanchaceae) in Tianshan Mountains of Xinjiang: morphological, anatomical and molecular evidence. Journal of Arid Land 8(3): 453-461. [Confirming that the predominant weedy *Pedicularis* sp. in this region is *P. kansuensis* rather than *P.verticillata* as previously assumed.]

*Sun ShiGuo and Huang ShuangQuan 2015. Rainwater in cupulate bracts repels seed herbivores in a bumblebee-pollinated subalpine flower. AoB Plants 7: plv019. (http://aobpla.oxfordjournals.org/content/7/plv019.full) [The bracts of *Pedicularis rex* fill with water when it rains. Draining these bracts did not affect pollinators or nectar robbers but did allow more seed predation.]

Svobodová, Š., Košnar, J., Koutecký, P., Štech, M. and Wesselingh, R. 2016. Microsatellite analysis of four similar *Euphrasia* (Orobanchaceae) species changes the traditional view of this group. Plant Ecology and Evolution 49(1): 45-58. ['There are three well supported groups in the studied dataset of *Euphrasia* species. Delimitation of *E. stricta* and *E. nemorosa* is in concert with traditional views, but delimitation of the third group changes the traditional distinction of two mostly early-flowering species in the study area'.]

Světlíková, P., Blažek, P., Mühlsteinová, R., Těšitel, J. and Wesselingh, R. 2016. Tracing nitrogen flow in a root-hemiparasitic association by foliar stable-isotope labelling. Plant Ecology and Evolution 149(1): 39-44. [Confirming the effectiveness of brushing leaves with ^{15}N-urea as a simple and precise labelling method, which can be applied in greenhouse and field experiments to examine the nitrogen flows between root hemiparasites such as *Rhinanthus major* and host such as wheat.]

Taylor, A. and Burns, K. 2016. Radial distributions of air plants: a comparison between epiphytes and mistletoes. Ecology 97(4): 819-825. [Interestingly, concluding that mistletoes (unspecified, presumably various, in New Zealand) oriented northwest, parallel to gradients of higher light intensity, temperature, and lower humidity, while non-parasitic epiphytes oriented away from the sun to the southeast.]

Teixeira, M.P., Cruz, L., Franco, J.L., Vieira, R.B. and Stefenon, V.M. 2016. Ethnobotany and antioxidant evaluation of commercialized medicinal plants from the Brazilian Pampa. Acta Botanica Brasilica 30(1): 47-59. [Concluding that *Struthanthus flexicaulis* is a very promising source of antioxidant activity..]

Terzic´, S. and 14 others. 2014. Screening *Helianthus* species for resistance to diseases in field conditions [Conference poster]. International Conference on Enhanced Genepool Utilization - Capturing Wild Relative and Landrace Diversity for Crop Improvement. Cambridge, UK, 16-20 June, 2014. Book of Abstracts 90. [A brief review incidentally noting the occurrence of *Orobanche cumana* in Serbia 'in traces'.]

Těšitel, J. 2016. Functional biology of parasitic plants: a review. Plant Ecology and Evolution 149: 5-20. [Parasitic

plants are functionally classified into root hemiparasites, root holoparasites, stem parasites and endophytic parasites. Evolving from root hemiparasites, advanced parasitic plants are hypothesized to have been releasd from ecological constraints with increasing ability to acquire resources from the host and increasing host specificity. Hemiparasites are more speciose (by one order of magnitude) than holoparasites and thus are proposed to have more evolutionary stability.]

Tjiurutue, M.C., Sandler, H.A., Kersch-Becker, M.F., Theis, N. and Adler, L.A. 2016. Cranberry resistance to dodder parasitism: induced chemical defenses and behavior of a parasitic plant. Journal of Chemical Ecology 42(2): 95-106. [Five cranberry cultivars differed little in their susceptibility to unspecified *Cuscuta* (presumably *C. gronovii*) but in all cases infection induced production of salicylic acid which may incluence other organisms.]

Toh, S., Holbrook-Smith, D., Stogios, P.J., Onopriyenko, O., Lumba, S., Tsuchiya, Y., Savchenko, A. and McCourt, P. 2015. Structure-function analysis identifies highly sensitive strigolactone receptors in *Striga*. Science (Washington) 350(6257): 203-207. [The function of 11 strigolactone receptors was characterized from the parasitic plant *Striga hermonthica* using chemical and structural biology. A clade of polyspecific receptors, including one that is sensitive to picomolar concentrations of strigolactone was identified. A crystal structure of a highly sensitive strigolactone receptor from *Striga* revealed a larger binding pocket than that of the *Arabidopsis* receptor, which could explain the increased range of strigolactone sensitivity. By expressing strigolactone receptors in Arabidopsis, a bioassay was developed that can be used to identify chemicals and crops with altered strigolactone levels.]

Toshkova, T. and Baeva, G. 2014. Control in tomato agroecosystems. Journal of Balkan Ecology 17(1): 50-54. [Recording useful control of unspecified *Orobanche* spp. in tomato with combinations of metham-sodium or dazomet with trifluralin or maleic hydrazide.]

*Tóth, P., Undas, A.K., Verstappen, F. and Bouwmeester, H. 2016. Floral volatiles in parasitic plants of the Orobanchaceae. ecological and taxonomic implications. 7: March p.312 (http://journal.frontiersin.org/article/10.3389/fpls.2016.00312/full) [Over 130 volatile organic compounds were collected from from flowers of over 25 Orobanchaceae using dynamic headspace sampling and analyzed using GC-MS. Principal components analysis showed groupings consistent with recognized species.]

Tsuchiya, Y., Yoshimura, M., Sato, Y., Kuwata, K., Toh ShiGeo, Holbrook-Smith, D., Zhang Hua, McCourt, P., Itami, K., Kinoshita, T. and Hagihara, S. 2015. Probing strigolactone receptors in *Striga hermonthica* with fluorescence. Science (Washington) 349(6250): 864-868. [A fluorescence turn-on probe (YLG) was developed, which activates strigolactone signaling and illuminates signal perception by the strigolactone receptors. Live imaging using YLGs revealed that a dynamic wavelike propagation of strigolactone perception wakes up *Striga* seeds. ShHTLs were shown to be function as the strigolactone receptors mediating seed germination in *Striga*.

Turner, R.C. and Midgley, J.J. 2016, Sunbird-pollination in the geoflorous species *Hyobanche sanguinea* (Orobanchaceae) and *Lachenalia luteola* (Hyacinthaceae). South African Journal of Botany 102: 186-189. [Observing that *H. sanguinea* is pollinated by sun-birds perching on the ground.]

Turner, R.J. and Smith, P. 2016. Mistletoes increasing in eucalypt forest near Eden, New South Wales. Australian Journal of Botany 64(2): 171-179. [Noting an increase in mistletoes, chiefly *Amyema pendula* and *Muellerina eucalyptoides* inside eucalypt forests between 1990 and 2006. Densities are not greatly affected by prescribed light burning but are probably influenced by occasional severe wild fires.]

Tuvaanjav, S., Han ShuQin, Komata, M., Ma ChunJie, Kanamoto, T., Nakashima, H. and Yoshida, T. 2016. Isolation and antiviral activity of water-soluble *Cynomorium songaricum* Rupr. polysaccharides. Journal of Asian Natural Products Research 18(2): 2, 159-171. [Isolating two new polysaccharides from *C. songaricum* with high activity against HIV infection of MT-4 cells.]

Tyszczuk-Rotko, K., Doman´ska, K., Sadok, I., Wójciak-Kosior, M. and Sowa, I. 2015. Voltammetric procedure for the determination of oleanolic and ursolic acids in plant extracts. Analytical Methods 7(22): 9435-9441. [quantification of oleanolic acid in extracts from *Viscum album* by square-wave voltammetric measurement 'overlapped' with that by HPLC.]

Uchôa, V. T,; Sousa, C.M.M., Carvalho, A.A., Sant'Ana, A.E.G. and Chaves, M.H. 2016. Free radical scavenging ability of *Ximenia americana* L. stem bark and leaf extracts. Journal of Applied Pharmaceutical Science 6(2): 91-96. [Showing that extracts of stem bark and leaves of *X. americana* contained epicatechin and quercetin, respectively, both proving highly active as antioxidants.]

Uribe-Convers, S. and Tank, D.C. 2015. Shifts in diversification rates linked to biogeographic movement into new areas: an example of a recent radiation in the Andes. American Journal of Botany 102(11): 1854-1869. [A phylogeny of *Bartsia* was used to infer divergence times and elucidate biogeographic history. Increased diversification of the South American clade corresponds to biogeographic movement into the New World which happened when the Andes were forming an alpine environment.]

Urso, V., Signorini, M.A., Tonini, M. and Bruschi, P. 2016. Wild medicinal and food plants used by communities living in *Mopane* woodlands of southern Angola: results of an ethnobotanical field investigation. Journal of

Ethnopharmacology 177: 126-139. [Including refderence to *Ximenia americana* but no detail in abstract.]

Valkova, D., Nenova, N., Encheva, V. and Encheva, J. 2015. Creation of lines restorers of fertility originating from interspecific hybrids. Agrarni Nauki 7(18): 75-79. [New resatorer lines created between cultivated sunflower and wild annual species *Helianthus annuus*, *H. petiolaris*, *H. debilis* and *H. neglectus*, with resistancc to *Orobanche cumana*.]

Van Elden, S., Miranda, N.A.F., Perissinotto, R. and Adams, J.B. 2015. Plant selection and grazing activity of the invasive snail *Theba pisana* in coastal Algoa Bay, South Africa.African Zoology 50(3): 227-231. [Noting that 5 species frequently grazed by *T. pisana* include *Osyris compressa* and *Cynanchium obtusifolium*.]

*van Zeijl, A., Liu Wei, Xiao TingTing, Kohlen, W., Yang WeiCai, Bisseling, T. and Geurts, R. 2015. The strigolactone biosynthesis gene *DWARF27* is co-opted in rhizobium symbiosis. BMC Plant Biology 15: 260. (http://bmcplantbiol.biomedcentral.com/articles/10.1186/s12870-015-0651-x) [It is shown that the phosphate-starvation responsive strigolactone biosynthesis gene *MtD27* is also rapidly induced by rhizobium lipo-chitooligosaccharide signals in an *MtNSP1* and *MtNSP2*-dependent manner. Additionally, it is shown that MtD27 is co-expressed with *MtCCD7* and *MtCCD8* in nodule primordia and in the infection zone of mature nodules.]

Varzaru, I., Untea, A.E. and Van, I. 2015. Determination of bioactive compounds with benefic potential on health in several medicinal plants. Romanian Biotechnological Letters 20(5): 10773-10783. [Noting the use of *Euphrasia rostkoviana* for eye disorders, associated with its higher than average content of lutein and zeaxanthin, and of vitamin E.]

Vasundhara, M., Thara, B.S., Radhika, B., Ashwini Jayaram and Priyanka, R. 2015. Assessment of Indian Sandal wood (*Santalum album* L.,) seeds for seed oil production and fatty acid methyl esters. World Journal of Pharmaceutical Research 4(11): 1416-1425. [Reporting the presence in *S. album* seeds of the fatty acid xymemnic acid, an unusual acetylenic fatty acid with many reported therapeutic values.]

*Velasco, L., Pérez-Vich, B. and Fernández-Martínez, J.M. 2016 Research on resistance to sunflower broomrape: an integrated vision. OCL - Oilseeds and Fats, Crops and Lipids 23(2): D203. (http://www.ocl-journal.org/articles/ocl/full_html/2016/02/ocl160002-s/ocl160002-s.html) [A general review of the problems of breeding sunflower varieties resistant to *Orobanche cumana* and concluding that most important is not relying only on single dominant genes, but following instead pyramiding strategies. These should give priority to combining complementary mechanisms of resistance under both qualitative (vertical) and quantitative (horizontal) genetic control.]

Venditti, A., Frezza, C., Serafini, M. and Bianco, A. 2016. Iridoids and phenylethanoid from *Pedicularis kerneri* Dalla Torre growing in Dolomites, Italy. Natural Product Research 30(3): 327-331. [Describing the occurrence of 10 compounds in *P. kerneri*.]

Venditti, A., Frezza, C., Sciubba, F., Foddai, S., Serafini, M., Nicoletti, M. and Bianco, A. 2016. Secoiridoids and other chemotaxonomically relevant compounds in *Pedicularis*: phytochemical analysis and comparison of *Pedicularis rostratocapitata* Crantz and *Pedicularis verticillata* L. from Dolomites. Natural Product Research 30(15): 1698-1705. [The exclusive presence of 8-epiloganic acid (13), campneoside II, cistantubuloside C1, ligustroside and excelside B in *P. rostratocapitata*, and angoroside A, cistantubuloside B1 and wiedemannioside C in *P. verticillata* could be considered specific markers for these two species.]

*Veste, M., Todt, H. and Breckle, S.W. 2015. Influence of halophytic hosts on their parasites-the case of *Plicosepalus acaciae*. AoB Plants 7: plu084. (http://aobpla.oxfordjournals.org/content/7/plu084.full) [*P. acaciae* grows on both halophytic and non-halophytic hosts in Israel. On halophytic hosts, including *Tamarix* spp. the leaves become succulent with up to 3 times the water content and the leaf volume increased up to 5 times. It can be classified as a facultative eu-halophyte, which increases its halo-succulence according to the host.]

Vittorazzi, C., Endringer, D.C., de Andrade, T.U., Scherer, R. and Fronza, M. 2016. Antioxidant, antimicrobial and wound healing properties of *Struthanthus vulgaris*. Pharmaceutical Biology 54(2): 331-337. [Confirming antioxidant and antibacterial activity in *S. vulgaris* which, together with strong ability to stimulate proliferation and migration of fibroblasts, provides support for its traditional use in Brazil to bathe wounds.]

Vugin, A.F., Bassols, G.B. and Varela, B.G. 2015. (Anatomical changes in epidermis of infected leaves of *Phoradendron bathyoryctum* Eichler (Viscaceae).) (in Spanish) Dominguezia 31(2): 17-24. [Describing the symptoms on the leaves of *P. bathyoryctum* caused by an unidentified pathogen. Incidentally noting that *P. bathyoryctom* grows on a number of host trees and is used traditionally to reduce blood-pressure.]

*Walker, R.F., Swim, S.L., Fecko, R.M., Johnson, D.W. and Miller, W.W. 2015. Bark beetle demography in Sierra Nevada mixed conifer: variability and influencing factors. Forest Research: Open Access 4(3) 147. (doi:10.4172/2168-9776.1000147) [Suggesting some positive correlation between bark beetle infestations and infection by mistletoes including *Arceuthobium campylopodum*, *A. californicum*, *A. abietinum* and *Phoradendron libocedri*.]

Wang FengXia, Liu Qin, Wang Wei, Li Xibo, and Zhang Ji. 2016. A polysaccharide isolated from *Cynomorium songaricum* Rupr. protects PC12 cells against H2O2-

induced injury. International Journal of Biological Macromolecules 87: 222-228.

Wang HongJuan, Li WeiTao, Liu YaNan, Yang FuSheng and Wang XiaoQuan. 2015. Range-wide multilocus phylogenetic analyses of *Pedicularis* sect. *Cyathophora* (Orobanchaceae): implications for species delimitation and speciation. Taxon 64(5): 959-974. [Three low-copy nuclear and two chloroplast genes were used to infer a phylogeny of this Section. Results suggest some species reassignments and molecular dating suggests the uplift of the Qinghai-Tibet Plateau played an important role in speciation in this Section.]

Wang Qing, Zhang Yuan, Chen Jian, Ranjitkar, S. and Shen LiXin. 2015. (Major factors affecting the distribution of *Viscum articulatum* Burm in an ancient cultivated tea plantation.) (in Chinese) Journal of Beijing Forestry University 37(10): 117-124. [Assessing the effects of a wide range of factors on the distribution of *V. articulatum* which affects up to 40% of trees in this plantation.in Yunnan, China.]

Wang, S., Lu, J., Kang, L., Xu, D., Zhang, S., Sun, S. and Wang, J. 2016. First report of *Neofusicoccum parvum* as causal agent of wilting and stem rot of *Santalum album* in Guangdong, China. Plant Disease 100(3): 651,

Wang Tian, Chen Chen, Yang Man, Deng BaiWan, Kirby, G.M. and Zhang XiaoYing. 2016. *Cistanche tubulosa* ethanol extract mediates rat sex hormone levels by induction of testicular steroidgenic enzymes. Pharmaceutical Biology 54(3): 481-487. [Confirming over 2-fold increase in sperm count and increases in progesterone and testosterone in rats by *C. tubulosa* apparently mediated by induction of testicular steroidogenic enzymes.]

Wang XiaoLi, Wang Fan, Jing YanJun, Wang YongGang, Lin Peng and Yang Lin. 2015. Application of orthogonal design to optimize extraction of polysaccharide from *Cynomorium songaricum* Rupr (Cynomoriaceae).Tropical Journal of Pharmaceutical Research 14(7): 1175-1181. [Investigating optimal conditions for ultra-sonic extraction of polysaccharides from *C. songaricum*.]

*Wang YueHua, Xuan ZhaoHong, Tian Shuo and Du GuanHua 2015. Echinacoside protects against 6-hydroxydopamine-induced mitochondrial dysfunction and inflammatory responses in PC12 cells via reducing ROS production. Evidence-based Complementary and Alternative Medicine 2015: Article ID 189239. (http://www.hindawi.com/journals/ecam/2015/189239/) [Confirming that treatment with echinacoside (from *Cistanche salsa*) significantly attenuated changes induced by 6-hydroxydopamine and the associated inflammatory responses, thus of potential value in treatment of Parkinson's Disease.]

Wazis, C.H., Timothy, S.Y., Yesufu, H.B., Mashi, J.S. and Kida, M.Y. 2015. Evaluation of antinociceptive activity of ethanol whole plant extract of *Viscum album* L. in rats. Journal of Pharmaceutical and Scientific Innovation (JPSI) 4(6): 289-294. [The ethanol whole plant extract of *V. album* was found to be relatively non-toxic and contain active constituents which might be responsible for its observed antinociceptive activity. Results amply justify the traditional use of this plant as an analgesic.]

Wesselingh, R.A. and Wesselingh, R. 2016. Within-population variation in the relation between node number and flowering time in *Rhinanthus angustifolius* (Orobanchaceae). Plant Ecology and Evolution 149(1): 21-30. [The number of nodes produced before the first flower is an important trait linked to flowering time. Studying ecotypes with naturally different flowering times showed that both genetically determined (node number) and phenotypically plastic (plant size) traits contribute to variation in flowering time within populations, and even under strong selection against late flowering, wild populations may harbour enough variation to react to a decrease in this selection pressure by later mowing.]

Wicaksono, A., Mursidawati, S., Sukamto, L.A. and da Silva, J.A.T. 2016. *Rafflesia* spp.: propagation and conservation. Planta 244(2): 289-296. [Reviewing the possibilities – and difficulties – of propagation of *Rafflesia* spp. for purposes of conservation and to cater for traditional medicinal uses. These include graftying on to the host vine *Tetrastigma* spp., also tissue culture, and propagation from seed (not yet achieved).]

Wiesenborn, W.D. 2016. Conspecific pollen loads on insects visiting female flowers on parasitic *Phoradendron californicum* (Viscaceae). Western North American Naturalist 76(1): 113-121. [*P. californicum* parasitizing *Acacia greggii* was visited by a wide range of insects in the Mojave Desert, Nevada, the most important for pollination being tephritids and calliphorids.]

Willyams, D., 2015. Cuttings propagation of Jarrah forest plants with ornamental prospects: three *Proteaceae* and five non-*Proteaceae* species compared. In: Gollnow, B. and McConchie, R. (eds) Acta Horticulturae 1097: 243-249. [Alcohol based IBA dips were superior to soaking cuttings in an IBA and NAA solution for root production in cuttings of *Lasiopetalum cardiophyllum* (Santalaceae).]

*Wong HoiShan, Chen JiHang, Leong PouKuan, Leung HoiYan, Chan WingMan and Ko KamMing. 2015. A Cistanches Herba fraction/β-sitosterol causes a redox-sensitive induction of mitochondrial uncoupling and activation of adenosine monophosphate-dependent protein kinase/peroxisome proliferator-activated receptor γ coactivator-1 in C2C12 myotubes: a possible mechanism underlying the weight reduction effect. Evidence-based Complementary and Alternative Medicine 2015: Article ID 142059. (http://www.hindawi.com/journals/ecam/2015/142059/)

XiaoNan, X,, Yoneyama, K., Kisugi, T., Nomura, T., Akiyama, K., Asami, T. and Yoneyama, K. 2015. Strigolactones are transported from roots to shoots, although not through the xylem. Japan, Journal of Pesticide Science 40(4): 214-216. [d1-orobanchol and d6-

4-deoxyorobanchol that were fed to roots of rice plants were detected in shoots harvested 20 hr after treatment, although not in the xylem sap.]

*Xiong GuoSheng, Li JiaYang and Smith, S.M. 2016. Evolution of strigolactone perception by seeds of parasitic plants: reinventing the wheel. Molecular Plant 9(4): 493-495. (http://www.cell.com/molecular-plant/fulltext/S1674-2052(16)00029-0) [Orobanchanceae family contain multiple putative SL receptors but, surprisingly, they may not have made use of the recognized SL receptor for this purpose. Instead, the proposed receptors have evolved by duplication and diversification of a gene encoding a putative receptor that responds to an unidentified SL-like signal and is known to trigger seed germination in *Arabidopsis*.]

Yan CaiFeng, Gessler, A., Rigling, A., Dobbertin, M., Han XingGuo and Li MaiHe. 2016. Effects of mistletoe removal on growth, N and C reserves, and carbon and oxygen isotope composition in Scots pine hosts.Tree Physiology 36(5): 562-575. [Results suggest that removal of *Viscum album* ssp. *austriacum* from *Pinus sylvestris* (in Switzerland) results in increased N availability and carbon gain, which in turn leads to increased tree growth.]

Yang HyeJeong Ko ByungSeob, Kwon DaeYoung, Lee HyeWon, Kim MinJung, Ryuk Jina, Kang Suna, Kim DaSol and Park SunMin. 2016 Asian Elm tree inner bark prevents articular cartilage deterioration in ovariectomized obese rats with monoiodoacetate-induced osteoarthritis. Menopause 23(2): 197-208. [*Viscum album* ssp. *coloratum* (not mentioned in title) prevented decreases in lean body mass, bone mineral density, and insulin sensitivity in oestrogen-deficient rats.]

Yassine Mabrouk, Sonia Mejri and Omrane Belhadj. 2016. Biochemical mechanisms of induced resistance by rhizobial lipopolysaccharide in pea against crenate broomrape. Brazilian Journal of Botany 39(1): 107-114. [*Rhizobium leguminosarum* strain P.SOM has been shown to reduce *Orobanche crenata* in pea. This study confirms that lipopolysaccharides isolated from the rhizobium reduce *O. crenata* germination and restrict attachment to the host root as well as retarding tubercle formation and development. In pot experiments, pea root treatment reduced numbers of *O. crenata* by up to 95%. Apparently enhanced phenylalanine ammonia lyase, peroxidase, and polyphenoloxidase activities leads to production of phenolics and pisatin which confer mechanical and chemical barriers to the invading parasite.]

Yatoo, M.I., Umesh Dimri, Arumugam Gopalakrishan, Mani Saminathan, Kuldeep Dhama, Karikalan Mathesh, Archana Saxena, Devi Gopinath and Shahid Husain. 2016. Antidiabetic and oxidative stress ameliorative potential of ethanolic extract of *Pedicularis longiflora* Rudolph. International Journal of Pharmacology 12(3): 177-187. [Confirming antidiabetic and antioxidant potential in extracts of the Himalayan *P. longiflora*.]

Yotapakdee, T., Kongsuban, N., Lattirasuvan, T. and Mangkita, W. 2015. Determinants of food bank from *Melientha suavis* Pierre in a rural community in Phrae Province, Thailand. Environment and Natural Resources Journal 13(2): 44-54. [The young shoots, leaves and flowers of *Melientha suavis* (Opiliaceae) serve as a vegetable in soup or dried fish curry. This study confirmed its importance to the .community living in the forest as both a source of food and of income from its sale.]

You ShuPing, Ma Long, Zhao Jun, Zhang ShiLei and Liu Tao. 2016. Phenylethanol glycosides from *Cistanche tubulosa* suppress hepatic stellate cell activation and block the conduction of signaling pathways in TGF-β_1/smad as potential anti-hepatic fibrosis agents. Molecules 21(1): 102. [Results suggest that *C. tubulosa* may thus be a potential herbal medicine for the treatment of liver fibrosis.]

You ShuPing. Zhao Jun, Ma Long, Tudimat, M., Zhang ShiLei and Liu Tao. 2015. Preventive effects of phenylethanol glycosides from *Cistanche tubulosa* on bovine serum albumin-induced hepatic fibrosis in rats. Daru - Journal of Pharmaceutical Sciences 23: 52. [*C. tubulosa* is a traditional Chinese herbal medicine that is widely used for regulating immunity. This study confirmed that the main active components, phenyl ethanol glycosides have a significant activitry against hepatic fibrosis.]

Zadoks, J.C. 2013. Crop Protection in Mediaeval Agriculture: Studies in Pre-modern Organic Agriculture. Sidestone Press, Leiden, The Netherlands: 336 pp. [Including a small section with descriptions of *Orobanche*,, *Cuscuta* and *Viscum* from Greek literature.]

Zaragoza Hernández, A.Y., Cetina Alcalá, V.M., López López, M.Á., Chacalo Hilú, A., Isla de Bauer, M.de L. de la, Alvarado Rosales, D. and González Rosas, H. 2015. (Identification of tree damages of three parks of Mexico City.) (in Spanish). Revista Mexicana de Ciencias Forestales 6(32): 63-81. [Noting that the highest 'Damage Severity Index' was recorded on trees infected by mistletoes, especially by *Struthanthus* and *Cladocolea* species in *Populus tremuloides*, *P. alba* and *Acer negundo*.]

Zhang Bei, Zhang RongWeng, Yin XiQuan, Lao ZiZhao, Zhang Zhe, Wu QingGuang, Yu LiangWen, Lai XiaoPing, Wan YuHua and Li Geng. 2016. Inhibitory activities of some traditional Chinese herbs against testosterone 5α-reductase and effects of Cacumen platycladi on hair re-growth in testosterone-treated mice. Journal of Ethnopharmacology 177: 1-9. [Extracts of *Cynomorium songaricum* showed strong 5α reductase inhibition, supporting its traditional use for promoting hair growth.]

Zhang XiaoMing, Liu Bo, Guo QiaoSheng, Song LingShan, Chen Lu and Wang ChangLin. 2016. Construction of a haustorium development associated SSH library in *Thesium chinense* and analysis of specific ESTs included by *Imperata cylindrica*. Biochemical Systematics and Ecology 64:46-52. [*T. chinense* is a facultative hemiparasite that can invade host plants by inducing haustoria on neighboring host roots to access the water and nutrients of the host. Suppression subtractive hybridization (SSH) was performed to identify the differentially expressed genes during haustorial development. The results indicated that the relative quantities of TcPME, TcAux/IAA, TcPrx and TcPAL were affected by the secretions of the *Imperata cylindrica* root that *T. chinense* accreted and that these effects were meaningful to the development of the haustorium of *T. chinense*.]

Zhao Wei, Zhang YunXia, Liang JiaFen, Chen DaCan, Li HongYi and Xuan GuoWei. 2016. (Experience of TCM master XUAN Guo-wei in treating skin disease by using herbs from south of the Five Ridges.) (in Chinese) China Journal of Traditional Chinese Medicine and Pharmacy 31(1): 117-120. [Noting that Pro Xuan uses *Striga asiatica* to eliminate dampness and relieve stagnation'.]

*Zhen Jing, Guo Yue, Villani, T., Carr, S., Brendler, T., Mumbengegwi, D.R., Kong AhNg [Kong, A.N.T.], Simon, J.E. and Wu QingLi. 2015. Phytochemical analysis and anti-inflammatory activity of the extracts of the African medicinal plant *Ximenia caffra*. Journal of Analytical Methods in Chemistry 2015: Article ID 948262.(http://www.hindawi.com/journals/jamc/2015/948262/) [Identifying 10 polyphenols in the extract of *X. caffra*, quercetin-rutinoside being the commonest, and showing that it inhibits the mRNA expression of proinflammatory genes (IL-6, iNOS, and TNF-α) by using RT-qPCR, implying anti-inflammatory effects.].

Zhou BaoZhu, Li MaoXing, Cao XinYuan, Zhang QuanLong, Liu YanTong, Ma Qiang, Qiu Yan, Luan Fei and Wang XianMin. 2016. Phenylethanoid glycosides of *Pedicularis muscicola* Maxim ameliorate high altitude-induced memory impairment. Physiology & Behavior 157 39-46.

Zossou, N., Adoukoneou-Sagbadja, H., Fonceka, D., Bab-Moussa, L.. Sall, M., Ahanchede, A. and Sinsin, B. 2016. [Genetic diversity of rice vampireweed (*Rhamphicarpa fistulosa*) populations in rainfed lowland rice in West Africa. Weed Science 64(3): 430-440. [AFLP study showed 4 generic genetic groups in populations across Senegal and Benin, each with high genetic diversity.]

Zwanenburg B, Pospíšil T, Ćavar Zeljković S: 2016. Strigolactones: new plant hormones in action. Planta June. 243(6):1311-1326. (http://link.springer.com/article/10.1007/s00425-015-2455-5) [Review on strigolactone chemistry and mode of action. Proposing a hydrolysis mechanism of strigolactones by the catalytic triad Ser-His-Asp.]

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Dr. Philippe Simier Laboratoire de Biologie et Pathologie Végétales (LBPV) IFR 149 Qualité et Santé du Végétal (QUASAV) Université de Nantes 2 rue de la Houssinière BP 92208 44322 Nantes Cedex 03 France

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has been edited by Chris Parker, 5 Royal York Crescent, Bristol BS8 4JZ, UK (Email chrisparker5@compuserve.com), Lytton Musselman, Parasitic Plant Laboratory, Department of Biological Sciences, Old Dominion University, Norfolk Virginia 23529-0266, USA (fax 757 683 5283; Email lmusselm@odu.edu) and Hinanit Koltai, Dept of Ornamental Horticulture, Institute of Plant Sciences, ARO Volcani Center, Bet-Dagan 50250, Israel (hkoltai@agri.gov.il) with valued assistance from Koichi Yoneyama, Utsonomiya University, Japan, and from Dan Nickrent, Southern Illinois University, Carbondale, USA. It is produced and distributed by Chris Parker and published by Old Dominion University (ISSN 1944-6969).

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